



Decision Criteria in Acquisition Target Screening:
Decision Weights, Acquirer Types and Differences between
Family and Non-Family Firms and within the Group of Family Firms

DISSERTATION

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Preface

External growth through corporate acquisitions represents an important corporate development activity for many decision-makers in family and non-family firms. One of the most critical tasks in the early acquisition process is to identify acquisition targets, which have the potential to create expected and hoped-for synergies. This dissertation investigates M&A decision criteria and the preferences of corporate M&A decision-makers in the early acquisition screening stage, and provides insights into the decision-making judgements of corporate acquirers in family and non-family firms.

Writing a dissertation at the University of Trier has been intellectually challenging and extremely enriching. The experience I have gained in the past three and a half years has been invaluable. At the heart of this life-changing experience are all the people who accompanied me on this journey. Their support and feedback made this work possible, and so they deserve the utmost recognition and gratitude.

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Silvia Moyses-Scheingruber

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Zusammenfassung

Unternehmensakquisitionen sind ein wichtiges strategisches Instrument der Unternehmensführung und nehmen eine bedeutende Rolle in der Umsetzung von Unternehmensstrategien in Familien- und Nicht-Familienunternehmen ein. Durch anorganisches Wachstum kann ein Unternehmen Marktanteile steigern, neue Fähigkeiten erwerben, neue Märkte erschließen, Skaleneffekte und Synergien realisieren, einen schnelleren Zugang zu wichtigen Ressourcen, innovativen Technologien und Geschäftsmodellen sichern und somit den Unternehmenswert langfristig steigern. Von den vielfältigen und komplexen Entscheidungen, die das Top Management eines Unternehmens zu treffen hat, zählen Akquisitionen trotz ihrer vielversprechenden Motive jedoch zu den Entscheidungen mit dem größten unternehmerischen Risiko. Im Gegensatz zur hohen Popularität von M&A-Transaktionen in der Unternehmenspraxis, kommt die empirische und praxisbezogene M&A-Forschung zu dem ernüchternden Ergebnis, dass die Mehrheit aller durchgeführten Unternehmenskäufe nicht den gewünschten Erfolg bringt und diese demzufolge zu Vermögensreduktionen bei den akquirierenden Unternehmen führen können. Als einer der Hauptgründe für die hohen Misserfolgsraten wird in der M&A-Literatur ein unsystematischer und nicht mit der Strategie harmonisierter Entscheidungsprozess im Akquisitionsscreening (Target Screening) in der Pre-Akquisitionsphase genannt. Die Identifikation und Auswahl geeigneter Akquisitionskandidaten und die Bestimmung des Wertes von Synergien und des Preispremiums geschehen meist auf Basis unvollständiger Daten, Informationsasymmetrien und subjektiven Einschätzungen von Entscheidungsträgern. Das zentrale Anliegen dieser Dissertation ist es, diese letztgenannten subjektiven Einschätzungen von Entscheidungsträgern bei der Auswahl von Zielunternehmen besser zu verstehen.

Obwohl sich die wissenschaftliche M&A-Forschung seit Beginn der Siebzigerjahre mit diversen Aspekten zum Entscheidungsverhalten bei M&A-Transaktionen befasst hat, ist immer noch sehr wenig über Entscheidungspräferenzen, Entscheidungsmuster und über die Wichtigkeit von einzelnen Entscheidungskriterien beim strategisch motivierten Unternehmenskauf und insbesondere bei der Auswahl von Zielunternehmen im frühen M&A-Auswahlprozess bekannt. Anders als in der Entrepreneurship- und Venture Capital Forschung, wo sich Kriterienforschung bereits seit Jahren etabliert hat, steht die Analyse von M&A-Entscheidungskriterien in den meisten M&A-Studien bis dato nur indirekt im Fokus.

Bestehende Studien verwenden meist quantitative Archivdaten oder klassische Umfragen, um Einsicht in Entscheidungspräferenzen von Unternehmen und handelnden Personen zu erhalten. Eine Evidenz im Rahmen experimenteller Untersuchungen mittels Methoden aus der Entscheidungsforschung, wie der Conjoint-Analyse, gibt es bisher jedoch kaum.

Die Absicht der vorliegenden Dissertation ist es, einen Beitrag zur Schließung dieser Forschungslücke zu leisten und ein besseres Verständnis über M&A-Entscheidungskriterien und deren Gewichtung bei der Auswahl von Zielunternehmen in der Pre-Akquisitionsphase zu gewinnen. Zu diesem Zweck wurde im Rahmen dieser Dissertation ein Forschungsprojekt an der Universität Trier in Zusammenarbeit mit der Universität Mannheim durchgeführt, in dem mittels einer Online-Erhebung sowohl Entscheidungspräferenz- also auch Fragebogendaten von 304 Entscheidungsträgern aus vorwiegend großen deutschen Familien- und Nicht-Familienunternehmen erhoben wurden. Mit Hilfe dieser großzahlig-quantitativen Datenbasis untersucht diese Dissertation folgende zentrale Fragestellungen: (1) Was ist die relative Wichtigkeit von M&A-Entscheidungskriterien für strategische Akquisiteure im Target Screening? (2) Welche unterschiedlichen Entscheidungsmuster lassen sich aus den erhobenen Entscheidungspräferenzen im Akquisitionsscreening ableiten und welche Charakteristika haben die Segmente? Weiterhin analysiert diese Arbeit, (3) ob und welche Unterschiede es in der Gewichtung von Entscheidungskriterien zwischen Familien- und Nicht-Familienunternehmen und (4) innerhalb der Gruppe von Familienunternehmen gibt.

Die Ergebnisse der empirischen Untersuchung sind relevant für Theorie und Praxis. Aus theoretischer Sicht liegt der Wert dieser Dissertation darin, dass zum einen die relative Wichtigkeit von diversen strategischen, organisationalen und finanziellen M&A-Entscheidungskriterien für Entscheidungsträger aus Familien- und Nicht-Familienunternehmen im frühen M&A-Auswahlprozess empirisch analysiert wird. Zudem werden mittels einer algorithmusbasierten Clusteranalyse entsprechende M&A-Entscheidungsmuster herausgearbeitet und unter Berücksichtigung diverser Faktoren auf Individual-, Firmen- und Umfeldebene charakterisiert. Diese Arbeit leistet vornehmlich einen Beitrag zur strategischen Managementforschung, insbesondere der M&A-Literatur, und zur Familienunternehmensforschung.

Aus Sicht der Praxis ist diese Dissertation hilfreich für Stakeholder von Corporate M&A Entscheidungen, insbesondere für Eigentümer von Familienunternehmen, Entscheidungsträger in Familien- und Nicht-Familienunternehmen, die maßgeblich im Akquisitionsprozess beteiligt sind, sowie für M&A-Berater, welche Unternehmen im Akquisitionsscreening und M&A-

Auswahlprozess unterstützen. Das Verständnis hinsichtlich M&A-Entscheidungskriterien und unterschiedlichen Entscheidungsmustern von strategischen Akquisiteuren kann Unternehmen dafür sensibilisieren, dass ein struktureller Auswahlprozess mit einem Konsens bezüglich der Gewichtungen von Entscheidungskriterien notwendig ist, um der Gruppenentscheidung eine mögliche Emotionalität zu nehmen. Zudem können Corporate M&A-Entscheider und M&A-Professionals diese Ergebnisse verwenden, um den bestehenden Auswahlprozess kritisch zu hinterfragen und um einen strukturierten Ansatz im Unternehmen zu etablieren.

Weiterhin zeigen die Ergebnisse, dass sich Entscheidungsträger in vorwiegend großen Familien- und Nicht-Familienunternehmen nicht wesentlich in deren Entscheidungspräferenzen hinsichtlich M&A-Entscheidungskriterien unterscheiden. Die Reputation des Zielunternehmens, welches als ein sogenanntes „weiches“ Entscheidungskriterium einzustufen ist, ist für Familienunternehmen jedoch wichtiger als für Nicht-Familienunternehmen. Dies unterstützt die These, dass Entscheidungsträger in Familienunternehmen nicht nur monetäre Ziele verfolgen, sondern als wichtigen Referenzpunkt in der Entscheidung auch sozioemotionale Faktoren in Erwägung ziehen. Corporate M&A-Entscheider und M&A-Professionals können dieses Ergebnis zum Anlass nehmen, an geeigneten Methoden zu arbeiten, die bereits früh im M&A-Prozess ein „Target Reputation Screening“ vorsehen und im strukturierten Auswahlprozess verankern.

Die Ergebnisse der vorliegenden Dissertation verdeutlichen außerdem, dass nicht alle Familienunternehmen die gleichen Charakteristika aufweisen und auch innerhalb der Gruppe von Familienunternehmen eine Differenzierung bezüglich des Entscheidungsverhaltens im Target Screening notwendig ist. Die Analyse zeigt, dass die Gewichtung von Entscheidungskriterien in Familienunternehmen von unternehmensspezifischen Faktoren wie der Governance, der Generation des Unternehmens und durch nicht-monetäre Ziele, wie einer generationsübergreifenden Absicht, beeinflusst wird. Diese Ergebnisse unterstützen die Ansicht der wissenschaftlichen Literatur, dass Familienunternehmen als eine heterogene Gruppe anzusehen sind. Familienunternehmen können die Ergebnisse dieser Arbeit verwenden, um ihre Akquisitionsmotive und entsprechenden Entscheidungskriterien im M&A-Prozess zu validieren.

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List of abbreviations

ABWL	Allgemeine Betriebswirtschaftslehre
AM	Acquisition motive
ANOVA	Analysis of variance
BA	Business administration
BAM	Behavioural agency model
BCG	Boston Consulting Group
BM	Business model
bn	Billion
BTOF	Behavioural theory of the firm
CBC	Choice-based conjoint analysis
CEO	Chief executive officer
CFO	Chief financial officer
COO	Chief operating officer
DACH	Germany, Austria and Switzerland (German-speaking Europe)
DHBW	Duale Hochschule Baden-Württemberg
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciation, and amortisation
ed./eds	Editor/editors
e.g.	<i>Exempli gratia</i> (for example)
EJL	ERIM journals list
Entrepr.	Entrepreneurship
EO	Entrepreneurial orientation
ERIM	Erasmus Research Institute of Management
et al.	<i>Et alii</i> (and others)
etc.	<i>Et cetera</i> (and so on)
et seq.	<i>Et sequentes</i> (and the following)
EU	European Union
excl.	Excluding
FF	Family firm
HB	Hierarchical Bayes
i.e.	<i>Id est</i> (that is)
IfM	Institut für Mittelstandsforschung
IPO	Initial public offering

List of abbreviations (continued)

IT	Information technology
KMU	Kleine und mittlere Unternehmen
KPI	Key performance indicator
LTO	Long-term orientation
M	Mean
m	Million
M&A	Mergers and acquisitions
MBA	Master of Business Administration
N	Sample size
n/a	Not available
NFM	Non-family manager
no.	Number
ORG/PERS	Organisation und Personalwesen
p./pp.	Page/pages
p.a.	<i>Per annum</i>
PC	Percentage chosen
PE	Price–earnings
PhD	Doctor of Philosophy
R&D	Research and development
RBV	Resource-based view of the firm
ROE	Return on equity
ROI	Return on investment
RQ	Research question
SEW	Socioemotional wealth
SME	Small and medium-sized enterprises
Std. dev.	Standard deviation
TIE	Technology, innovation, entrepreneurship
TMT	Top management team
US	United States
USD	US dollar
VHB	Verband der Hochschullehrer für Betriebswirtschaft
vol.	Volume
vs	Versus
yrs	Years
ZEW	Zentrum für Europäische Wirtschaftsforschung

1 Introduction

1.1 Motivation

Corporate acquisitions represent an important activity for corporate strategists and are therefore an essential topic in strategic management research. Due to the practical relevance of mergers and acquisitions (M&A) for organizations and their decision-makers, strategic management research has dedicated great effort to investigating the causes and consequences of these transactions, and has generated abundant knowledge since the 1970s.¹ With corporate acquisitions, organizations can foster firm growth, increase operational efficiency and quickly access valuable resources such as “fresh” managerial and technical know-how, new products and geographical markets, innovative technologies and business models. It is therefore not surprising that global investments in M&A involving German family and non-family firms have reached unprecedented levels in recent years, with an annual transaction volume of more than €225 billion in 2018 (Krause and Koffka, 2019). Despite the promising prospects corporate acquisitions hold out for organizations, they are associated with high levels of risk for decision-makers because of the extensive resource and performance implications and the uncertainty related to acquisition outcomes (Pablo, 2013). The M&A literature claims that, at the extreme, between 70 and 90 percent of all transactions fail (Christensen et al., 2011), meaning that in the majority of cases shareholder value is not created and expected synergy potentials are not realized. The question thus arises of why so many corporate acquisitions fall short of expectations. According to the M&A literature, these high failure rates of corporate acquisitions are primarily attributable to shortcomings in executives’ decision-making in the pre-acquisition phase of the M&A process. Christensen et al. (2011, p. 1) summarized the causes as follows:

“So many acquisitions fall short because executives incorrectly match candidates to the strategic purpose of the deal, failing to distinguish between deals that might improve current operations and those that could dramatically transform the company’s growth perspective. As a result, companies too often pay the wrong price and integrate the acquisition in the wrong way.”

¹ For an overview of existing M&A research, see Barkema and Schijven (2008); Halebian et al. (2009).

This statement suggests that a diligent and careful target selection is one of the early critical milestones in the overall acquisition process, since the realization of synergies and successful integration of the target in the post-acquisition phase largely hinge on choosing the right acquisition target earlier in the process. Surprisingly, empirical research into acquisition target selection is scarce, and the question of what acquirers look for when screening and evaluating targets (Kaul and Wu, 2015) and the weighting of different M&A decision criteria in the actual decision-making process remains largely unexplored. Hence, the main aim of this dissertation is to shed light on the pre-acquisition phase, by investigating the weighting of strategic, organizational and financial M&A decision criteria and the preferences of corporate acquirers from family and non-family firms in the process of acquisition target screening and selection.

1.2 Objectives and research questions

This dissertation has four main research objectives, which are reflected in two *exploratory research questions* (RQ1 and RQ2) and two *theory-driven research questions* (RQ3 and RQ4). All research questions are concerned with investigating the decision-making preferences and M&A decision criteria of corporate acquirers in acquisition target screening. These research objectives and the corresponding research questions are introduced in this section.

Up to now, “criteria research” in the field of M&A has been scarce, as only a few selected scholars have focused their attention on the interplay of different decision criteria (e.g. Capron and Shen, 2007; Henn, Hueck, Marcel and Lutz, 2018; Hitt and Tyler, 1991; Mahajan, Rao and Srivastava, 1994; Rao, Mahajan and Varaiya, 1991). Borrowing from other research disciplines such as entrepreneurship, psychology and marketing, where abundant “criteria research” already exists, the M&A literature may likewise benefit from an additional research approach of this kind. The dissertation therefore answers the call for more research in this domain (Calipha et al., 2010) by investigating M&A decision criteria in the target screening and selection process, using conjoint analysis as the main methodology. Hence, the first research objective of this dissertation (see roman number I in Figure 1-2) is to explore the relative importance of M&A decision criteria in acquisition target screening for decision-makers in family and non-family firms.

RQ1: What relative importance do corporate acquirers assign to different M&A decision criteria in acquisition target screening?

Strategic management and M&A research suggests that strategic decision-making behaviour is influenced by a large variety of factors related to characteristics of the decision-maker (e.g. gender, age, education, experience, personality traits), the organization (e.g. firm size and age, strategic orientation) and the environment (e.g. competitiveness, dynamism).² Existing M&A literature has been completely silent about how the interplay of these factors shapes decision-making patterns among corporate acquirers in the pre-acquisition target screening and selection process. Hence, the second research objective of this dissertation (see roman number II in Figure 1-2) is to close this interesting gap in the literature by developing an empirical taxonomy of M&A decision-making patterns in acquisition target screening. To the best of my knowledge, this is the first scholarly effort to use an algorithms-based cluster analysis to investigate decision-making patterns among corporate acquirers.

RQ2: Which groups of acquirers can be identified based on observed decision-making preferences and what are their characteristics?

Prior empirical research suggests that the acquisition behaviour of family firms differs from that of firms with a different ownership structure (Feito-Ruiz and Menéndez-Requejo, 2009; Miller et al., 2010). For instance, family business scholars have found that family firms are generally more reluctant to undertake acquisitions than non-family firms (Caprio et al., 2011), especially when the transactions are cross-border (Chen et al., 2009), unrelated (Gómez-Mejía et al., 2018) or diversifying (Anderson and Reeb, 2003a). The family business literature on decision-making in different strategic contexts mentions several reasons for why the decision-making preferences of family firms may differ from those of non-family firms. These include distinct governance structures (Carney, 2005), different financial preferences and a prioritization of socioemotional wealth (SEW) when framing strategic decisions (Gómez-Mejía et al., 2007, 2018), the importance attributed to family-centred non-economic goals when taking decisions (Chrisman et al., 2012; Miller et al., 2010) and an extended time horizon and long-term focus in decision-making (Le Breton-Miller and Miller, 2006; Chrisman and Patel, 2012; James, 1999; Zellweger, 2007; Zellweger, Kellermanns, Chrisman, et al., 2012). The scarce literature dealing with M&A decisions in family firms has been largely silent about the decision-making preferences of corporate acquirers in acquisition target selection, and little is known about the relative importance of different M&A decision criteria in the target screening process. Hence, with this dissertation, I answer the call for more research in this domain (Henn

² For an overview of literature about influences on strategic decision-making, see Section 4.6 (p. 83 et seq.).

et al., 2018). Thus, the third research objective of this dissertation (see roman number III in Figure 1-2) is to investigate differences in decision-making preferences between family and non-family firms with respect to the weighting of strategic, financial and organizational M&A decision criteria.

RQ3: How do family and non-family firms differ with regard to the relative importance assigned to different M&A decision criteria in acquisition target screening?

Prior family business research studying decision-making behaviour in different strategic contexts suggests that family firms are not a homogeneous group (Block, 2012; Block et al., 2013; Chua et al., 2012; Schmid et al., 2015; Zellweger and Dehlen, 2012). For instance, the needs and preferences in the decision-making of family firms in an earlier generational stage may differ substantially from those of family firms in later generations (Gersick et al., 1997; Gómez-Mejía et al., 2014; Stockmans et al., 2010; Vandemaele and Vancauteran, 2015). Moreover, the dynamics of decision-making processes may be substantially different in family firms that are merely owned by families and those in which the family holds an active management position. In addition, the decision-making behaviour of family firms that intend to pass the firm on to the next generation of the family may also be distinct from those family firms without such a transgenerational control intention (Chrisman et al., 2012; Chrisman and Patel, 2012; Gu et al., 2016; Zellweger, Kellermanns, Chrisman, et al., 2012). In line with the predictions of prior family business literature, this dissertation expects that these three family firm characteristics (i.e. generational stage, family management, transgenerational control intention) will have an impact on the way different decision criteria are weighted by corporate acquirers in the process of acquisition target screening. Hence, the fourth research objective of this dissertation is to address family firm heterogeneity by investigating several moderators of family firm decision-making (see roman number IV in Figure 1-2).

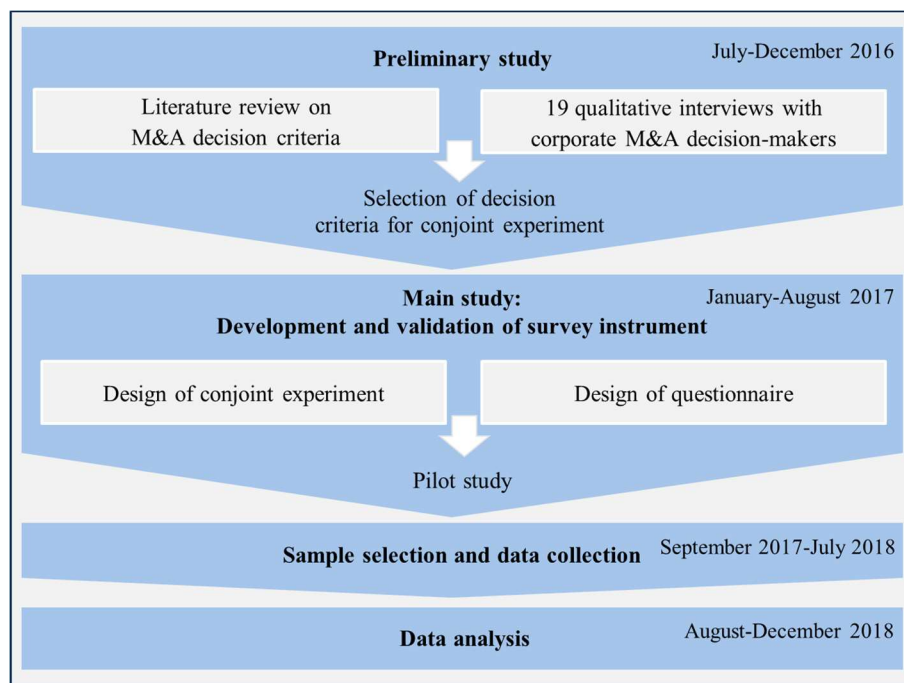
RQ4: How do family firms differ with regard to the relative importance assigned to different M&A decision criteria in acquisition target screening?

Understanding the decision criteria used by corporate acquirers of family and non-family firms in acquisition target screening has both theoretical and practical relevance. By addressing the first and second research question, this dissertation aims to contribute to strategic management research that deals with acquisition decisions (i.e. M&A literature). In addition, by answering the third and fourth research questions, this dissertation contributes to existing family business literature that deals with M&A transactions.

1.3 Overall research approach

For the purpose of this dissertation, a comprehensive research project about decision-making behaviour in corporate acquisitions was conducted at the University of Trier in cooperation with the University of Mannheim between July 2016 and December 2018³. The research project focused on key corporate M&A decision-makers from large family and non-family firms headquartered in Germany, Austria and Switzerland. The main methodology chosen in this research project for the exploration of decision criteria in acquisition target screening was conjoint analysis. The procedure for implementing this conjoint methodology guided the overall research approach of my dissertation, which is shown in Figure 1-1.

Figure 1-1: Overall research approach of the dissertation



First, a preliminary study was conducted, consisting of a review of literature on M&A decision criteria and 19 qualitative expert interviews. The aim of this preliminary study was to lay the ground for the main survey instrument, which comprises a choice-based conjoint analysis and a post-experiment questionnaire. Before data collection, the survey instrument was pilot-tested with researchers and practitioners to ensure external validity. The final sample of

³ The research project was initiated for the purpose of the dissertation and supervised by Prof. Jörn Block (University of Trier) in cooperation with Prof. Matthias Brauer (University of Mannheim). Special thanks to Dr Alexandra Moritz (University of Trier) for her support in the conception and development of the research project and her diligent guidance throughout the whole research project. I am also grateful to Prof. Hermut Kormann (Zeppelin University) for his support in data collection and the insights he was able to provide into the topic thanks to his expertise in this field.

this dissertation consists of 304 decision-makers from 264 private and public family and non-family firms, mainly from Germany, Austria and Switzerland (DACH region), which led to the simulation of 7,904 hypothetical target screening decisions. This comprehensive database provides the basis for the empirical analysis of this dissertation.

1.4 Structure of the dissertation

To answer the main research questions introduced in Section 1.2, this dissertation relies on the structure illustrated in Figure 1-2. This dissertation comprises seven chapters. In Chapter 2 and Chapter 3, the foundation and theoretical background of the research context for my dissertation is established. Chapter 4 introduces the method and data, Chapter 5 and Chapter 6 present the empirical findings and Chapter 7 concludes the dissertation.

More specifically, in **Chapter 2** I conduct a structured review of literature on strategic decision-making in family firms. The identified research is described and the content of studies summarized. From the descriptive findings of this review, I identify meaningful implications for the research design of this dissertation. **Chapter 3** introduces the research context of acquisition target screening and summarizes the fragmented literature concerning M&A decision criteria in the pre-acquisition phase. The chapter concludes with an overview of strategic, organizational, financial and environmental decision criteria. These insights were established as part of a preliminary study to prepare the main survey instrument of the dissertation. In **Chapter 4**, the main research methodology is introduced and the procedure for conducting a choice-based conjoint analysis is described. In addition, I present the survey instrument and introduce the sampling strategies used for data collection. In addition, this chapter describes the operationalization of variables that were included in the survey instrument, and the descriptive statistics of the sample are presented. **Chapter 5** presents the univariate and multivariate findings concerning the relative importance assigned to different M&A decision criteria. In addition, the chapter develops an empirical taxonomy of M&A decision-making patterns in acquisition target screening and characterizes the identified acquirer segments. Hence, this chapter addresses the two exploratory research questions (RQ1 and RQ2) of my dissertation. In **Chapter 6**, the two theory-driven research questions of my dissertation (RQ3 and RQ4) are addressed by developing and testing hypotheses. In the first part of this chapter, I present univariate findings on the differences between family and non-family firms in terms of individual and firm-level characteristics. In addition, I outline the multivariate findings with regard to differences in the weighting of M&A decision criteria

between family and non-family firms. In the second part of this chapter, I consider family firm heterogeneity and investigate how firm characteristics such as family management, transgenerational control intentions and the generational stage of the family firm influence the weighting of various M&A decision criteria in acquisition target screening. Finally, **Chapter 7** summarizes the key findings of my dissertation, discusses the main theoretical and practical implications, outlines the study's limitations and provides avenues for further research.

Figure 1-2: Structure of the dissertation



Notes: The Roman numbers I to IV denote the main research objectives of the dissertation.

2 Strategic decision-making in family businesses: A literature review

The analysis of strategic decision-making and managerial risk-taking has been of great interest to scholars and practitioners for a long time (Hoskisson et al., 2017; Ireland and Miller, 2004). According to Mintzberg, Raisinghani and Theoret (1976) a strategic decision is one that is important in terms of actions taken, resources committed and the precedents set for the whole organization. Strategic decisions are usually made by senior executives (Ginsberg, 1988) and they often involve substantial investments in fixed assets, are difficult to reverse and may have a decisive impact on the organizations' health and survival (Eisenhardt and Zbaracki, 1992). As strategic decisions frequently involve decision-makers from many of the firm's functions they can be considered representative of the process by which major decisions are made within the company (Eisenhardt, 1989a). Family firms are characterized by their involvement in ownership, control and management (Villalonga and Amit, 2006), and the influence of the family may be reflected in the way decisions are made. In line with this, it is often suggested that decision-making behaviour is unique in family firms, as both spheres, the family and business system, have to be satisfied (Habbershon and Williams, 1999). In analysing the distinctiveness of family firms from non-family firms, prior literature has primarily focused on questions such as "What are the characteristics of family firm behaviour?" and "How do they differ from non-family firms?" (Chrisman et al., 2016). There is little research in the existing literature into "how" decisions are made and the processes by which family firms execute strategies (Chrisman et al., 2016).

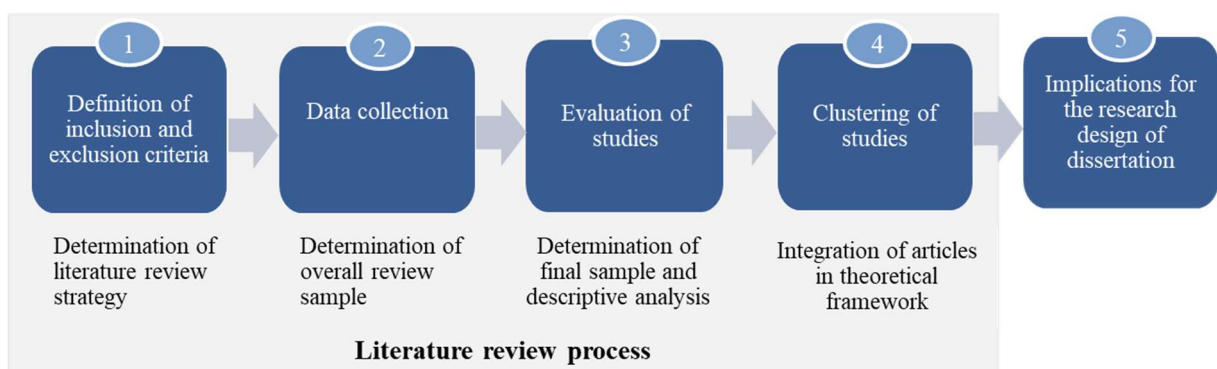
The key contribution of this chapter is a systematic literature review of 56 conceptual and empirical studies published in high-quality, peer-reviewed academic journals. The review provides an overview of theoretical contributions and empirical findings on strategic decision-making in family firms. More specifically, the principal question that guided this literature review is: what is the current state of strategic decision-making literature in family business research? This broad question focuses on subquestions such as: what research contexts and methodologies were used to examine strategic decision-making in family firms? What is the contribution of family business literature to content, process and decision criteria research? How does family business literature on strategic decision-making fit into strategic decision-making frameworks developed by scholars in the strategic management field?

The chapter is organized as follows. In Section 2.1, I outline the methodology used to conduct the literature review and describe the inclusion and exclusion criteria that guided the search. I also present the data and sample and give an overview of how the systematic literature review was structured. In Section 2.2, I outline the descriptive findings of the literature review. Next, I categorize all identified studies in a conceptual framework of strategic decision-making, which is based on prior research conducted by (Hutzschenreuter and Kleindienst, 2006; Rajagopalan et al., 1993, 1997). I utilize this framework to summarize the overall content of studies in Section 2.3. Finally, I use the insights from the descriptive findings of the literature review to identify meaningful implications for the research design of my dissertation. The implications concerning methodology and research context are described in Section 2.4.

2.1 Methodology: description of the data and sample

To investigate the development and current state of research regarding strategic decision-making in family firms, a systematic literature review within and across multiple disciplines in high-quality journals was conducted following the guidelines recommended in the scholarly literature (Fisch and Block, 2018; Tranfield, Denyer and Smart, 2003). This procedure is similar to approaches used in previous state-of-the-art literature reviews in family business research (Basco, 2013; Block et al., 2017; Hiebl, 2013; Sageder et al., 2018). A systematic literature review is a replicable and transparent method that allows for identification, assessment and synthesis of research (Fink, 2013). Following such a structured approach reduces biases and also enhances the legitimacy and objectivity of the evidence that is found (Denyer and Tranfield, 2009; Tranfield et al., 2003). The literature review process used in my dissertation is shown in Figure 2-1.

Figure 2-1: Process of systematic literature review



As a starting point, I defined the overall literature review strategy with inclusion and exclusion criteria that guided the data collection and evaluation of the literature review.⁴

Journal selection focus and quality of publications: The sample was restricted to published, peer-reviewed academic articles from high-quality journals in the fields of accounting, economics, finance, management and marketing that potentially deal with the issue of strategic decision-making in family firms. Hence, article commentaries, conference and working papers, bachelor's and master's theses, dissertations and practical contributions in books and book chapters were not included in the review.

In order to ensure the quality and relevance of journals, I referred to the Erasmus Research Institute of Management (ERIM) 2016 Journals List (EJL) and the VHB-Jourqual 3 (JQ3) ranking released by the German Academic Association for Business Research in 2015. The EJL provides a ranking of high-class journals in the field of management and assigns journals to categories including P* (best rating) or P (second-best rating). The VHB-JQ3 rating represents a common journal evaluation approach in German-speaking countries that ranks journals in categories (A+, A, B, C, D, E), of which A+ represents the highest-rated journals and E the lowest-rated. Within VHB-JQ3, I referred to journals listed on the three subratings of *Entrepreneurship*, *TIE* and *KMU*. Studies fulfilled the following quality condition: only journals categorized as P* and P in the EJL and journals with a ranking of $\geq C$ in the VHB-JQ3 were included in the sample.

The combined and aggregated journal list accounted for 169 interdisciplinary journals after eliminating duplications. A thorough screening of the aggregate journal list for quality, topic and language fit led to the elimination of 50 journals as they either did not meet the quality threshold, were not in English, deviated from the focal topic, lacked a journal rating or had a website without a comprehensive title and abstract search function. The final sample that served as the basis for the underlying literature review encompasses 118 journals (see Table A2-2 in the Appendix, p. 262).

Specification of publications: The literature review focused on qualitative and quantitative empirical, peer-reviewed studies published in high-quality journals in the period from 1988 until 2018. Literature reviews and conceptual articles that discuss concepts and constructs (e.g. long-term orientation) or that provide research propositions were included if

⁴ See overview of inclusion and exclusion criteria in Table A2-1 (p. 261) in the Appendix.

they were considered relevant for explaining family firm strategic decision-making. I only included publications written in English.

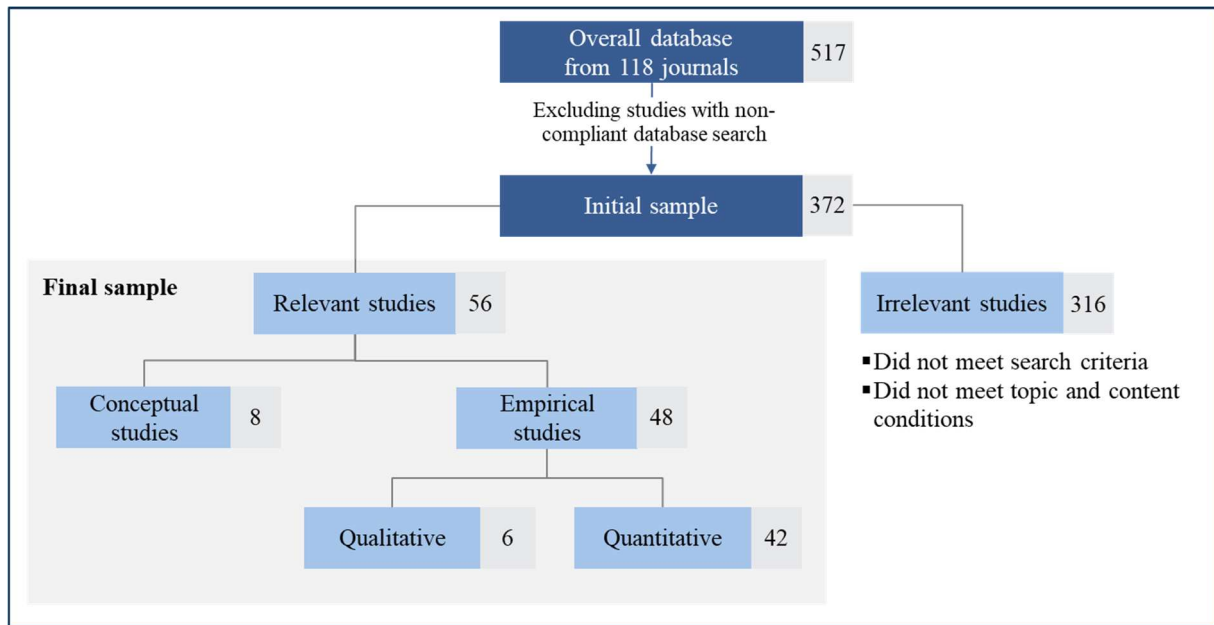
Search strategy: To identify articles, a keyword-based title and abstract search was performed by using the journal websites and academic databases (e.g. Emerald, Sage Journals Online, Science Direct, SpringerLink, Web of Science, Wiley InterScience). I used an unrestricted search that captured all articles that include combinations of the keywords “famil*” and “decision*” in their titles and/or abstracts.⁵

The broad database search in 118 journals yielded an overwhelming number of 517 articles in the preliminary sample. As not all databases allowed a specific title and/or abstract search, a screening was necessary to ensure that the key words “famil* decision*” in combination appeared in title or abstract. In this preliminary screening, studies with non-compliant keyword and database search were excluded from the sample. After performing this step, the database reduced by 145 articles to an initial sample of 372 studies. This dataset served as the starting point for the analysis.

Description of initial and final sample:

The 372 articles in the initial sample were subsequently evaluated in a structured process for relevance and fit in line with the inclusion criteria initially defined in Table 2-1 (Appendix, p. 261). As expected, many articles were eliminated after a first screening for being clearly off-topic (e.g. “entrepreneur start-up decision”, “decision support for manufacturing”, “product management labelling decision”, “consumer behaviour in marketing strategy”) or because strategic decision-making in family firms was not the central topic. Further examples of eliminated articles are those that concentrate on succession (Fang et al., 2016; Westhead, 2003) or capital structure decisions (Koropp et al., 2013; Romano et al., 2001; Schmid, 2013). After excluding 316 irrelevant studies, the dataset finally reduced to 56 studies (see Figure 2-2).

⁵ I added asterisks to the search terms to make sure that variations such as “familiness” and “decision-making” were captured in the search results.

Figure 2-2: Sample of review of literature on strategic decision-making in family firms

2.2 Descriptive results of literature review⁶

2.2.1 Journals in the final sample

The 56 identified articles were published in 19 different journals, which belong to the research areas of family business and entrepreneurship (9 journals), general management (8 journals) and finance and accounting (2 journals). The relatively low number of journals in which the keyword search resulted in hits is quite surprising as the accumulated journal database from the 2016 EIJ and the 2015 JQ3 consisted of 118 titles. However, this number also indicates that literature on strategic decision-making in family businesses is primarily published in dedicated and specialized journals.

The family business and entrepreneurship fields have generated the bulk of published research in the area of interest (36 out of 56 studies), while the remainder came from general management (18 studies) and finance and accounting (2 studies) literature. The most common publications from which academic articles in the sample came were the *Journal of Family Business Strategy* (9 studies), *Entrepreneurship Theory and Practice* (7 studies) and the *Journal*

⁶ The descriptive findings concerning family firm definitions applied in the identified empirical articles are not included in this dissertation for reasons of brevity. I would be happy to provide interested readers with an overview of the family firm definitions used by different authors on request.

of *Small Business Management* (5 studies), followed by *Small Business Economics* (4 studies), *Family Business Review* (4 studies) and the *Journal of Family Business Management* (4 studies). In the field of general management, articles in the final sample were published in journals such as *Corporate Governance: An International Review* (4 studies), the *Journal of Management Studies* (3 studies), the *Journal of Product Innovation Management* (3 studies), *Academy of Management Journal* (2 studies), *Academy of Management Review* (2 studies) and the *Journal of Management* (2 studies). An overview of journals and the number of studies included in the final sample is provided in Table 2-1.

Table 2-1: Overview of journals included in the literature review sample

Journal	Research field	Final sample
Journal of Family Business Strategy	Family business and entrepreneurship	9
Entrepreneurship Theory and Practice	Family business and entrepreneurship	7
Journal of Small Business Management	Family business and entrepreneurship	5
Small Business Economics	Family business and entrepreneurship	4
Corporate Governance: An International Review	General management	4
Family Business Review	Family business and entrepreneurship	4
Journal of Family Business Management	Family business and entrepreneurship	4
Journal of Management Studies	General management	3
Journal of Product Innovation Management	General management	3
Academy of Management Journal (AMJ)	General management	2
Academy of Management Review (AMR)	General management	2
Journal of Management (JOM)	General management	2
Entrepreneurship & Regional Development: An International Journal	Family business and entrepreneurship	1
International Small Business Journal	Family business and entrepreneurship	1
Journal of Small Business Strategy	Family business and entrepreneurship	1
Journal of Corporate Finance	Finance and accounting	1
Journal of Banking & Finance	Finance and accounting	1
Administrative Science Quarterly	General management	1
Strategic Management Journal	General management	1
Total		56

Source: Data collection for literature review.

2.2.2 Evolution of academic literature in family businesses research

As illustrated in Table 2-2, research on strategic decision-making in family firms appears to be a relatively new field.

Table 2-2: Evolution of family business literature

Year	Family business & entrepreneurship	General management	Finance and accounting	Total	%
1992	1			1	1.8%
2001	1			1	1.8%
2002	1			1	1.8%
2005	2			2	3.6%
2006	1			1	1.8%
2007		1		1	1.8%
2008	2			2	3.6%
2009	0			0	0.0%
2010	1	1		2	3.6%
2011	1		2	3	5.4%
2012	2	1		3	5.4%
2013	6	2		8	14.3%
2014	4	1		5	8.9%
2015	2	6		8	14.3%
2016	7	1		8	14.3%
2017	3	2		5	8.9%
2018	2	3		5	8.9%
Total	36	18	2	56	
%	63.3%	32.7%	4.1%	100%	100%

Source: Data collection for literature review.

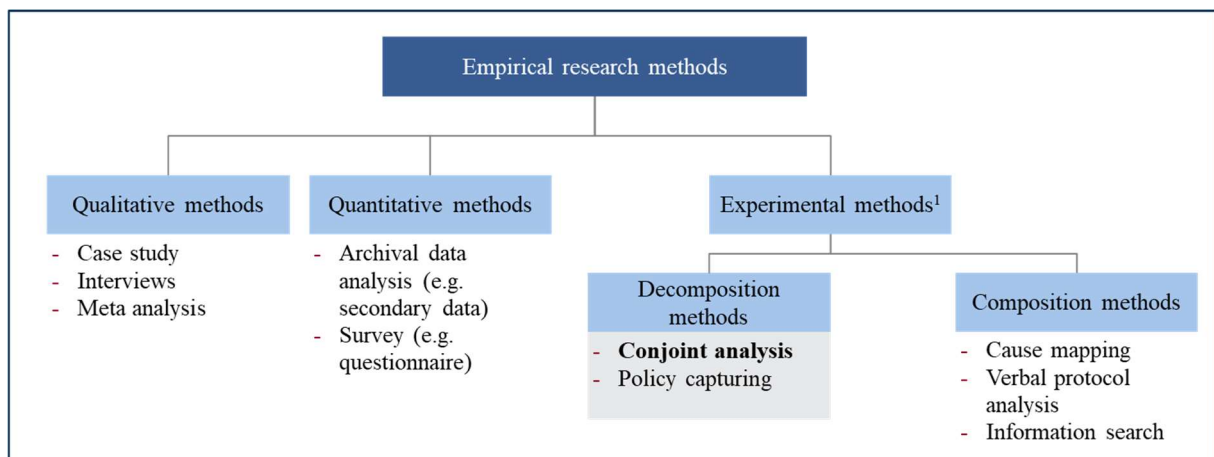
The first articles to explore family firm decision-making were published in the 1990s and early 2000s. Specifically, the first study on strategic decision-making in family firms was Kahn and Henderson (1992), which investigated family firms' location preferences. After that there was a relatively long gap before the next articles were published in 2001 and 2002. With the study of Ibrahim, Dumas and McGuire (2001), the first holistic model of family firm strategic decision-making was introduced. In their study they highlighted the importance of reflecting on family considerations when studying strategic choices. Mustakallio, Autio and Zahra (2002) then explored the role of different governance mechanisms in relation to the

quality of strategic decision-making in family firms. After 2005, articles began to appear almost yearly. Interest in family business research has grown steadily, particularly since the introduction of the “socioemotional wealth” (SEW) concept (Gómez-Mejía et al., 2007), which predicts distinct strategic choices among family firms because of non-economic reference points in decision framing. From the 56 studies in the final sample, 49 articles (87.5%) were published after 2007. This suggests that the investigation of strategic decision-making in family firms in the field of family business research has mainly emerged in the new millennium.

2.2.3 Research design of empirical studies

There are different types of empirical research methodologies available to researchers to investigate the strategic decision-making behaviour of individuals and organizations. An overview of possible methodological approaches is shown in Figure 2-3.

Figure 2-3: Empirical research methods to study strategic decision-making



Notes: ¹ Based on Priem and Harrison (1994).

As shown in Table 2-3, the majority of identified empirical studies applied quantitative methods to explore strategic decision-making in family firms (41 out of 48 studies). Of these quantitative studies, 31 articles analysed archival (i.e. secondary) data and 10 articles referred to phone, post or internet surveys (questionnaires) with company stakeholders and executives. Qualitative research designs, such as case studies or narrative interviews, were less frequently used (5 articles). In one study a meta-analysis of the performance of US public family firms vs non-family firms was conducted (van Essen et al., 2015). An experimental quantitative research

design⁷ was only used in the study of Camblanne (2013), who used cognitive mapping (i.e. a composition method) for the analysis of collected interview data. None of the identified studies used a decomposition method (e.g. conjoint analysis or policy capturing) that focuses on the judgements of decision-makers at the time a decision is made.

Table 2-3: Research design and data collection methods of empirical studies

Research design	N	Sources
Qualitative research:	6	
Case studies; interviews	5	Boers et al. (2017); Calibri et al. (2016); Camblanne (2013); Kammerlander and Ganter (2015); Veider and Kallmuenzer (2016)
Meta-analysis	1	Van Essen et al. (2015)
Quantitative research:	41	
Secondary, archival data	31	Bianco et al. (2013); Binacci et al. (2016); Caprio et al. (2011); Chrisman and Patel (2012); Deslandes et al. (2016); Gentry et al. (2014); Gómez-Mejía et al. (2007); Gómez-Mejía et al. (2010); Gómez-Mejía et al. (2014); Gómez-Mejía et al. (2018); Gu et al. (2016); Jones et al. (2008); Kahn and Henderson (1992); Kao and Kuo (2018); Kavadis and Castañer (2015); Kotlar et al. (2013); Kotlar et al. (2014a); Kotlar et al. (2014b); Kotlar et al. (2017); Landry et al. (2013); Martínez-Ferrero et al. (2016); Nieto et al. (2015); Pimentel et al. (2018); Pongelli et al. (2016); Praet (2013); Requejo et al. (2018); Schmid et al. (2015); Shim and Okamuro (2011); Souder et al. (2017); Strike et al. (2015); Leitterstorf and Wachter (2016)
Questionnaire	10	Basco (2013); Basco (2014); Eddleston, Otondo et al. (2008); Eddleston et al. (2012); Ensley (2006); Feltham et al. (2005); Ibrahim et al. (2001); Mustakallio et al. (2002); Vandemaele and Vancauteran (2015); Vandekerckhof et al. (2018)
Experimental research:	1	
<i>Composition methods:</i>		
Causal/cognitive mapping	1	Camblanne (2013)
Verbal protocols	0	-
<i>Decomposition methods:</i>		
Conjoint analysis	0	-
Policy capturing	0	-
Total empirical studies	48	

Source: Data collection for literature review.

⁷ Composition and decomposition methods are two technically distinct experimental research techniques that aim to capture the judgement policies used by individuals in decision-making. For a detailed description of these methods see Priem and Harrison (1994).

2.2.4 Country and regional focus of studies

The data of the identified empirical studies was collected in various regions and countries. With regards to the geographical regions, Europe (26 studies) and North America (15 studies) are the regions with the most research activity. Three studies have an Asian research context and only one study has a multiregional sample. For European studies, most samples are taken from Spain (7 studies), Italy (5 studies), Belgium (3 studies) and Germany (3 studies). In North America the majority of studies were conducted in the US (11 studies), while three articles used a Canadian sample. Three empirical studies do not mention a regional or country focus. The distribution of articles across regions and countries is shown in Table 2-4.

Table 2-4: Regional and country focus of empirical studies

Region and country	N	Sources
Europe	26	
Spain	7	Basco (2013); Basco (2014); Gómez-Mejía et al. (2007); Kotlar et al. (2013); Kotlar, De Massis et al. (2014); Kotlar, Fang et al. (2014) Nieto et al. (2015)
Italy	5	Bianco et al. (2013); Binacci et al. (2016); Calabrò et al. (2016); Pongelli et al. (2016); Zona (2016)
Belgium	3	Praet (2013); Vandekerckhof et al. (2018); Vandemaele and Vancauteran (2015)
Germany	3	Kammerlander and Ganter (2015); Schmid et al. (2015); Leitterstorf and Wachter (2016)
France	2	Camblanne (2013); Kavadis and Castañer (2015)
Austria	1	Veider and Kallmuenzer (2016)
Finland	1	Mustakallio et al. (2002)
Portugal	1	Pimentel et al. (2018)
Multiple countries	3	Caprio et al. (2011); Kotlar et al. (2017); Requejo et al. (2018)
North America	15	
US	11	Chrisman and Patel (2012); Eddleston, Otondo et al. (2008); Ensley (2006); Gentry et al. (2014); Gómez-Mejía et al. (2010); Gómez-Mejía et al. (2014); Gómez-Mejía et al. (2018); Kahn and Henderson (1992); van Essen et al. (2015); Souder et al. (2017); Strike et al. (2015)
Canada	3	Deslandes et al. (2016); Feltham et al. (2005); Landry et al. (2013)
Canada and US	1	Ibrahim et al. (2001)
Asia	3	
Japan	1	Shim and Okamuro (2011)
Taiwan	2	Gu et al. (2016); Kao and Kuo (2018)
Multiple regions	1	Martínez-Ferrero et al. (2016)
No regional or country focus	3	Boers et al. (2017); Eddleston et al. (2012); Jones et al. (2008)
Total empirical studies	48	

The distinction between the country or regional origin of the sample is important for strategic decision-making research, as the legal and institutional environment and the nature of corporate governance vary considerably in different countries and regions. For instance, in Germany publicly listed companies are legally obliged to have a two-tier board structure with a formal division of power between the management and supervisory board (Block, 2009, p. 15). In a dual board system of this kind, the management board is responsible for the daily operations of the business and is also accountable for all major strategic decisions. The management board's discretion is bound by the restrictions set by the supervisory board (Block and Gerstner, 2016). The supervisory board convenes in regular meetings to appoint, dismiss and monitor members of the management board on behalf of shareholders (Dittmann et al., 2010). By contrast, US firms usually have a one-tier board system, where the board of directors has both managerial and supervisory responsibilities (Block and Gerstner, 2016).⁸ These governance differences may have important implications for the way strategic decisions are made in firms. Only two empirical studies identified in this literature review (Leitterstorf and Wachter, 2016; Schmid et al., 2009) explicitly account for the influence of the national corporate governance system.

The distinction between the country or regional origin of the sample is furthermore important because countries in which firms are based may be bound to different types of legal systems. For instance, countries such as the USA and Canada and some south-east Asian countries have a common law system, whereas countries such as Spain and France are part of the French civil law system and Germanic countries belong to the German civil law system. The divergence between common and civil law systems is linked to the strengths of shareholder protection in public firms. Common law countries are often described as having a stronger legal system to protect minority shareholders than civil law countries (La Porta et al., 2000). Of the identified studies, no articles explicitly accounted for the specific legal and institutional environment in which the analysed firms operate and its impact on strategic decisions. Only two studies with a multi-country sample recognized the need for more research in this domain (Martínez-Ferrero et al., 2016; Veider and Kallmuenzer, 2016).

⁸ For information on the difference between the German two-tier board system and the US one-tier board structure, see Block and Gerstner (2016); Fauver and Fuerst (2006); Gorton and Schmid (2004).

2.2.5 Decision contexts and themes of studies

The identified conceptual and empirical studies (56 articles) on strategic decision-making in family firms focus on a large variety of topics that can be broadly classified into the following four groups: (1) managerial risk-taking behaviour in various strategic decision contexts (33 articles); (2) decision process characteristics (12 articles); (3) family-firm-specific factors that influence decision-making (7 articles); and (4) outcomes of strategic decisions (4 articles).

First, as shown in Table 2-5, in the majority of identified conceptual and empirical articles (33 out of 56 articles), scholars analysed family firm decision-making by linking their research to a specific strategic decision context in order to make inferences about managerial risk-taking and decision-making behaviour of family (versus non-family) firms. In particular, previous family business research has explored strategic decision-making behaviour with respect to decision contexts such as *M&A* (9 articles) (Caprio et al., 2011; Gómez-Mejía et al., 2018; Kotlar et al., 2013; Leitterstorf and Wachter, 2016; Praet, 2013; Requejo et al., 2018; Sharma and Manikutty, 2005; Shim and Okamuro, 2011; Strike et al., 2015), *R&D* (8 articles) (Chrisman and Patel, 2012; Gómez-Mejía et al., 2014; Kammerlander and Ganter, 2015; König et al., 2013; Kotlar, De Massis, et al., 2014; Kotlar, Fang, et al., 2014; Nieto et al., 2015; Souder et al., 2017), *diversification* (5 articles) (Gómez-Mejía et al., 2007, 2010; Gu et al., 2016; Jones et al., 2008; Schmid et al., 2015), *internationalization* (3 articles) (Calabrò et al., 2016; Kao and Kuo, 2017; Pongelli et al., 2016) and *dividend payout decisions* (2 articles) (Deslandes et al., 2016; Vandemaele and Vancauteran, 2015). Strategic decision contexts investigated less frequently by scholars include *corporate restructuring decisions* (Kavadis and Castañer, 2015), *general investment decisions* (Bianco et al., 2013), *location decisions* (Kahn and Henderson, 1992), *purchase and lease decisions* (Landry et al., 2013), *IPO underpricing decisions* (Kotlar et al., 2017) and *delisting decisions* (Boers et al., 2017).

Second, 12 out of 56 studies investigate a variety of topics related to *strategic decision-making process characteristics* such as decision-making quality (Mustakallio et al., 2002; Vandekerckhof et al., 2018), decision-making centralization (Feltham et al., 2005), managerial discretion (Martínez-Ferrero et al., 2016) and the role of different types of conflict in relation to the decision-making process (Eddleston, Otondo, et al., 2008; Ensley, 2006). In a recent article, Nason et al. (2018) conceptualized the coexistence of different reference points in family firm decision-making and discussed their shifts over time. Moreover, Zona (2016)

examined to what extent board decision processes and decision outcomes change depending on the governance context. In addition, scholars also analysed differences in decision-making styles between family and non-family firms (Pimentel et al., 2018) and discussed the role of emotions (e.g. regret) and cognitions in the decision-making of family firm decision-makers (Bee and Neubaum, 2014; Camblanne, 2013; Hirigoyen and Labaki, 2012).

Third, seven studies focus on family-firm-specific factors that may explain the distinctiveness of the decision-making behaviour and preferences of family firms. These factors include the analysis and conceptualization of *long-term orientation* in family firms (Gentry et al., 2016; Lumpkin et al., 2010; Lumpkin and Brigham, 2011; Veider and Kallmuenzer, 2016) and *stewardship culture* in family firms (Eddleston et al., 2012). Finally, four articles explore how the ownership, management and governance characteristics of family firms impact on firm performance, which in turn is the outcome of strategic decisions taken (Basco, 2013, 2014; Binacci et al., 2016; van Essen et al., 2015).

Table 2-5: Decision contexts and themes of reviewed studies

Decision context	N	Sources
Strategic decision contexts	33	
M&A decisions	9	
Merger, acquisition, takeover decisions	6	Caprio et al. (2011); Gómez-Mejía et al. (2018); Requejo et al. (2018); Shim and Okamuro (2011); Strike et al. (2015); Leitterstorf and Wachter (2016);
Technology acquisition	1	Kotlar et al. (2013)
Divestment decisions	2	Praet (2013); Sharma and Manikutty (2005)
R&D decisions	8	
e.g. new technology adoption		Chrisman and Patel (2012); Gómez-Mejía et al. (2014); Kammerlander and Ganter (2015); Kotlar, De Massis et al. (2014); Kotlar, Fang et al. (2014) König et al. (2013); Nieto et al. (2015); Souder et al. (2017)
Diversification decisions	5	
		Gómez-Mejía et al. (2007); Gómez-Mejía et al. (2010); Gu et al. (2016); Jones et al. (2008); Schmid et al. (2015)
Internationalization decisions	3	
		Calabrò et al. (2016); Kao and Kuo (2018); Pongelli et al. (2016)
Dividend payout decisions	2	
		Deslandes et al. (2016); Vandemaele and Vancauteran (2015)
Other strategic decision contexts	6	
Corporate restructuring decisions	1	Kavadis and Castañer (2015)
Investment decisions	1	Bianco et al. (2013)
Location decisions	1	Kahn and Henderson (1992)
Purchase or lease decisions	1	Landry et al. 2013)
Delisting decisions	1	Boers et al. (2017)
IPO underpricing decisions	1	Kotlar et al. (2017)

Table 2-5 (continued): Decision contexts and themes of reviewed studies

Decision context	N	Sources
Decision process characteristics	12	
Decision-making quality	2	Mustakallio et al. (2002); Vandekerckhof et al. (2018)
Decision-making outcome	1	Zona (2016)
Decision-making centralization	1	Feltham et al. (2005)
Decision-making discretion	1	Martínez-Ferrero et al. (2016)
Reference points in decision-making	1	Nason et al. (2018)
Decision-making style and process	1	Pimentel et al. (2018)
Conflict (task, cognitive, relational)	2	Eddleston, Otondo et al. (2008); Ensley (2006) ^a
Cognition, emotion (e.g. regret)	3	Bee and Neubaum (2014); Camblanne (2013); Hirigoyen and Labaki (2012)
Family firm characteristics:	7	
Long-term orientation	4	Gentry et al. (2014); Lumpkin and Brigham (2011); Lumpkin et al. (2010); Veider and Kallmuenzer (2016)
Stewardship culture	1	Eddleston et al. (2012) ^b
Family values and vision, preferences	1	Ibrahim et al. (2001)
SEW and normative theory of decision-making in family firms	1	Newbert and Craig (2017)
Outcome of decision-making	4	
Firm performance	4	Basco (2013, 2014); Binacci et al. (2016); van Essen et al. (2015)
Total studies	56	

Notes: ^a Article is about the moderating role of task conflict and the relationship between CEO tenure and long-term orientation. ^b Article investigates how stewardship culture determinants (e.g. decision-making comprehensiveness, long-term orientation) contribute to corporate entrepreneurship.

2.2.6 Theoretical frameworks to explain decision-making in family firms

Managerial risk-taking is an essential component of strategic management research and is considered a central determinant of strategic decision-making behaviour (Pablo et al., 1996; Sitkin and Pablo, 1992). Various strategic choices regarding issues such as R&D, M&A and internationalization (see Section 2.2.5) are considered in the scholarly literature as indicators of managerial risk-taking, as they represent choices with uncertain consequences. As shown in Table 2-6, managerial risk-taking in family (versus non-family) firms has been examined using various theoretical frameworks.⁹

⁹ For a review of theories used to explain managerial risk-taking, see Hoskisson et al. (2017).

Table 2-6: Theories applied in reviewed studies

Theory	N	Sources
Behavioural agency model (BAM)	9	
BAM, SEW	8	Gómez-Mejía et al. (2007); Gómez-Mejía et al. (2010); Gómez-Mejía et al. (2014); Gómez-Mejía et al. (2018); Kavadis and Castañer (2015); Kotlar et al. (2013); Kotlar et al. (2017); Leitterstorf and Wachter (2016)
BAM, myopic loss aversion framework	1	Chrisman and Patel (2012)
Socioemotional wealth (SEW)	15	
SEW	10	Boers et al. (2017); Deslandes et al. (2016); Gu et al. (2016); Kao and Kuo (2018); Landry et al. (2013); Pongelli et al. (2016); Requejo et al. (2018); Souder et al. (2017); Strike et al. (2015); Vandemaele and Vancauteran (2015)
SEW, agency theory	1	Schmid et al. (2015)
SEW, attention-based view	1	Kammerlander and Ganter (2015)
SEW, social capital theory	1	Jones et al. (2008)
SEW, upper echelons theory	2	Binacci et al. (2016); Vandekerckhof et al. (2018)
Agency theory	7	
Agency theory	5	Caprio et al. (2011); Martínez-Ferrero et al. (2016); Nieto et al. (2015); Praet (2013); Shim and Okamuro (2011)
Agency theory, SEW	1	Schmid et al. (2015)
Agency theory, social capital theory	1	Mustakallio (2002)
Behavioural theory of the firm (BTOF)	3	
BTOF	2	Gentry et al. (2014); Kotlar, Fang et al. (2014)
BTOF, strategic reference point theory	1	Kotlar, De Massis et al. (2014)
Upper echelons theory	1	Zona (2016)
Demographic and essence approach	2	Basco (2013); Basco (2014)
Stewardship theory	2	Calabrò et al. (2016); Eddleston et al. (2012)
Resource-based view (RBV)	1	Ibrahim et al. (2001)
Cognitive theory	1	Camblanne (2013)
No theory	8	Bianco et al. (2013); van Essen et al. (2015); Eddleston, Otondo et al. (2008); Ensley (2006); Feltham et al. (2005); Kahn and Henderson (1992); Pimentel et al. (2018); Veider and Kallmuenzer (2016)
Total empirical studies	48	

Source: Data collection for literature review.

A content analysis of the identified empirical articles shows that family business scholars used a clearly defined theoretical framework in 40 out of 48 empirical studies, while eight

studies lacked a distinguishable framework.¹⁰ The most frequently applied theories to explain managerial risk-taking and strategic decision-making behaviour in family firms are the *behavioural agency model* (Wiseman and Gómez-Mejía, 1998) with 9 studies and the related “umbrella” concept of *socioemotional wealth* (Berrone et al., 2012; Gómez-Mejía et al., 2007) with 15 studies. Other common theories in strategic management and family business research such as the *agency theory* (Eisenhardt, 1989b; Jensen and Meckling, 1976; Shleifer and Vishny, 1986), the *stewardship theory* (Davis et al., 1997; Donaldson and Davis, 1991), the *resource-based view of the firm* (Barney, 1991), the *behavioural theory of the firm* (Cyert and March, 1963) and *upper echelons theory* (Hambrick, 2007; Hambrick and Mason, 1984) have been less frequently applied to explain the strategic decision-making behaviour of family (versus non-family) firms.

2.2.7 Contribution of literature to content, process and criteria research

Decision-making research can be broadly classified into three distinct categories: process, content (Elbanna, 2006; Rajagopalan et al., 1993) and decision criteria research (e.g. Priem, 1994; Shepherd and Zacharakis, 2000). Before summarizing the content of the identified literature, I shall give a brief explanation of the differences between content and process research and a short description of criteria research.

Process research is the study of how strategic decisions are made and implemented by individuals or organizations, and focuses on factors that affect the decision-making process (Elbanna, 2006). *Content research* is about strategy content issues such as internationalization, diversification, mergers and acquisitions and the alignment of company strategies with the environment (Elbanna, 2006; Rajagopalan et al., 1993). According to Mintzberg and Waters (1985), content research can influence the direction of process studies and vice versa, and so the two categories can be viewed as alternatives. The dominant form of research in the literature is content research, while process research has received less scholarly attention (Rajagopalan et al., 1993). *Decision criteria research* takes a micro-perspective and focuses on the decision-making process of individuals (Rajagopalan et al., 1993). Within the process of making decisions, individuals need to make judgements based on available information to come to a decision. When faced with uncertain and complex strategic decisions, decision-makers use heuristics (or cognitive models) to simplify the decision processes (Hitt and Tyler, 1991;

¹⁰ The articles were assigned to a theoretical framework based on the descriptions provided by the authors.

Tversky and Kahneman, 1974). As cognitive models used by individuals may vary, it has been suggested that the decision criteria used and the weightings (i.e. the relative importance) attached to criteria will also differ (Hitt and Barr, 1989). The aim of criteria research is to unfold these judgement policies and decision criteria by capturing the theories used by individuals when actually making decisions (Argyris and Schön, 1974; Lohrke et al., 2010; Priem et al., 2011).

To get an idea about how content, process and decision criteria research has evolved in the literature on strategic decision-making in family firms, I plotted the number of identified empirical studies in terms of these three dimensions (see Table 2-7). The majority of scholars focused their empirical research on content research (30 articles) while process research, which concentrates on how strategic decisions are made or implemented, has received less attention (18 articles). The limited amount of process research may stem from the difficulty in identifying, observing and measuring process variables (Rajagopalan et al., 1993). None of the identified studies conducted a decision criteria research, which suggests that the investigation of decision criteria used by individual decision-makers has until now not been at the core of family business scholars' attention.¹¹

Table 2-7: Type of research (content, process, criteria research)

Type of research	N	Sources
Content research	30	Basco (2013, 2014); Bianco et al. (2013); Boers et al. (2017); Calabrò et al. (2016); Caprio et al. (2011); Chrisman and Patel (2012); Deslandes et al. (2016); Gómez-Mejía et al. (2007); Gómez-Mejía et al. (2010); Gómez-Mejía et al. (2014); Gómez-Mejía et al. (2018); Ibrahim et al. (2001); Jones et al. (2008); Kahn and Henderson (1992); Kao and Kuo (2018); Kavadis and Castañer (2015); Kotlar et al. (2013); Kotlar, De Massis et al. (2014); Kotlar, Fang et al. (2014); Kotlar et al. (2017); Landry et al. 2013); Nieto et al. (2015); Praet (2013); Requejo et al. (2018); Schmid et al. (2015); Shim and Okamuro (2001); Souder et al. (2017); van Essen et al. (2015); Leitterstorf and Wachter (2016)
Process research	18	Binacci et al. (2016); Camblanne (2013); Eddleston, Otondo et al. (2008); Eddleston et al. (2012); Ensley (2006); Feltham et al. (2005); Gentry et al. (2014); Gu et al. (2016); Kammerlander and Ganter (2015); Martínez-Ferrero et al. (2016); Mustakallio et al. (2002); Pimentel et al. (2018); Pongelli et al. (2016); Strike et al. (2015); Vandekerckhof et al. (2018); Vandemaele and Vancauteran (2015); Veider and Kallmuenzer (2016); Zona (2016)
Decision criteria research	-	none
Total empirical studies	48	

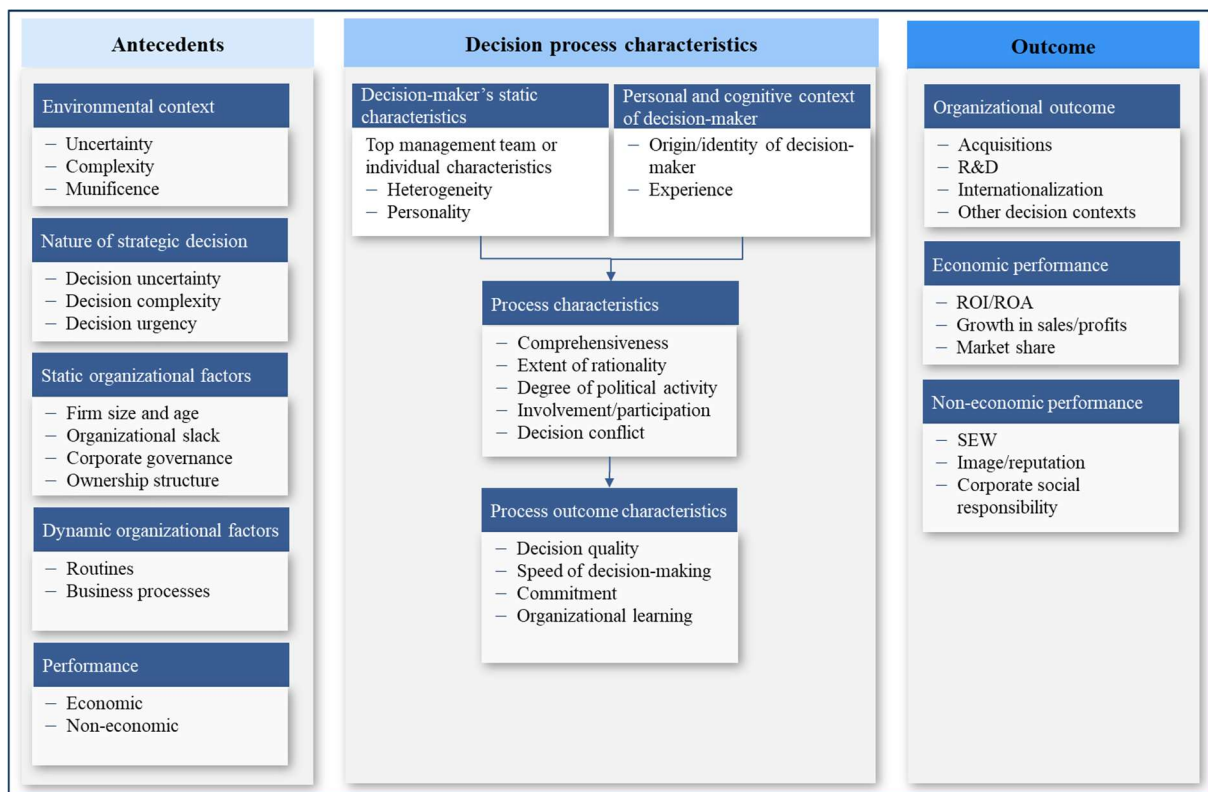
Source: Data collection for literature review.

¹¹ In this dissertation, I used a decision criteria research methodology to investigate the decision-making preferences of family and non-family firms.

2.3 Content analysis of literature by research stream

Following the recommendations of the academic literature (Fisch and Block, 2018; Ginsberg and Venkatraman, 1992), I used a conceptual review framework in order to categorize and assess the contribution of past literature on strategic decision-making in family firms. The conceptual framework of strategic decision-making presented in Figure 2-4 links antecedents, processual and outcome variables of strategic decision-making and is based on existing conceptual models described by several strategic management scholars (Hutzschenreuter and Kleindienst, 2006; Rajagopalan et al., 1993, 1997). I additionally integrated elements relevant to the study of family firm decision-making (i.e. non-economic considerations) that were not considered by the original frameworks.

Figure 2-4: Conceptual framework of strategic decision-making



Source: Based on Hutzschenreuter and Kleindienst (2006) and Rajagopalan et al. (1993, 1997).

Based on the idea of this conceptual framework, I categorized the 56 identified studies into four research streams (see Figure 2-5). Studies from *research stream I* (3 articles) address the influence of antecedent factors on the strategic decision-making process. *Research stream II*

(8 articles) explores the interrelationship of strategy process factors. Articles from *research stream III* (15 studies) concern the relationship between strategy process factors and outcomes, while studies from *research stream IV* (30 articles) address the relationship between antecedent factors and outcomes. This classification is helpful for summarizing and interpreting the research on strategic decision-making in family firms and for presenting the highly fragmented research that was identified in a clear manner.¹²

Figure 2-5: Overview of research streams

Research streams	Antecedents	Process	Outcome
Research stream I	x	x	
Research stream II		x	
Research stream III		x	x
Research stream IV	x		x

Process research: research streams I-III
Content research: research stream IV

2.3.1 Literature with a focus on research stream I (antecedents and process)

Family firm literature in research stream I focuses on the influences of antecedent factors on the strategic decision-making process. The three articles in this category are predominately concerned with the question of how family ownership and governance characteristics impact on different dimensions of the decision-making processes (see Table A2-3, Appendix, p. 265)

Based on a large sample of international listed companies from twenty countries, Martínez-Ferrero, Rodríguez-Ariza and Bermejo-Sánchez (2016) examine the relationship between family ownership and managerial discretion. The scholars aimed to find out whether family ownership acts as an internal control mechanism to reduce the risk of abusive managerial behaviour. They showed that family firms have more centralized decision-making than non-family firms and that family ownership is correlated with greater control and monitoring of managerial decisions. In their view, this behaviour is intended to reduce information asymmetries between the owner and manager, and to avoid the risk of discretionary action by the managers. Moreover, drawing on agency and social capital theory, Mustakallio et al. (2002) investigated the influence of the dual system of governance in family firms (contractual and

¹² For an overview of articles in different research streams, see Table A2-3 (Appendix, p. 265).
For a summary of studies in the final literature review sample, see Table A2-4 (Appendix, p. 266 et seq.).

relational governance) on the quality of strategic decision-making. They suggest that the existence of a family council increases social interaction and encourages the development of shared visions and trust. Moreover, they found that the board's monitoring and counselling activities are positively associated with the management's strategic decision-making quality and commitment to decisions. Their research highlights that decision-making quality is important as it determines the content of the firm's strategies and determines commitment to implementation (Mustakallio et al., 2002). A more recent study explored how diversity in socioemotional wealth preservation (i.e. SEW separation) among members of the TMT influences the decision-making quality of family firm TMTs (Vandekerckhof et al., 2018). By drawing on upper echelons theory (Hambrick and Mason, 1984), the authors of the study argue that SEW separation has a negative impact on TMT decision-making quality because it hinders behavioural integration¹³ in terms of collaboration, communication and joint decision-making within the TMT. They maintain that a team climate characterized by psychological safety, which fosters trust and mutual respect (Gibson and Vermeulen, 2003; Joshi and Roh, 2009), can mitigate the negative effects of SEW separation on TMT behavioural integration.

2.3.2 Literature with a focus on research stream II (strategy process factors)

Family firm literature in research stream II that focuses on the interrelationship of strategy process factors is predominately concerned with the role of emotions and conflict (e.g. cognitive and relationship conflict) in strategic decision-making. In addition, one article examines the influence of board processes and demographic factors on task performance. Table A2-3 (Appendix, p. 265) summarizes studies focusing on these issues.

Role of emotions:

Prior literature that examines the role of emotions in decision-making¹⁴ suggests that emotions (e.g. regret, fear, anger) influence the thoughts, motivations and behaviour of individuals, and hence also the decision-making behaviour of family and non-family firms (Loewenstein and Lerner, 2003; Morris et al., 2010; Rafaeli, 2013; Stanley, 2010). One

¹³ Behavioural integration captures the degree to which members of the TMT engage in mutual interaction (Hambrick, 1994). In his article, Mason Hambrick explains that a high level of behavioural integration in TMTs is positively associated with team performance (i.e. quality of decision formulation and implementation) as it allows individual team members to manage complex decision situations and to balance out diverging opinions.

¹⁴ For more details on the role of emotions in decision-making, see Lerner, Li, Valdesolo and Kassam (2015) and Loewenstein and Lerner (2003).

frequently studied emotion in relation to decision-making is regret (Connolly and Zeelenberg, 2002). Family firms are characterized by the interplay of two overlapping systems, the family and business systems (Tagiuri and Davis, 1996). Prior research suggests that when the emotion of regret is experienced in the family system then this may also affect the decision-making behaviour of the family business system, and vice versa (Hirigoyen and Labaki, 2012). In their conceptual article, Hirigoyen and Labaki (2012) elaborate on these dynamics by discussing the emotion of regret in the context of family business decision-making and by providing a conceptual framework with propositions on the role of regret in the owner-manager decision-making process. In addition, Bee and Neubaum (2014) draw on appraisal theory and develop a conceptual framework to explore the process of *discrete emotional response*.¹⁵ They discuss factors that drive family members' emotions in the context of the family business system.

Identity of decision-maker and role of conflict in decision-making:

In previous family firm literature, it has been shown that family firms are highly dependent on a single decision-maker, the owner-manager (Feltham et al., 2005). These family owners tend to focus on conservation rather than growth strategies in decision-making (Miller et al., 2010). In line with this, scholars have also found that the presence of a family CEO may lead to more conservative strategic decisions (Binacci et al., 2016), to cautious R&D (Gómez-Mejía et al., 2014) and M&A strategies (Miller et al., 2010) and in the worst case even to strategic inertia (Cruz and Nordqvist, 2012; König et al., 2013). In a recent quantitative study with a sample of 104 family and non-family firms from Italy, Zona (2016) examines the impact of board decision processes on board task performance and looks at whether the presence of a family or non-family CEO moderates this relationship. Drawing on upper echelons theory, Zona (2016) found that the influence of board decision-making processes on task performance is contingent upon the identity of the CEO, since family and non-family CEOs have different cognitive frames. In particular, this study suggests that cognitive conflict¹⁶ is beneficial for the effectiveness of task performance when a family CEO manages the firm, as it fosters the questioning of the status quo and enhances creativity, change and the adoption of innovative

¹⁵ Discrete emotions (e.g. pride, hope, joy, anger, fear, worry) are important factors to consider because they lead to cognitive and behavioural responses that influence the decision-makers' judgement and decision-making process (Han et al., 2007).

¹⁶ In board situations with high cognitive conflict, individuals openly express content-related disagreement and express their views even when they are divergent (Milliken and Forbes, 1999). Environments that are characterized by high levels of cognitive conflict have positive implications for the comprehensiveness and rationality of decision-making processes, as they foster an evaluation of alternatives (Zona, 2016).

strategies. On the contrary, the use of knowledge and skills is more effective when a non-family CEO is in charge. In a related quantitative study of 108 family firms, Ensley (2006) found that high levels of task conflict¹⁷ and intellectual debate between executives are critical in family firms, as in this way the strategic alternatives and the validity of strategic persistence can be challenged.

Family business literature that discusses the role of conflict in family firm decision-making tends to concentrate on conflict at the individual or organizational level (Eddleston, Otondo, et al., 2008) and family participation from different generations is often regarded as another main reason why conflict arises (Davis and Harveston, 1999; Gersick, Davis, Hampton and Lansberg, 1997). In line with this, Eddleston, Otondo, et al. (2008) assessed how generational ownership dispersion moderates the relationship between participative decision-making and cognitive and relationship conflict.¹⁸ They found that participative decision-making among family members is associated with cognitive and relationship conflict. Their results indicate that with higher levels of participative decision-making for first and second-generation firms, cognitive and relationship conflict decreases, whereas for multigenerational firms both types of conflict increase. In line with this, the authors suggest that if participative decision-making in a family firm is high, emphasis should be placed on stimulating cognitive conflict that focuses on goals and strategies the company should pursue. In this way, potential group thinking can be overcome (Park, 2000).

2.3.3 Literature with a focus on research stream III (process and outcome)

Family firm literature in research stream III focuses on the relationship between strategy process factors and outcomes. Studies in this stream primarily address how different family values and (non-)economic goals impact on decision-makers' cognitive frames and strategic decision-making behaviour. In addition, scholars examine the influence of individual-level characteristics (e.g. CEO identity, CEO career horizon, TMT diversity) and firm-level

¹⁷ Task conflict is a type of conflict where executive team members jointly reflect on the firm's strategy and determine whether the status quo is still satisfactory and what measures have to be taken to adjust a given course (Ensley, 2006). Past research suggests that if team conflict takes the form of task-related conflict then it is a constructive type and associated with positive outcomes (Amason, 1996; Jehn, 1994).

¹⁸ Cognitive conflict focuses on task-related conflicts that may arise between individuals at work, while relationship conflict focuses on those that relate to interpersonal clashes (Simons and Peterson, 2000). Relationship conflict is an interpersonal conflict that is characterized by negatively connotated emotions such as anger, worry and resentment (Davis and Harveston, 2001).

characteristics (e.g. stewardship culture) on organizational outcomes. Table A2-3 (Appendix, p. 265) summarizes studies focusing on these issues.

Individual-level characteristics:

Strategic management scholars drawing on upper echelons theory (Hambrick and Mason, 1984) suggest that the characteristics of CEOs, top managers and top management teams affect strategic choices and organizational outcomes (e.g. innovation, acquisition decisions) and thus also firm performance (Carpenter et al., 2004).¹⁹ Hambrick (2007) further suggests that upper-echelon characteristics are particularly strong predictors of strategic decisions and organizational outcomes when decision-makers are equipped with high levels of managerial discretion, which is usually the case among family firm owners who are actively involved in the running of the firm (Martínez-Ferrero et al., 2016). In a quantitative analysis of 584 top managers from 97 large Italian family firms, Binacci et al. (2016) used upper echelons theory to analyse how the characteristics of non-family managers (NFMs) within the family firm top management team impact on family firm performance. One interesting finding of their research is that non-family team (NFT) functional diversity has a positive impact on family firm performance. The authors argue that this may be the case because functional diversity can result in a higher level of task-related conflict, which may ultimately improve the quality of strategic decisions taken (Binacci et al., 2016).

In addition, prior strategic management literature argues that younger CEOs, with relatively long career horizons,²⁰ tend to favour riskier strategies (e.g. acquisitions), while older CEOs with shorter career horizons tend to adopt more risk-averse and conservative strategies (Matta and Beamish, 2008; McClelland et al., 2012). To test this in the context of family firms, Strike et al. (2015) conducted a large-scale quantitative study with 264 listed and non-listed family firms. The authors' main argument in the study is that the importance attached to certain SEW goals depends on the CEO's career horizon. In particular, they suggest that family CEOs near retirement are increasingly concerned about transgenerational control and therefore tend to focus on long-term strategies that may benefit future generations rather than on short-term results. Their findings reveal that near-retirement family CEOs have a tendency to acquire less

¹⁹ For a summary of literature on the predictions of upper echelons theory, see (Bromiley and Rau, 2016; Carpenter et al., 2004). For a review of upper echelons literature in the context of family firms, see Hiebl (2017).

²⁰ The career horizon is usually operationalized as a function of the CEO age and considers the working time left until retirement (McClelland et al., 2012; Strike et al., 2015).

risky (e.g. culturally closer) but also larger targets than CEOs of non-family firms. Finally, drawing on stewardship theory, Eddleston et al. (2012) suggest that stewardship determinants like comprehensive strategic decision-making and long-term orientation contribute to corporate entrepreneurship in family firms.

Economic and non-economic goals:

In order to understand the strategic decision-making processes in family firms, it is essential to consider the business-owning family's values, visions and priorities (i.e. economic and non-economic goals) (Camblanne, 2013; Sharma and Manikutty, 2005). Family business scholars thus emphasize the importance of non-economic, family-centred goals besides economic ones in the decision-making process of family firms (Berrone et al., 2012; Chrisman et al., 2012; Gómez-Mejía et al., 2007; Zellweger et al., 2013; Zellweger, Kellermanns, Chrisman, et al., 2012). It is suggested that these non-economic (i.e. SEW) goals influence managerial cognition²¹ and interpretation of information (Camblanne, 2013) and the decision-makers' sensemaking process (Kammerlander and Ganter, 2015), and therefore help to explain the strategic decision-making behaviour of family firms.

The family business literature points out that the family's emphasis on economic and non-economic goals differs among family firms (Astrachan and Jaskiewicz, 2008; Chrisman and Patel, 2012; Gu et al., 2016; Kammerlander and Ganter, 2015; Pongelli et al., 2016; Sirmon and Hitt, 2003). For instance, if family business owners attach high importance to the non-economic goal of preserving a family's legacy, then family firms are expected to experience greater difficulty in divesting unproductive businesses and resources than non-family firms (Sharma and Manikutty, 2005). For such family firms resource-shedding may constitute a crucial SEW loss as such activity conflicts with the family owners' desire to maintain family control across generations (Salvato et al., 2010; Sharma and Manikutty, 2005).

In addition, an emphasis on transgenerational value creation may foster strategic decisions that require a long-term investment horizon (Gu et al., 2016; Kammerlander and Ganter, 2015), such as investment in R&D (Chrisman and Patel, 2012) or in discontinuous technologies (Kammerlander and Ganter, 2015; König et al., 2013). By contrast, the attention

²¹ According to prior strategic management literature, the cognition of decision-makers is an important determinant of strategic decisions. For more information on the role of managerial cognition, see Gary and Wood (2011) and Schwenk (1988).

to non-economic goals such as emotional attachment may result in short-term planning horizons among family firm decision-makers that eventually lead to strategic inertia (Kammerlander and Ganter, 2015; König et al., 2013). In a quantitative study of a sample of 204 family firms and 368 foreign market entry decisions, Pongelli et al. (2016) also found that different types of family-related non-economic goals (e.g. family control preservation vs long-term survival) influence market entry choices differently. Their research reveals that founders have a preference for equity mode investments, which can be considered a reflection of long-term investments, whereas younger generations foster cooperation with external partners.

Long-term orientation and generational involvement:

As indicated above, specific non-economic goals in family firms are associated with a long-term orientation (LTO) and extended time horizons in decision-making (Lumpkin and Brigham, 2011; Miller and Le Breton-Miller, 2005; Zellweger et al., 2013) and with entrepreneurial orientation in family firms (Lumpkin et al., 2010). The concept of LTO is defined in the literature as “the tendency to prioritize the long-range implications and impact of decisions and actions that come to fruition after an extended time period” (Lumpkin et al., 2010, p. 245). In their study, Lumpkin and Brigham (2011) introduced an LTO construct consisting of three dimensions, namely futurity, continuity and perseverance. They suggest that in family firms with a long-range perspective, an LTO acts as a “*higher-order heuristic*” for decision-makers that guides the strategic choices of the dominant coalition in family firms. In addition, Gentry et al. (2016) investigated the role of long-term orientation in decision-making in listed family-influenced firms. By drawing on the BTOF (Cyert and March, 1963), their research posits that a family firm’s dominant coalition influences strategic decision-making, as it tends to direct a firm’s investments towards long-term survival. The LTO of family firms is thus reflected in a greater accumulation of slack resources, less strategic risk-taking and a lower risk of going bankrupt than in non-family-influenced firms. Moreover, Veider and Kallmuenzer (2016) found in their qualitative case study that family firms are heterogenous in the way they emphasize LTO in their decision-making. Their research revealed that founder-led family tend to focus on idea development, while descendent-led firms take decisions by focusing on a sustainable development of the business.

Finally, family business research also suggests that the importance attached to different non-economic goals may change depending on the family generation in charge of running the

firm (Chrisman and Patel, 2012; Gómez-Mejía et al., 2011; Gómez-Mejía et al., 2007; Gu et al., 2016). For instance, Vandemaele and Vancauteren (2015) show that the dividend payouts tends to be lower when a family/founder CEO manages the firm and when there is a family-dominated board present in the organization. The authors explain this finding by reference to the fact that family CEOs have the power and legitimacy to set dividend payouts in accordance with the family's SEW goals. In addition, they suggest that the family firms' tendency to retain earnings is stronger in earlier generational stages than in later ones.

2.3.4 Literature with a focus on research stream IV (antecedents and outcome)

Family firm literature in research stream IV focuses on the influence of antecedent factors on decision-making outcomes. This research stream represents the category with the highest amount of literature (30 articles) and scholars are predominately concerned with the question of how family ownership impacts on risk-taking behaviour in specific decision contexts and firm performance. Table A2-3 (Appendix, p. 265) summarizes studies in this research stream.

Many scholars who draw on the BAM and the related SEW perspective argue that family firms are more conservative and risk-averse decision-makers, since they aim to protect SEW. This is evidenced in the identified family business literature by a higher sensitivity to uncertainty in investment decisions (Bianco et al., 2013), a tendency of family firms to invest less in R&D (Chrisman and Patel, 2012; Gómez-Mejía et al., 2014), a higher reluctance to adopt or acquire new technology (Kotlar et al., 2013; Souder et al., 2017) and a generally lower willingness to diversify (Gómez-Mejía et al., 2010; Gu et al., 2016; Jones et al., 2008; Schmid et al., 2015) than in non-family firms. With regards to the strategic decision context of M&A, the identified studies suggest that family firms are generally more reluctant to engage in M&A transactions than non-family firms (Caprio et al., 2011; Shim and Okamuro, 2011), and when they do they prefer targets that are related (Gómez-Mejía et al., 2018). In addition, Leitterstorf and Wachter (2016) analysed blockholder preferences in the context of German publicly listed firms' takeover decisions. Their research revealed that firms with family blockholders offer significantly lower takeover premiums than other type of blockholders in order to protect both their economic and non-economic utility.

Despite abundant evidence of risk-averse strategic decision-making in family firms, some scholars have begun to challenge the predominant view that these firms are more conservative organizations than non-family firms. In particular, researchers suggest that higher

strategic risk-taking in the form of increased R&D investment (Chrisman and Patel, 2012; Gómez-Mejía et al., 2014; Kotlar et al., 2013) and a higher willingness to diversify internationally (Gómez-Mejía et al., 2010) and to engage in acquisitions of unrelated targets (Gómez-Mejía et al., 2018) is likely to occur in family firms whose performance falls below the aspiration levels. In addition, other scholars have found that the presence of affiliate directors may (by sharing their knowledge and experience) reduce the perceived risk associated with strategic diversification decisions and encourage family firms to engage in such strategies (Jones et al., 2008).

Furthermore, other scholars have drawn on the BTOF (Cyert and March, 1963) to investigate the multidimensional nature of reference points used by family firms in the context of R&D investment behaviour (Kotlar, De Massis, et al., 2014; Kotlar, Fang, et al., 2014). These scholars revealed that family managers regard R&D investments as riskier since they involve potential loss in terms of non-economic and economic goals. Moreover, their research showed that family-managed firms react more strongly to internal performance hazards (e.g. declining firm performance) than non-family firms, and react less strongly to external performance hazards (e.g. competitor/buyer/supplier market power) (Kotlar, De Massis, et al., 2014). In addition, Kotlar, Fang et al. (2014) found that family firms react more strongly to the increasing market power of suppliers in cases where their profitability reference point has been met.

In empirical articles of this research stream that apply the agency theory, the uniqueness of the governance system and related agency issues are emphasized to explain strategic conduct in family (vs non-family) firms. Studies based on this theory suggest that strategic decisions of firms on matters such as business unit diversification (Schmid et al., 2015), M&A (Caprio et al., 2011; Praet, 2013; Shim and Okamuro, 2011) and innovative behaviour (Nieto et al., 2015) are affected by agency issues that result from the separation between corporate ownership and control. For instance, in a study of 777 listed family and non-family firms from continental European countries, Caprio et al. (2011) found that family firms generally prefer internal growth strategies and are less likely to engage in acquisition decisions because of the higher risk of losing family control.

Furthermore, Nieto et al. (2015) found in their large-scale quantitative empirical study with more than 15,000 observations of non-listed family and non-family firms that family firms tend to perform fewer innovation efforts and are less likely to engage in technology collaboration than their non-family counterparts. In addition, they revealed that family firms tend to achieve more incremental than radical innovations. Schmid et al. (2015) take account

of the heterogeneity among family firms and examine how founders and their families influence business segment diversification decisions. Their study reveals that family-owned firms have higher levels of diversification than family-managed firms. In addition, they show that if the family firm is controlled by another large shareholder (e.g. an institutional investor) then those blockholders take on a monitoring role and induce family owners to concentrate on their core business activity. Moreover, Calabrò et al. (2016) conducted a multiple case study analysis with four Italian family firms and explored whether incoming generations' involvement influences the exploitation and exploration of international opportunities. By drawing on stewardship theory, the authors suggest that altruism and competence-based trust between the founder and the new generation play an important role in the internationalization of family firms.

Finally, various scholars have examined the impact of family ownership on financial performance (Basco, 2013, 2014; Binacci et al., 2016; van Essen et al., 2015), which represents the outcome of strategic decisions taken. In a meta-analysis, van Essen et al. (2015) examine whether (1) listed family firms outperform other corporations, (2) the performance differential between family and non-family firms can be attributed to unique decision-making preferences and (3) performance differentials persist across generations. Their findings suggest that US listed family firms outperform other corporations, and that their strategic choices related to diversification, internationalization and financing mediate the performance relationship.

2.4 Implications of descriptive literature review findings for the dissertation

To conclude this chapter, I reflect on the descriptive findings of the literature review to identify several implications for the research design of my dissertation.

2.4.1 Implications for the research context

Strategic decision-making context. Strategic decision-making in family (versus non-family) firms has been investigated in prior family business literature in the context of many different strategic decision-making contexts (see Table 2-5, p. 20). The research questions outlined in the introductory chapter of this dissertation require a choice context that on the one hand can be operationalized in an experimental study (i.e. conjoint analysis) and on the other hand reveals information on how specific non-economic goals (e.g. transgenerational intention) drive strategic decision-making behaviour in family firms.

The strategic decision-making context that I consider particularly suitable for my dissertation is the strategically motivated *corporate acquisition decision*, with a focus on the *target screening and selection decision* in the pre-acquisition phase.²² First, strategically motivated corporate acquisitions represent decisions with a long-term perspective, since they aim to either enhance organizational growth or to obtain access to external resources or capabilities that allow the family firm to prosper over generations (Miller et al., 2010; Sieger et al., 2011). Second, acquisitions differ from other strategic choices in that they involve high risks due to the uncertainty related to positive acquisition outcomes (Christensen et al., 2011; Pablo, 2013). Third, acquisitions pertain to several SEW dimensions simultaneously as they often require (1) external financing and additional managerial resources, which may weaken family control and independence (Schmid et al., 2015), (2) an opening up of social networks for new employees, customers and suppliers, which may disrupt well-established relationships with internal and external stakeholders (Gómez-Mejía et al., 2018) and (3) an expansion of existing products, brands and markets within a short period of time, which may dilute the firm's long-standing image and damage its reputation (Deephouse and Jaskiewicz, 2013; Requejo et al., 2018). Hence, an unsuccessful acquisition may be particularly harmful for family firms because of the threat to lose both economic and socioemotional wealth. Given these reasons, the decision context offers a promising research context for the study of the importance attached to M&A decision criteria in the acquisition target screening process.

Main country focus of study. As outlined in Section 2.2.4 (p. 17 et seq.) only three out of 48 empirical studies have a German research context.²³ This is surprising, given the acknowledgement of researchers that Germany provides an ideal research setting for the investigation of strategic decision-making in family firms (Kammerlander and Ganter, 2015; Schmid et al., 2009). For my dissertation, I chose Germany as the primary research context for the following two reasons. First, Germany is the fourth-largest economy in the world²⁴ and often considered the economic “powerhouse” in Europe. German family firms, many of them *hidden champions* that are global market leaders in their niche, are large contributors to this success (Hermann, 2012; Venohr and Meyer, 2007). A recent report on the economic importance of family firms by the Stiftung Familienunternehmen revealed that in Germany,

²² See Chapter 3 for a detailed description of this strategic decision context.

²³ See Table 2-4 (p. 17).

²⁴ See <https://www.focus-economics.com/blog/the-largest-economies-in-the-world> (accessed 20 February 2019).

depending on the definition,²⁵ around 87 percent of all legally registered business entities (in 2015 approx. 2.7 million) can be considered family-led family businesses (Stiftung Familienunternehmen, 2017). According to the report, these family-led family businesses account for around 50% (13.8 million) of jobs and 47% (EUR 2.5 trillion) of revenues in Germany. In addition to the important role of German family firms for the well-being of the domestic economy (Klein, 2000; Seibold et al., 2019, p. 27; Stiftung Familienunternehmen, 2017), they are also important players in the global marketplace. For instance, the 2019 Ernest and Young (EY) and University of St Gallen Global Family Business Index,²⁶ which is a ranking of the 500 largest family-owned firms²⁷ around the world, shows that out of all firms in the ranking, 78 of the largest family firms globally are headquartered in Germany.²⁸

Second, despite the evidence that Germany has adopted many characteristics of a market-based economy over the course of recent years (Enriques and Volpin, 2007; Martynova and Renneboog, 2011), ownership structures are still more concentrated than in Anglo-Saxon countries (La Porta et al., 1999, 2000). The concentrated ownership structure and longer life cycles of (family) firms in Germany (Klein, 2000) therefore allow for an ideal research context for the investigation of decision-making preferences in family versus non-family firms.

2.4.2 Implications for the methodology

As evidenced by the overview of research designs in Table 2-3 (p. 16), much of the decision-making research identified in this literature review relied on archival data analysis and on post-hoc methodologies such as questionnaires, surveys and interviews to investigate strategic decision-making behaviour in family firms (vs non-family firms). While these insights have undoubtedly advanced the understanding of decision-making in family firms, various researchers argue that retrospective designs (i.e. research methods that rely on self-reports or

²⁵ For details on the definition of family-led family business by the author of the study, see Stiftung Familienunternehmen (2007, p. 9).

²⁶ For details on the EY and University of St Gallen Global Family Business Index, see: <http://familybusinessindex.com> (accessed 12 February 2019).

²⁷ The index considers a firm to be a family firm if the family controls > 50% (> 32%) of shares in a private (public) company and if at least one family member is involved in either the board of directors or in management and if the company is in at least the second generation.

²⁸ According to the study by EY and the University of St Gallen, the 78 German family firms listed in the database generate a combined annual revenue of about \$1,418 billion (compared with 122 US family firms that generate \$2,353 billion) and employ more than 3.9 million people (compared with 6.5 million employed by US family firms).

retrospective reports) may provide data that is biased and contains inaccuracies (Golden, 1992; Huber and Power, 1985; Zacharakis and Meyer, 1998). These errors can arise because individuals can suffer from *recall* and *post-hoc* rationalization biases (Sandberg et al., 1988; Shepherd and Zacharakis, 1999), because of their poor introspection into their own decision policies (Shepherd, 1999a; Stahl and Zimmerer, 1984; Zacharakis and Meyer, 1998) or because they lack crucial information concerning the event or strategic choice of interest (Phillips, 1981).

To avoid these limitations of retrospective methods, strategic management scholars and recently also family business researchers have advocated the use of conjoint analysis, which is an experimental research methodology that allows researchers to investigate the decisions of individuals at the time when they are made (Hanisch and Rau, 2014; Priem and Harrison, 1994; Shepherd and Zacharakis, 1999, 2018). Conjoint analysis belongs to the group of *decompositional* experimental methods²⁹ that involve an inductive decomposition of the decision process (Priem, 1992) and aims to extract judgement policies employed by decision-makers with respect to predefined strategy variables (Priem and Harrison, 1994). Within decomposition methods, conjoint analysis has proven to be an effective technique for capturing decision-makers' "*theories-in-use*" (Priem, 1992; Rajagopalan et al., 1993), enabling researchers to make predictions about the decision-making behaviour of individuals in real decision situations (Shepherd and Zacharakis, 1999, 2018). In my dissertation, I used conjoint analysis as the main research methodology in order to examine executives' strategic decision-making preferences in acquisition target screening.

2.4.3 Implications for theory

As shown in Table 2-6 (p. 22), managerial risk-taking (i.e. strategic decision-making under uncertainty) has been examined using different theoretical frameworks.³⁰ The behavioural agency model (BAM) and the related concept of SEW³¹ explained in this section are the most prominently used approaches in family business research, as evidenced by the literature review. In the development of hypotheses in Chapter 6 concerning the differences in

²⁹ For details on decomposition methods (e.g. conjoint analysis), see Priem and Harrison (1994).

³⁰ For a review and description of theoretical frameworks used to explain managerial risk-taking, see Hoskisson et al. (2017).

³¹ For a description of the behavioural agency model and the related SEW concept, see Kumeto (2015).

decision-making preferences in family versus non-family firms and the heterogeneity among the group of family firms, I primarily utilize arguments based on these prominent perspectives.

The behavioural agency model (BAM) of managerial risk-taking developed by Wiseman and Gómez-Mejía (1998) integrates ideas from the behavioural theory of the firm (Cyert and March, 1963) and prospect theory (Kahneman and Tversky, 1979) and relaxes the assumption of traditional agency theory that decision-makers hold stable risk preferences (Kumeto, 2015). The BAM assumes that decision-makers' risk preferences and decision-making behaviour are "reference-dependent" (i.e. risk-taking may change depending on the decision context and on how decision problems are framed) and that decision-makers are loss-averse (Wiseman and Gómez-Mejía, 1998). *Problem framing* means that decision-makers take decisions by evaluating expected consequences of choices in terms of potential losses or gains relative to their *current utility endowment* (Gómez-Mejía et al., 2010; Kahneman and Tversky, 1979; Wiseman and Gómez-Mejía, 1998). *Loss aversion* means that for decision-makers avoiding losses in terms of current wealth endowment is more important than obtaining gains in the future, even when this translates into a higher risk profile (Gómez-Mejía et al., 2011; Wiseman and Gómez-Mejía, 1998). Hence, the theory predicts that decision-makers will use their current personal wealth endowment as the primary reference point in strategic decision-making (Wiseman and Gómez-Mejía, 1998). This means that decision-makers who perceive a threat to their current wealth endowment may become risk-seeking decision-makers in order to prevent an unfavourable outcome (Kumeto, 2015; Martin et al., 2013; Wiseman and Gómez-Mejía, 1998).

The concept of **socioemotional wealth (SEW)** is a family-firm-specific extension and direct application of the behavioural agency model (Kumeto, 2015).³² The common features of the BAM and the SEW concept are displayed in Table 2-8, which shows that the main difference between the two perspectives lies in the type of reference point used to evaluate the attractiveness of decision alternatives (Kumeto, 2015). In the context of family firm decision-making, the gain or loss of non-economic value (i.e. socioemotional wealth) is described as the main reference point in decision-making (Berrone et al., 2012; Gómez-Mejía et al., 2007, 2010). In particular, family firm decision-makers are loss-averse with respect to the current socioemotional endowment and hence make decisions based on socioemotional reference points and not just economic ones (Cennamo et al., 2012; Gómez-Mejía et al., 2007, 2010).

³² For a recent review of SEW research in family business literature, see Jiang et al. (2017).

Prior research drawing on the BAM also suggests that there may be decision situations which can simultaneously lead to gains or losses in terms of non-economic utilities (known as “mixed gambles”) (Martin et al., 2013). These scholars suggest that decision-makers are willing to increase risk-taking in strategic decisions when the potential gains outweigh potential losses, and vice versa. For instance, in the context of R&D investments by family firms, Gómez-Mejía et al. (2014) argue that the business-owning family will evaluate potential SEW gains or losses when deciding upon strategic alternatives and will prefer choices that either increase SEW gains or decrease SEW losses.

So the question arises of what exactly SEW is and what dimensions it captures. SEW is often considered an umbrella concept, which summarizes a family’s affective values gained from ownership of and influence in the firm (Berrone et al., 2010; Gómez-Mejía et al., 2010). SEW hence captures non-economic family-centred goals such as family control and influence over key decisions, the family members’ identification with and emotional attachment to the firm, transgenerational sustainability and intention to pass the business on to the next generation (Berrone et al., 2012),³³ harmony, belonging and trustful relations (Sharma and Manikutty, 2005) and maintenance of a favourable family reputation (Deephouse and Jaskiewicz, 2013; Dyer and Whetten, 2006; Zellweger et al., 2013).³⁴ It is suggested that these family-specific non-economic goals influence the decision-makers’ sensemaking process and hence also their decision-making behaviour (Kammerlander and Ganter, 2015).

Table 2-8: Comparison of behavioural agency model and the related SEW concept

Concept	Behavioural agency theory	Socioemotional wealth concept
Main reference point in decision-making	The current personal wealth endowment (or performance aspirations) of the decision-maker	The socioemotional endowment of the family in the business
Loss aversion	Avoidance of loss of the decision-makers’ current economic wealth	Avoidance of loss of the family owners’ socioemotional wealth
Changing risk preferences	Decision-makers may be risk-averse or risk-seeking in order to preserve personal (economic) wealth	Family decision-makers may be risk-averse or risk-seeking in order to preserve (non-economic) socioemotional wealth
Mixed gamble	A decision situation that may generate both gain and loss outcomes in relation to the decision-maker’s wealth	A decision situation that can both enhance and reduce the family’s socioemotional wealth

Source: Based on Kumeto (2015).

³³ Berrone et al. (2012) conceptualizes SEW in five dimensions (FIBER): family control and influence, family members’ identification with the firm, binding social ties, emotional attachment to the firm and renewal of family bonds to the firm through dynastic succession.

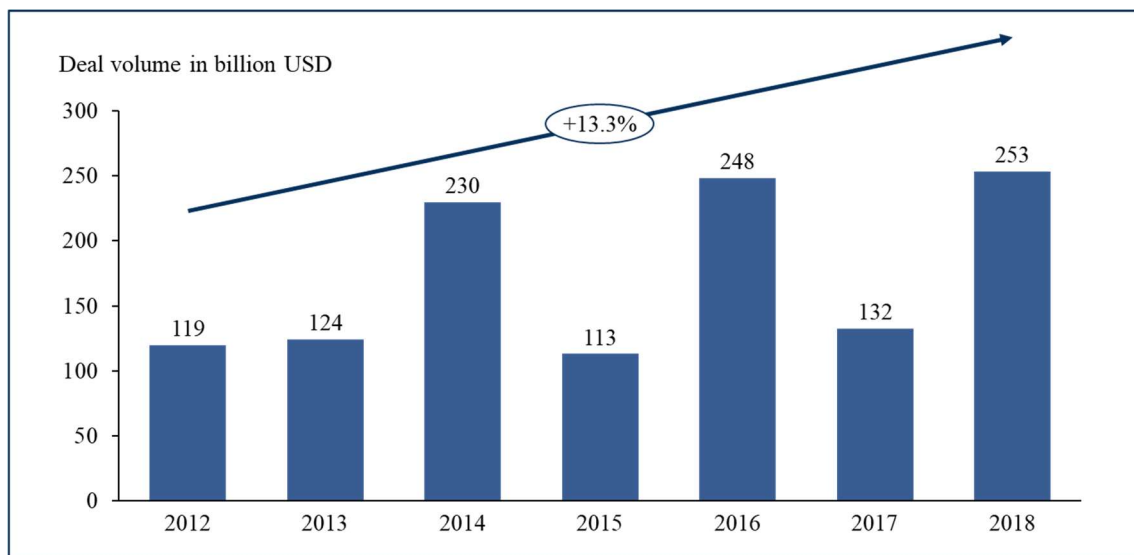
³⁴ For a discussion on the importance of family-centred non-economic goals in family firms, see Chrisman et al., (2012) and Zellweger et al. (2013).

3 Decision criteria in corporate acquisition screening: A literature review

3.1 Introduction and motivation

Despite increasing macroeconomic, political and regulatory uncertainties throughout 2018, the performance of the German economy was quite robust, which was also reflected in M&A activities involving German companies. A recent M&A report published by the Zentrum für Europäische Wirtschaftsforschung (ZEW) in Mannheim in cooperation with Bureau van Dijk shows that M&A activity involving German family and non-family firms was fairly high in 2018 (Dürr, 2018). This finding was corroborated by a report published by Allen & Overy³⁵ that reveals that the deal volume of M&A transactions involving German corporations exceeded US\$250 bn (around €216 bn) in 2018. The constant growth in M&A activities in recent years (see Figure 3-1) signals the importance of the topic for the corporate development of German companies.

Figure 3-1: M&A transactions involving German companies from 2012 to 2018



Notes: Based on M&A report by Allen & Overy (2018); data source: Thomson Reuters.

³⁵ German M&A report 2018 by Allen & Overy; see website: http://www.allenoverly.com/SiteCollectionDocuments/MandA_Insights_Germany_Q4_2018.pdf (accessed 11 January 2019).

Mergers and acquisitions represent one of the most critical strategic decisions faced by top management in corporations, because of their high visibility (Pablo et al., 1996) and the often very considerable resource commitments and performance implications that they involve (Baum and Wally, 2003). Corporate acquisitions differ from other strategic choices in virtue of their high risk profile and the uncertainty related to positive acquisition outcomes (Haspeslagh and Jemison, 1991; Pablo, 2013). Despite the seemingly high willingness of corporations to engage in M&A transactions (see Figure 3-1), the track record of such activities is paradoxically very sobering. Available evidence from research and practice suggests that the majority of corporate acquisitions fail to create value for the shareholders of acquiring firms (Bagchi and Rao, 1992; Bower, 2001; Datta et al., 1992; Deloitte, 2018). Some leading management scholars even report extremely high failure rates of between 70 and 90 percent (Christensen et al., 2011).

Hence, the question arises of why so many acquisitions fall short of expectations. One of the most frequently mentioned reasons in the M&A literature to explain the low success rates is the decision-making shortcomings of acquirers in the pre-acquisition screening and evaluation of potential acquisition targets (Christensen et al., 2011; Roll, 1986; Srivastava and Datta, 2002). Scholars argue that a logical consequence of an ineffective screening and evaluation of potential acquisition targets is an overestimation of potential synergies, which in turn may lead to an overpayment for an acquisition (Christensen et al., 2011; Roll, 1986; Srivastava and Datta, 2002). With such an overpayment (i.e. payment of a high acquisition premium above the target's market value), acquirers may end up in a "synergy trap" that ultimately results in a lower likelihood of acquisition success (i.e. earning positive returns from the acquisition) (Hitt and Pisano, 2003; Sirower, 1997).

Both leading researchers in strategic management (e.g. Calipha et al., 2010; Christensen et al., 2011; Gomes et al., 2013; Marks and Mirvis, 2001) and M&A practitioners (BCG, 2015; Deloitte, 2018) highlight that a *systematic screening and evaluation of potential acquisition targets* is a critical milestone for undertaking successful transactions. For instance, a recent M&A trend study conducted by Deloitte (2018) that surveyed around 1,000 executives from corporations and private equity firms found that proper target identification and screening, a sound due diligence process and an accurate valuation of acquisition targets are among the top success factors in acquisitions. Hence, decision-makers involved in M&A transactions should devote the necessary time and effort to diligently and thoroughly screen, evaluate and select potential acquisition targets (Datta et al., 1992).

The strategic management literature and acquisition criteria research have discussed a large number of decision criteria that acquirers apply in acquisition target screening and selection (Bauer and Matzler, 2014; Bettinazzi et al., 2018; Chakrabarti and Mitchell, 2013; Chatterjee et al., 1992; Claussen et al., 2018; Datta, 1991; Datta and Puia, 1995; Jemison and Sitkin, 1986; Kim and Finkelstein, 2009; Pablo et al., 1996; Shelton, 1988; Shirley, 1977; Weber et al., 1996). This research on decision criteria is very fragmented and imbedded in different research streams of the strategic management and M&A literature (Bauer and Matzler, 2014).³⁶ Hence, the purpose of this chapter is to provide an overview of M&A decision criteria that are commonly applied by corporate acquirers in acquisition target screening. The insights from this literature review on M&A decision criteria were used to prepare qualitative expert interviews that were conducted prior to the development of the conjoint experiment in Chapter 4.

The remainder of this chapter is structured as follows. In Section 3.2, I provide definitions of terminology used in M&A research, introduce the differences between strategic and financial acquirers and describe a typical acquisition process with a focus on the particularities of the target screening and selection phase. In Section 3.3, the results of the review of literature on M&A decision criteria (including strategic, organizational, financial, industry and business environment-related criteria) are presented.

3.2 Definition of terminology and concepts used in M&A research

3.2.1 Definition of the term “mergers and acquisitions”

Mergers and acquisitions (M&A) is an umbrella term that broadly refers to the trade (i.e. purchase or sale) of companies, parts of companies or corporate divisions and equity interests. The term is frequently used as a synonym for different types of company transactions such as acquisitions, takeovers and mergers, and in the broadest sense it also refers to joint ventures and alliances (Müller-Stewens, 2016, p. 11). The literature does not offer a single generally accepted definition of the term M&A, and the definitions that do exist are often inconsistent, as the individual terms “merger” and “acquisition” are frequently used interchangeably or as synonyms. Considered superficially, the distinction between the meaning of “merger” and “acquisition” may not matter so much, as the result is often the same: two companies (or more)

³⁶ The M&A literature consists of four main research streams: the financial economics, strategic management, organizational behaviour and process perspective. For a discussion of antecedents of M&A success structured according to these streams, see (Bauer and Matzler, 2014).

that existed under separate ownership are combined into a single entity for strategic or financial reasons. However, the strategic, financial, cultural and tax impact of the deals may vary depending on which type of transaction is chosen (Sherman, 2011, p. 11). As the empirical analysis of my dissertation focuses on the strategic context of corporate acquisitions, an appropriate definition that makes a clear distinction between a merger and an acquisition is required. An overview of selected definitions that fit the research purpose of my dissertation is shown in Table 3-1.³⁷

Table 3-1: Definition of the term “mergers and acquisitions”

Author	Definitional approaches
Achleitner (2002)	<i>“The term mergers and acquisitions (M&A) primarily refers to transactions on the market for companies, parts of companies and equity interests. M&A is generally considered to be restricted to the purchase and sale of companies, parts of companies and equity interests and their integration into the buyers’ organization as a subsidiary (acquisition), and the merger of two companies with or without preceding equity investments (merger). (...) The purchase of equity stakes that have no directorial and control rights (e.g. non-voting preferred shares) is typically not captured by the term M&A. Even the purchase of larger equity stakes that are exclusively passive financial investments are also not subsumed in the term M&A.”</i>
Jansen (2016)	<i>“The distinction between merger and acquisition (takeover, purchase of 100 percent equity stakes) is not consistently made. (...) It is often suggested that the legal independence of the involved parties is a criterion for differentiating between the two terms.”</i>
Wirtz (2017)	<i>“M&A management refers to the process and the results of the strategically motivated acquisition or merger of companies or parts of companies and their subsequent integration or resale. Closely associated with this is the transfer of control, directorial and disposal rights.”</i>

Notes: Definitions translated from German into English.

For the classification of different types of company transactions, scholars frequently use the criterion of the legal independence of the involved parties and the transfer of directorial and control rights (Achleitner, 2002; Jansen, 2016; Wirtz, 2017). Taking this into account, then the term *merger* refers to a business combination, where two or more companies are economically and legally combined into a single entity (Wirtz, 2017). This means that in a merger at least one contracting party loses its legal independence (DePamphilis, 2011, p. 13).

³⁷ For an overview of other definitions, see Wirtz (2017, p. 9).

By contrast, an *acquisition* refers to a transaction in which a company takes over a controlling ownership stake in a company, a legal subsidiary or a selected asset of another company (DePamphilis, 2011, p. 15). Hence, according to the definitional approaches mentioned in Table 3-1, an acquisition enables the management and control of the target, may include an integration of the target in the acquirers' organization and is primarily undertaken for strategic reasons. An acquisition therefore only exists when directorial and control rights are not only acquired but also exercised.

3.2.2 Differentiation between strategic and financial acquirers and objectives

Prior research argues that there are differences between strategic and financial buyers (Gorbenko and Malenko, 2014; Martos-Vila et al., 2014). In particular, scholars suggest that the time horizon of investments and the rationale of decision-making are by nature different between financial and strategic acquirers (Gorbenko and Malenko, 2014; Martos-Vila et al., 2014). Whereas financial acquirers have a short-term investment horizon, strategic acquirers have a long-term one. The primary goal of *financial acquirers* such as institutional investors or private equity firms is to derive rents from investments and to maximize short-term profitability (Lim and Lee, 2016). Financial acquirers treat a target as part of their financial portfolio and intend to sell it as soon as an appealing exit opportunity evolves (Gorbenko and Malenko, 2014). In contrast, *strategic buyers* such as corporate acquirers often pursue a long-term vision with a target and frequently intend to integrate the firm after an acquisition. Strategic buyers therefore look for opportunities that offer a long-term strategic, organizational and financial fit (Becker, 2016; Datta, 1991; Gorbenko and Malenko, 2014; Lucks and Meckl, 2015, p. 122). Given this, a theoretical distinction between strategic and financial acquirers is necessary in my dissertation, as the unique motivations and goals of engaging in acquisitions might be reflected in completely different decision criteria and preference structures in screening and evaluating targets. In the empirical analysis of my dissertation, I focus on acquisitions by *strategically motivated acquirers*, as their investments generally represent long-term decisions that are also reflected in the corporate strategy of the firm.³⁸

³⁸ At the beginning of the choice-based conjoint experiment conducted in Chapter 4, hypothetical decision scenarios concerning target screening and selections are presented to respondents. In the description of the experiment the respondents were explicitly asked to imagine that their company intends to engage in a *strategically motivated corporate acquisition* and that they should make a series of decisions about the attractiveness of various targets. For more information, see Section 4.5.1 (p. 81 et seq.).

Objectives of strategically motivated acquisitions:

Strategically motivated acquisitions reflect a firm's corporate strategy, and are undertaken with the aim of increasing the company's competitiveness and strengthening its position in the market environment. In strategic acquisitions, decision-makers focus on the evaluation of the strategic, financial and organizational fit of acquisition candidates by making predictions about synergy³⁹ potentials that might be realized in the integration phase (Datta, 1991; Gorbenko and Malenko, 2014; Lucks and Meckl, 2015; Müller-Stewens and Schäfer, 2016).

In line with that Haspeslagh and Jemison (1991) discussed three distinct strategies that explain the motives behind strategic acquisitions. First, acquisitions are undertaken in order to expand existing business areas. Acquirers in this case look for targets with a similar or identical product–market–technology combination (Haspeslagh and Jemison, 1991), and acquire them in order to increase their competitive position in the marketplace or to gain market share. These transactions are typically horizontal agreements that lead to economies of scale and/or scope (Müller-Stewens and Schäfer, 2016, p. 209).

Second, acquisitions are undertaken in order to expand into related product–market–technology combinations (Haspeslagh and Jemison, 1991). The driver behind this strategy is a desire to acquire new resources or capabilities (e.g. know-how, managerial or technical talent) that are used for existing areas of business. Alternatively, existing resources or capabilities are transferred into new business fields. In this strategy acquirers look for targets that are active in upstream or downstream stages of the value chain (vertical acquisitions) (Müller-Stewens and Schäfer, 2016, p. 209).

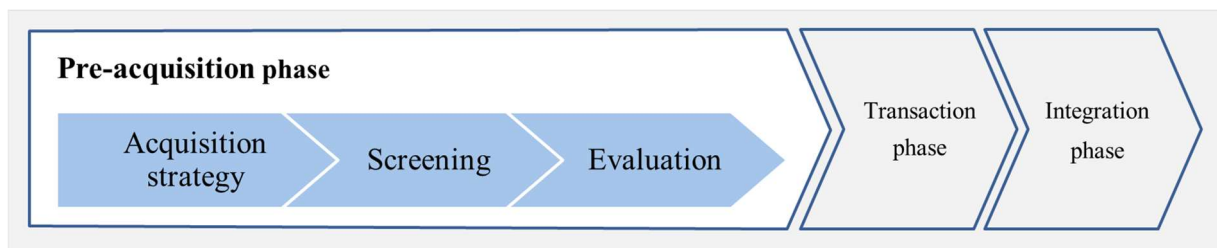
A third strategic motive is the search for and exploration of new business fields that require the accumulation of new resources and capabilities (Haspeslagh and Jemison, 1991). These conglomerate acquisitions are undertaken either to diversify portfolio risks or to acquire targets that are active in new strategic business areas that might be of strategic value for the acquirer in the long run (Müller-Stewens and Schäfer, 2016, p. 210).

³⁹ For an overview and detailed discussion of different types of synergies in diversification decisions, see Müller-Stewens and Brauer (2009, p. 350 et seq.).

3.2.3 Description of the M&A process: pre-acquisition target screening

The acquisition process is commonly described as a stepwise analytical process that consists of three interdependent phases: pre-acquisition, transaction and integration phase.⁴⁰ The main focus of this dissertation is on the pre-acquisition phase, in particular the *target screening and evaluation process* (see Figure 3-2), where the foundation of value-increasing acquisitions is laid (Müller-Stewens and Schäfer, 2016, p. 208). It is the strategic decision context chosen for the conjoint experiment conducted in Chapter 4. The target screening and evaluation process of the pre-acquisition phase is explained below in more detail.

Figure 3-2: Phases of the acquisition process



Source: Based on literature review of Calipha et al. (2010).

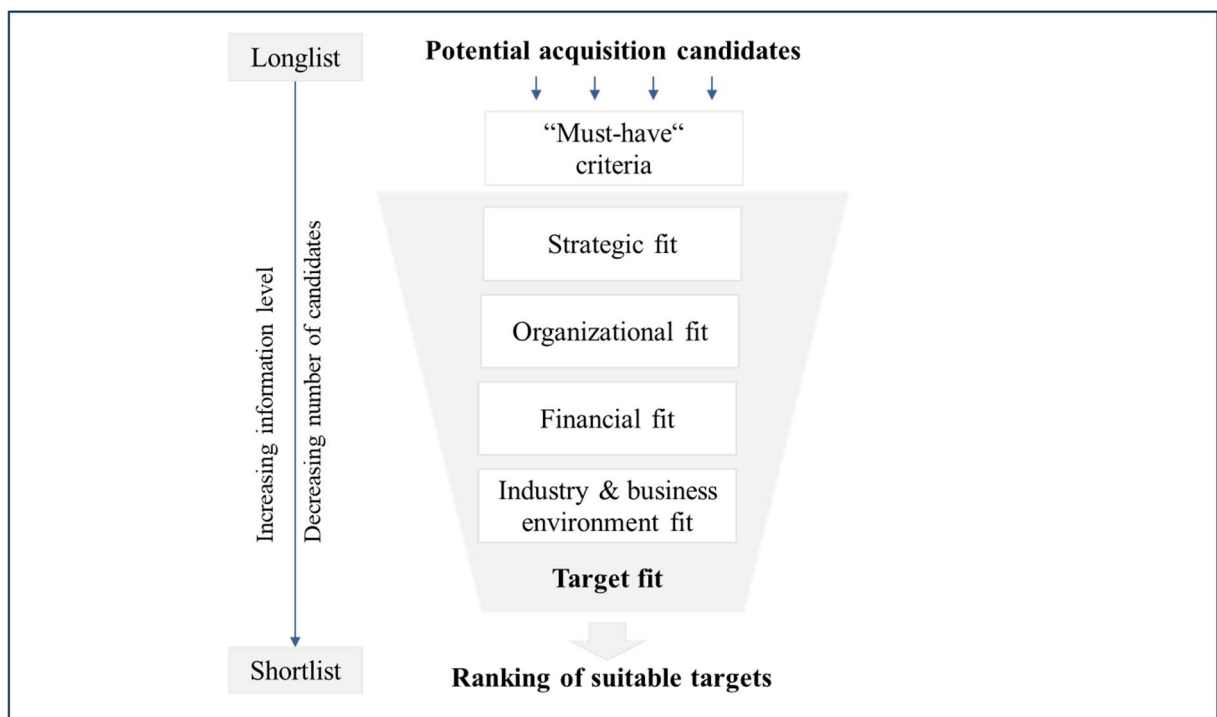
An acquisition process typically starts with the formulation of the acquisition strategy in line with the overall objective of the corporate strategy. An essential part of the acquisition strategy is to define objectives and motives that explain on the one hand why an acquisition should be undertaken and on the other hand outline which strategic gaps (white spots) in the company's own positioning should be closed with a transaction (Becker, 2016). According to the M&A literature these motives may include *strategic goals* such as the access to valuable and unique tangible and intangible assets (e.g. managerial talent, innovative technologies and business models), *economic goals* such as reducing operational costs or increasing market power and *financial goals* such as reducing capital costs or improving borrowing capacity (Angwin, 2007). These strategic objectives lay the foundation for the whole acquisition decision-making process, since they are the main factors shaping the criteria used by acquirers in the pre-acquisition target screening and evaluation (Lucks and Meckl, 2015, p. 111). After

⁴⁰ In the theoretical and practical literature, there is no final agreement on the number of phases and subprocesses the acquisition process involves. Some scholars define the M&A process very broadly with two phases, others divide the process into three, four, six or seven phases. For an overview of conceptualizations of M&A phases, see Calipha et al. (2010). The acquisition process presented here is an exemplary process that fits the research objective of this dissertation. This division, however, is theoretical, and in practice the subprocesses may differ.

the strategic objectives of acquisitions have been defined, the process ideally continues with a systematic search for and screening of potential acquisition candidates.

The target screening process (see Figure 3-3) generally resembles a stepwise and funnel-shaped process in which a large number of potential acquisition candidates compiled in a longlist are successively reduced through an evaluation of “target fit” until a small number of suitable targets is identified on a shortlist (Lucks and Meckl, 2015, p. 122; Wirtz, 2017). The main goal of this rigorous screening and evaluation is to identify acquisition targets with a value-increasing potential for the company (Cullinan et al., 2004). A systematic screening and evaluation thus helps acquirers to reduce information asymmetries and to gain a more profound understanding of the value of a target.

Figure 3-3: Systematic target screening and evaluation process



Source: Based on Lucks and Meckl (2015, p. 122); Becker (2016, p. 203); Wirtz (2016, p. 185).

Prior M&A research suggests that acquirers tend to choose acquisition targets based on information-based deal and target characteristics (Capron and Shen, 2007). In particular, they use two sets of decision criteria when screening and evaluating potential acquisition targets (Marks and Mirvis, 2001; Müller-Stewens and Schäfer, 2016, p. 210). First, acquirers apply a generic set of criteria that describe firm characteristics that must be present in any of the potential acquisition targets. These “must-have” target characteristics therefore represent “deal-breaking” or “knock-out” criteria and a target will be eliminated if they do not satisfy the

requirements (Angwin et al., 2015). These criteria are very specific to the firm and may include issues such as the industry, the current and past profitability, the firm size in terms of sales, the product or customer portfolio, specific potential synergies and production locations (Becker, 2016, p. 302; Müller-Stewens and Schäfer, 2016, p. 210). Hence, an acquisition candidate may be eliminated from the list of potential candidates for failing to meet requirements such as minimum size, core competence-relatedness and profitability criteria, or because it does not comply with ethical issues such as business and legal integrity. Furthermore, a target that qualifies as a distressed asset may be deemed a deal breaker for some acquirers due to the unacceptable risk profile involved in the turnaround of such companies (Angwin et al., 2015).

The second set of criteria used by acquirers comprises those that guide the screening, evaluation and selection of potential acquisition targets. These screening criteria include strategic and financial criteria as well as an assessment of a target's organizational characteristics such as human capital and cultural and reputational issues (Marks and Mirvis, 2001; Müller-Stewens and Schäfer, 2016, p. 210; Pablo et al., 1996; Saxton and Dollinger, 2004; Shirley, 1977). Besides these traditional target screening factors, some scholars also recommend assessing the target's competitive strengths within the industry and considering the business environment and industry attractiveness (Srivastava and Datta, 2002). Depending on the importance and relevance for the acquiring firm, these criteria are often weighted by acquirers according to their priority (Becker, 2016, p. 303), and decision-makers at this stage try to make an assessment about the value-increasing potential of the target (Müller-Stewens and Schäfer, 2016, p. 210). A consensus on screening criteria and the respective weighting among key decision-makers in the acquiring firm is crucial as it helps to ensure consistent target selection decisions that are not influenced by emotions. In the next section, an overview of different types of decision criteria mentioned in the scholarly literature is provided.

3.3 Overview of M&A decision criteria in acquisition target screening

The criteria for screening and evaluating potential acquisition targets represent benchmarks against which to evaluate a company (Srivastava and Datta, 2002). In this section of my dissertation I provide an overview of strategic, organizational, financial, industry and business environment-related decision criteria used by corporate acquirers in pre-acquisition target

screening.⁴¹ The insights generated from this literature review are part of a preliminary study that I conducted to prepare the conjoint experiment presented in Chapter 4.

3.3.1 Overview of strategic decision criteria

The main aim of the strategic screening is to find out whether the characteristics of the target match with the acquisition objectives of the acquirer and whether there are any strategic risks associated with the firm (Becker, 2016, p. 303). In the strategic screening, decision-makers make an initial assessment of whether any potential synergistic gains are likely to be realized (Eschen and Bresser, 2005; Jemison and Sitkin, 1986).

Strategic decision criteria applied by decision-makers during this strategic screening are commonly derived from the acquisition strategy (Lucks and Meckl, 2015, p. 123) and capture which “white spots” in the firm’s strategic positioning should be closed with an acquisition (Becker, 2016, p. 302). These strategic gaps may relate to dimensions such as geographical markets and market shares, product portfolio, customer segments, technology and business models (Becker, 2016, p. 302). Strategic decision criteria therefore relate to those target characteristics that determine whether a “*strategic fit*” exists between an acquirer and target. Strategic fit is defined in the literature as the “degree to which the target company augments or complements the parent’s strategy and thus makes identifiable contributions to the financial and non-financial goals of the parent” (Jemison and Sitkin, 1986b, p. 146). The strategic fit that captures the combination potential of two firms is frequently conceptualized in the M&A literature in terms of *similarity or complementarity of resources and capabilities* (Bettinazzi and Zollo, 2017; Kim and Finkelstein, 2009; Larsson and Finkelstein, 1999; Makri et al., 2010) or as *the degree of relatedness* between the acquirer and the target with regards to factors such as assets, business model, industry, customers, human capital, markets, product portfolio and technologies (Angwin and Savill, 1997; Haleblan et al., 2017; Henn et al., 2018; Laamanen et al., 2014; Lee et al., 2018; Pehrsson, 2006; Shelton, 1988; Sohl and Vroom, 2014, 2017). In addition, Christensen et al. (2011) suggest that an acquisition target should be strategically assessed in terms of the type of business model it has. The central argument in the discussion of strategic fit is that the gains or losses from an acquisition are dependent on the strategic fit

⁴¹ The decision criteria included in Table 3-2, Table 3-3, Table 3-4 and Table 3-5 represent a non-exhaustive list of criteria applied by decision-makers in the target screening process. This literature overview is the starting point of research into this domain, and serves in my dissertation as the basis for preparing the expert interviews conducted in Chapter 4.

between the acquiring company and the target (Lubatkin, 1983). The more the acquirer and the target fit together strategically, the more gains are possible (Calipha et al., 2010). Table 3-2 provides an overview of literature on strategic decision criteria.

Table 3-2: Strategic decision criteria

Decision criteria	Selected studies
Strategic fit: degree of strategic relatedness	
Functional and market relatedness	Angwin and Puia (2005)
Business model relatedness (in terms of similarity of BMs)	Sohl and Vroom (2014, 2017)
The degree of strategic relatedness (e.g. similarity or complementarity of science and technology)	Singh and Montgomery (1987); Markides and Williamson (1994); Makri et al. (2010)
The degree of asset relatedness or industry relatedness	Haleblian et al. (2017); Henn et al. (2018); Laamanen et al. (2014); Miller et al. 2010
The degree of business relatedness (e.g. similarity in terms of product type, technology in production, general management skills, end customers, supply channel types, brand recognition)	Pehrsson (2006); Shelton (1988)
Human capital relatedness	Lee et al. (2018)
The degree to which the target competes with the acquirer's existing customers or existing products	Rao et al. (1991)
Strategic fit: similarity of capabilities or resources	
Similar technology and production operation	Larsson and Finkelstein (1999); Saxton and Dollinger (2004)
Business similarity (in terms of organizational skills)	Bettinazzi and Zollo (2017)
Ownership similarity	Bettinazzi et al. (2018)
Similar marketing operation (e.g. geographic market, customer groups, industries)	Larsson and Finkelstein (1999); Saxton and Dollinger (2004)
Similarity or differences in resource allocation patterns (e.g. capital intensity, administrative intensity, interest intensity and R&D intensity)	Harrisson et al. (1991); Saxton and Dollinger (2004)
Strategic fit: complementarity of capabilities or resources	
Complementary resources and assets	Dyer and Singh (1998); Hitt et al., (2000); Tripsas (1997)
Complementary marketing operations (i.e. transfer of marketing capabilities to new markets/products)	Larsson and Finkelstein (1999)
Market complementarity: acquirer and target operate in different geographical markets	Kim and Finkelstein (2009)
Complementary product strategies	Kim and Finkelstein (2009)
Complementary technology	Teece (1986)
Complementary knowledge, knowledge fit	Wang and Zajac (2007); Rao et al. (2016)
Strategic fit: value creation mechanism	
The target's business model	Christensen et al. (2011)

Notes: Represents an initial and non-exhaustive overview of decision criteria.

3.3.2 Overview of organizational decision criteria

Organizational decision criteria (see Table 3-3) relate on the one hand to the concept of organizational fit and on the other hand to characteristics describing a target's capabilities and resources that may be considered valuable for acquirers.

First, the organizational fit has been conceptualized in the literature as the match between the personnel, cultural, managerial and administrative characteristics of the acquirer and target (Jemison and Sitkin, 1986) and is considered an important factor for realizing synergies in the post-acquisition integration phase (Haspeslagh and Jemison, 1991; Jemison and Sitkin, 1986). In essence it captures the extent to which two firms can be assimilated after an acquisition (Datta, 1991; Jemison and Sitkin, 1986; Pablo et al., 1996). Scholars have assessed the organizational fit in terms of various dimensions. These include for instance TMT compatibility in terms of cultural differences between TMTs (Chatterjee et al., 1992; Datta, 1991), TMT complementarity in terms of similar or different functional backgrounds (Haspeslagh and Jemison, 1991; Krishnan et al., 1997; Wiersema and Bantel, 1992) and the fit, compatibility or similarity of management styles (Larsson and Finkelstein, 1999; Rao et al., 1991) and control and reward systems (Datta, 1991). Moreover, Saxton and Dollinger (2004) have operationalized organizational fit as a scale that reflects the similarities in accounting and information systems, organizational structure, human resources and the culture between two companies. A very frequently discussed dimension of the organizational fit concept, both in the M&A literature and among practitioners,⁴² is the *cultural fit*, *cultural compatibility* or *degree of cultural relatedness* between the acquirer and the target in terms of organizational and/or national cultures (Ahammad and Glaister, 2013; Bauer et al., 2016; Datta and Puia, 1995; Marks and Mirvis, 2001; Stahl and Voigt, 2008; Tarba et al., 2017; Weber, 1996, 2018; Weber et al., 1996). According to Bauer and Matzler (2014), the term *cultural fit*⁴³ captures the match between acquirers and targets that stems from either cultural similarities or cultural differences between acquirers. An organizational culture reflects the values, beliefs and assumptions that are shared by members of an organization (Schein, 2004) and hence influences organizational practices, administrative processes, leadership styles and the way problems are addressed within organizations (Chatterjee et al., 1992; Lucks and Meckl, 2015, p. 126). Hence, the cultural

⁴² See findings of expert interviews in Section 4.2.2 (p. 66 et seq.).

⁴³ In M&A practice, there are tools available to analyse the cultural fit between two companies. See for instance Lucks and Meckl (2015, p. 127).

screening in the early pre-acquisition phase is considered an integral part of a structured target screening and selection process, because a lack of cultural fit may undermine the possibilities to achieve expected synergies in the integration phase (Weber et al., 1996).

Second, firms engage in acquisitions to access critical organizational resources that they may lack or that are particularly “valuable” to them (Conner, 1991; Granata and Chirico, 2010). These resources can be both tangible (e.g. financial and physical assets) and intangible (e.g. human capital, top management team capabilities, brands, corporate reputation) (Hall, 1992). Prior M&A research suggests that a comprehensive target screening and evaluation process should involve an assessment of the target’s tangible and intangible assets and resources (Harvey and Lusch, 1995; Hitt and Pisano, 2003). The resource-based view of the firm (Barney, 1991)⁴⁴ therefore offers a suitable perspective for investigating acquirers’ target screening processes, because a target profile can be regarded as a combination of tangible and intangible resources. Specifically, during the organizational screening, acquirers usually investigate firm-specific knowledge and capabilities such as industry, market, production, R&D and technical know-how (Hitt et al., 2000; Hitt and Tyler, 1991; Park and Hitt, 1997), which are valuable competitive assets that a firm has (Grant, 1996). Such firm-specific knowledge often resides within the human capital, in particular the firm’s top management team and senior managers. Hence, an organizational screening also involves evaluating the target’s capabilities of top managers and key executives (Cannella and Hambrick, 1993; Hitt et al., 2000; Hitt and Tyler, 1991; Kiessling and Harvey, 2006; Marks and Mirvis, 2001). The target’s top managers often possess tacit knowledge regarding the industry, the corporate strategy and the organizational strengths and weaknesses, and maintain interpersonal networks of internal and external relationships that may be critical for ongoing business operations (Kiessling et al., 2008; Kiessling and Harvey, 2008).

Further resources and information-based assets that are frequently evaluated in corporate acquisitions are intellectual property rights, brands and the target’s corporate reputation among customers and suppliers (Capron and Shen, 2007; Dollinger et al., 1997; Harvey and Lusch, 1995, 1999; Hitt et al., 2000; Hitt and Pisano, 2003; Kiessling and Harvey, 2006; Mahajan et al., 1994; Rao et al., 1991; Saxton and Dollinger, 2004).

⁴⁴ According to the RBV, resources that are firm-specific, scarce, unique and difficult to imitate can be the source of competitive advantage for firms (Amit and Schoemaker, 1993; Barney, 1991). Hence, intangible resources rather than tangible ones are more likely to produce a competitive advantage because they are often rarer and socially complex (Amit and Schoemaker, 1993; Barney, 1991; Peteraf, 1993; Rao, 1994).

Table 3-3: Organizational decision criteria

Decision criteria	Selected studies
Organizational fit:	
Organizational fit in terms of accounting and information systems, structure, human resources, culture	Saxton and Dollinger (2004) ¹
Organizational fit in terms of similarity in control and reward systems	Datta (1991)
Cultural dimension:	
Cultural fit, cultural compatibility, cultural similarity/difference between acquirer and target in terms of national or corporate culture	Ahammad and Glaiser (2009); Bauer and Matzler (2014); Bauer et al. (2016); Datta and Puia (1995); Rao et al. (2016); Stahl and Voigt (2008); Weber et al. (1996); Weber (1996); Weber (2018); Tarba et al. (2017)
Degree of cultural relatedness	Marks and Mirvis (2001)
Cultural distance between acquirer and target	Gómez-Mejía et al. (2010); Kogut and Singh (1988); Reus and Lamont (2009)
Cultural differences between top management teams (i.e. top management team compatibility)	Chatterjee et al. (1992); Datta (1991)
Human capital dimension:	
Management style fit or similarity	Larsson and Finkelstein (1999); Rao et al. (1991)
Top management team complementarity in terms of similar or different functional backgrounds	Krishnan, Miller and Judge (1997)
Capabilities, competencies and resources of the target	
Capabilities and value of the target's top management team or key managers	Cannella and Hambrick (1993); Hambrick and Cannella (1993); Hitt et al. (2000); Hitt and Tyler (1991); Kiessling and Harvey (2006, 2008); Kiessling et al. (2008); Marks and Mirvis (2001)
Capabilities of the target's employees	Ahammad and Glaister (2013);
Target's manufacturing, R&D and marketing capabilities	Hitt and Tyler (1991)
Target's product and R&D knowledge	Yu and Rao (2009)
Target's market knowledge and assets	Hitt et al. (2000)
Target's technological competence and technical capabilities	Park and Hitt (1997); Hitt et al. (2000)
Target's capability to provide quality products/services	Hitt et al. (2000)
Projected new products/services to be developed over next 5 yrs	Hitt and Tyler (1991)
Intangible assets of the target	
Target's intangible assets in terms of management and leadership quality, employee know-how, company reputation, intellectual property rights and trademarks	Harvey and Lusch (1995, 1999); Hitt et al. (2000); Hitt and Pisano (2003)
Target's reputation in terms of product quality, financial reputation and management reputation	Saxton and Dollinger (2004); Dollinger et al. (1997)
Target's brand equity	Rao (1991); Mahajan et al. (1994)
Target's customer base and quality of supplier relationship	Bettinazzi and Zollo (2017)
Other characteristics of the target	
Listed or non-listed firm	Capron and Shen (2007); Bae et al. (2013)
Geographical scope and size of target	Shen and Reuer (2005)
Target's age	Ransbotham and Mitra (2010)
Geographical proximity/distance and relative size of target	Claussen et al. (2018)
Geographical, institutional, organizational, industrial proximity	Chakrabarti and Mitchell (2013); Boschma et al. (2016)

Notes: Represents an initial and non-exhaustive overview of decision criteria. ¹Uses a scale of organizational fit.

3.3.3 Overview of financial decision criteria

The third step in the target screening process is the evaluation of the “*financial fit*”. In the early pre-acquisition screening, the assessment of “financial fit” does not involve a detailed *company valuation*⁴⁵ and assessment of whether the expected purchase price lies above or below this value (Lucks and Meckl, 2015, p. 128). The financial screening at this stage comprises an initial assessment of the financial feasibility of the transaction (can I afford it?) and an evaluation of possible consequences for the annual profit and other key performance indicators such as profit per share or debt ratio (what are the potential financial risks and can I bear them?) (Becker, 2016, p. 303; Lucks and Meckl, 2015, p. 128). Decision-makers can get a rough idea about the affordability of a deal by calculating a price range for the expected acquisition price. This is usually done at this stage by using valuation multiples (e.g. based on EBIT(DA) or sales) of companies in their peer group (Lucks and Meckl, 2015, p. 128). Furthermore, by determining an expected acquisition price range, the acquiring firm also implicitly gives some initial thought to the size of the acquisition premium it would be willing to pay for the target firm (Haunschild, 1994; Laamanen, 2007; Reuer et al., 2012).

In addition, the financial screening also includes an assessment of the financial situation by studying the target’s historical income statements, balance sheets and financial forecasts. Depending on the available information at this stage, decision-makers usually calculate and evaluate a range of key performance indicators such as EBIT(DA) margins, ROI, ROE, PE ratio, annual revenues and financial leverage (Henn et al., 2018; Hitt et al., 2000; Hitt and Tyler, 1991; Kim and Finkelstein, 2009; Kissin and Herrera, 1990, p. 53; Palepu, 1986; Rao et al., 1991; Very and Schweiger, 2001, p. 13). Prior research suggests that the past and current profitability of a target acts as a strong signal to investors about the firm’s operating success and conveys information on the ability of a firm to generate profits in the future (Fombrun et al., 2015). With regards to balance sheet items, the financial analysis involves a consideration of the target’s tangible (e.g. physical and financial) and intangible assets (e.g. reputation, brands, patents, human capital) and liabilities. Even though accounting valuations may differ in regions (e.g. asset depreciation method, fair market valuations), balance sheet content such as tangible assets and liabilities and owners’ equity is straightforward to determine, as it is based

⁴⁵ A detailed valuation of the target company takes place at a later stage of the acquisition process after a non-disclosure agreement has been signed and relevant information has been made available in the course of a due diligence. For details on company valuation, see for instance Lucks and Meckl (2015, chap. 5.3).

on the classifications of an accounting system (Kiessling and Harvey, 2008). However, the evaluation of intangible assets (e.g. TMT, brands, patents) and related intangible liabilities (e.g. weak corporate reputation, unsafe work conditions) are usually more difficult for acquirers (Harvey and Lusch, 1999). Alongside the current financial standing of the target company, acquirers frequently also account in the financial screening for potential investment risks and future investment requirements, such as restructuring costs and investments for new machinery, which may result from an acquisition (Lucks and Meckl, 2015, p. 128; Very and Schweiger, 2001). These financial assessments during the course of the target screening provide the foundation for making forecasts on future revenues, costs, investment and financing requirements and profit scenarios for the target (Harvey and Lusch, 1995; Very and Schweiger, 2001). An overview of articles mentioning financial screening criteria is provided in Table 3-4.

Table 3-4: Financial decision criteria

Decision criteria	Selected studies
Balance sheet items (assets and liabilities)	
The extent of the debt (e.g. average historical debt-to-net worth ratio; debt-to-assets ratio)	Very and Schweiger (2001); Rao et al. (1991); Rao et al. (2016)
Target's liquidity and financial leverage	Hasbrouck (1985)
Target's fixed asset value	Kissin and Herrera (1990); Very and Schweiger (2001)
Target's financial assets	Hitt et al. (2000); Capron and Shen (2007); Shen and Reuer (2005); Rao et al. (2016)
Historical performance	
Level and stability of profit margins in each market segment	Rao et al. (1991)
Target's key performance indicators (e.g. return on equity (ROE); price-earnings ratio (P/E); market-to-book-value; return on investment (ROI))	Palepu (1986); Rao (1991); Kim and Finkelstein (2009); Hitt and Tyler (1991)
Target's profitability	Henn et al. (2018); Fombrun et al. (2015)
Target's total annual sales (i.e. target's relative size)	Rao (1991); Hitt and Tyler (1991); Claussen et al. (2018)
Target's cash flow generating capability/anticipated cash flow	Hitt and Tyler (1991); Kissin and Herrera (1990); Very and Schweiger (2001)
Investment and financing issues	
Target's financing capabilities and future financing needs	Kim and Finkelstein (2009); Marks and Mirvis (2001)
Target's future investment needs	Lucks and Meckel (2015, p. 210)
Target's future interest payments	Hitt et al. (1998); Very and Schweiger (2001)
Expected acquisition price and size of the acquisition premium	Haunschild (1994); Hitt and Pisano (2003); Krishnan et al. (2007); Laamanen (2007); Lucks and Meckl (2015, p. 210); Krishnan et al. (2007); Reuer et al. (2012); Wu et al. (2013)

Notes: Represents an initial and non-exhaustive overview of decision criteria.

3.3.4 Overview of decision criteria to evaluate the business environment and industry

The final step in the target screening process is the evaluation of the industry attractiveness and macroeconomic environment in which the target operates. Prior research on industrial organization and strategic management posits that the overall attractiveness of a company is determined by both the structural attractiveness of the industry and the competitive strengths of the company within its industry (Markides and Williamson, 1994; Porter, 1979, 2008). Hence, scholars suggest that the target screening activity should incorporate an assessment in terms of these dimensions (Rajagopalan et al., 1993).⁴⁶ Prior research posits that a target's environment represents multiple dimensions such as munificence, dynamism and complexity, and that the perceived value of a firm's resources (e.g. technological resources) depends on the type of industry environment in which the resources are employed (Heeley et al., 2006). From this it follows that in the pre-acquisition phase acquirers should make predictions about the industry and macroeconomic environment in which a potential acquisition target operates, and determine environmental factors (e.g. industry trends and risks) that might influence the performance and value of the firm. A framework that can support acquirers and guide the environmental assessment is PEST analysis that includes a rigorous and thorough environmental screening along four dimensions: political, economic, socio-cultural and technological aspects (Gupta, 2013; Sammut-Bonnici and Galea, 2015). An environmental analysis in terms of these dimensions may be especially important in cross-border transactions or if the acquirer intends to tap into unfamiliar industries and geographical markets.

Besides the environment in which the target operates, strategic management researchers highlight that acquirers should also account for the industry context when assessing a potential acquisition target (Anand, 2005; Anand and Delios, 2002; Anand and Singh, 1997; Bauer and Matzler, 2014). Generally, the attractiveness of the industry in which a target operates depends on the structure of the industry (Porter, 1979, 2008), which in turn drives competition among and the profitability of firms (McGahan and Porter, 1991; Porter, 2008). A prominent and holistic framework that may guide decision-makers' strategic choices and can be used by acquirers to assess the structure and attractiveness of the industry is Porter's five forces model (Porter, 1979, 2008). The model includes a quantitative and qualitative assessment of direct

⁴⁶ For a discussion of what determines the acquisition activity within an industry, see Schoenberg and Reeves (1999). For a discussion of the assessment of market attractiveness in the context of M&A, see Appadu et al. (2014).

competitors and other competitive forces stemming from customers, suppliers, new industry entrants and substitute products. For an effective industry analysis, acquirers should not only look at drivers behind these forces but also investigate industry trends that might lead to cyclical or structural changes in the industry (Porter, 2008). According to the literature two common quantitative measures of industry attractiveness are industry growth and average industry profitability (Hofer and Schendel, 1978, p. 73). In particular, a consideration of industry growth is relevant because it allows for conclusions concerning the targets' ability to increase revenues in future (Dawson, 2011; Wright et al., 2001).

Besides looking at the industry structure, prior M&A literature suggests that acquirers should also investigate whether the target's industry is subject to any economic and technological trends that may eventually lead to shifts in the industry life cycle (Bauer et al., 2017). Acquisitions are a strategic vehicle for non-organic growth that allow for a faster increase in scale and scope compared with organic growth efforts (Anand and Delios, 2002). However, such an increase in scale and scope might be an important aim in growing industries, but not a primary motive in declining industries (Anand, 2005; Anand and Delios, 2002). Hence, in the context of the pre-acquisition phase this means that understanding industry logics and dynamics in the target's market environment is essential when screening and evaluating potential acquisition targets. Table 3-5 provides an overview of articles addressing environmental and industry factors relevant in the target screening process.

Table 3-5: Environment and industry-related decision criteria

Decision criteria	Selected studies
Target's market and industry environment (e.g. munificence, dynamism, competitiveness, complexity)	Heeley et al. (2006)
Structural determinants of the industry and stage of the industry life cycle (i.e. growing, mature, declining) in which the target operates	Bauer et al. (2017); Anand (2005); Anand and Delios (2002); Anand and Singh (1997)
Industry attractiveness and profitability (Porter's five forces)	Porter (1979); Porter (2008); McGahan and Porter (1991)
Industry growth rate and average industry profitability	Hofer and Schendel (1978, p. 73)
Expected growth of target's industry (e.g. above or below GDP)	Dawson (2011); Henn et al. (2018); Wright et al. (2011)
Country-level liquidity and transparency of target's host country	Bae et al. (2013)
Institutional environment in which target operates	Requejo et al. (2018)

Notes: Represents an initial and non-exhaustive overview of decision criteria.

4 Description of method and data

This chapter introduces the main research methodology, describes the variables and data used to conduct the empirical analysis in Chapter 5 and Chapter 6 and introduces the descriptive statistics. More specifically, Section 4.1 introduces the methodology and describes the procedure for developing and conducting a conjoint analysis. In Section 4.2, the results of the exploratory expert interviews, which were conducted to identify the most important M&A decision criteria for the conjoint experiment, are presented. In Section 4.3, I outline the experimental design strategy of the conjoint analysis, while Section 4.4 describes the sample selection and data collection procedure used. Next, in Section 4.5 the survey instrument is described and the pilot study that was conducted with the aim of validating the overall survey instrument is introduced. In Section 4.6, I describe the operationalization of individual, firm and environmental-level variables applied in the post-experiment questionnaire. In particular, in Section 4.6.4 the definitions of family firms used in this dissertation are introduced. In Section 4.7, I perform various data quality tests to find out whether the data collection is subject to any biases. The chapter concludes in Section 4.8 with a summary of the descriptive statistics of the overall sample and the family-firm-specific subsample.

4.1 Introduction of choice-based conjoint analysis

The main research objective of the empirical chapters of my dissertation is to investigate the importance attached to different M&A decision criteria and to explore M&A decision-making patterns in acquisition target screening. To address the research questions of Chapter 5 and 6, I used conjoint analysis as the main research methodology. Conjoint analysis has its origin in the field of marketing (Green and Rao, 1971) and is one of the most commonly used research methods among marketers to analyse consumer choices and trade-offs (Green et al., 2004; Orme, 2013). Conjoint analysis has also become a well-established tool among management and entrepreneurship scholars for exploring individuals' decision-making preferences.⁴⁷ Conjoint analysis is frequently used in decision criteria research, and leading

⁴⁷ For a review of literature on management and entrepreneurship studies that used conjoint analysis as their research methodology, see Hanisch and Rau (2014) and Lohrke et al. (2010).

strategic management scholars recommend the method for investigating managerial and entrepreneurial decision-making (Priem and Harrison, 1994; Shepherd and Zacharakis, 2018).

Conjoint analysis is an experimental survey technique involving a large variety of alternative measurement approaches.⁴⁸ To investigate M&A decision criteria, I decided to use a choice-based conjoint (CBC) analysis, which represents a discrete choice model (i.e. based on a “yes” or “no” decision), since this makes it possible to simulate a realistic target screening and selection experiment. In the experimental setting of the CBC analysis, respondents evaluate 15 different choice tasks (i.e. target screening decisions), each presenting two hypothetical acquisition targets that vary in terms of attributes and levels (i.e. target characteristics). In each of these choice tasks respondents are asked to choose one of the two hypothetical acquisition targets that best describes their investment preferences. This experimental setup is similar to the decision-making process of corporate acquirers observed in practice. M&A decision-makers either proactively screen the market for potential acquisition targets based on predefined strategic, financial and organizational screening criteria and derive a shortlist of suitable firms. Alternatively, they receive a teaser⁴⁹ about an investment opportunity from a professional service company (such as an investment bank or M&A consultancy). In either case, the screening and evaluation of the attractiveness and the choice of an acquisition candidate represent discrete decisions, where the investment opportunity is either further investigated in a comprehensive due diligence process or rejected.

An important requirement of the conjoint methodology is that a realistic choice experiment should be designed that is also cognitively manageable for respondents (Steiner and Meißner, 2018). The academic literature therefore recommends that the development and execution of a conjoint analysis should follow a certain procedure (Backhaus et al., 2016; Shepherd and Zacharakis, 2018; Steiner and Meißner, 2018).

The procedure shown in Figure 4-1 was applied in my dissertation and involves the following five steps: 1) identification and selection of appropriate attributes and levels that are relevant to the decision being studied, 2) definition of conjoint design strategy and development

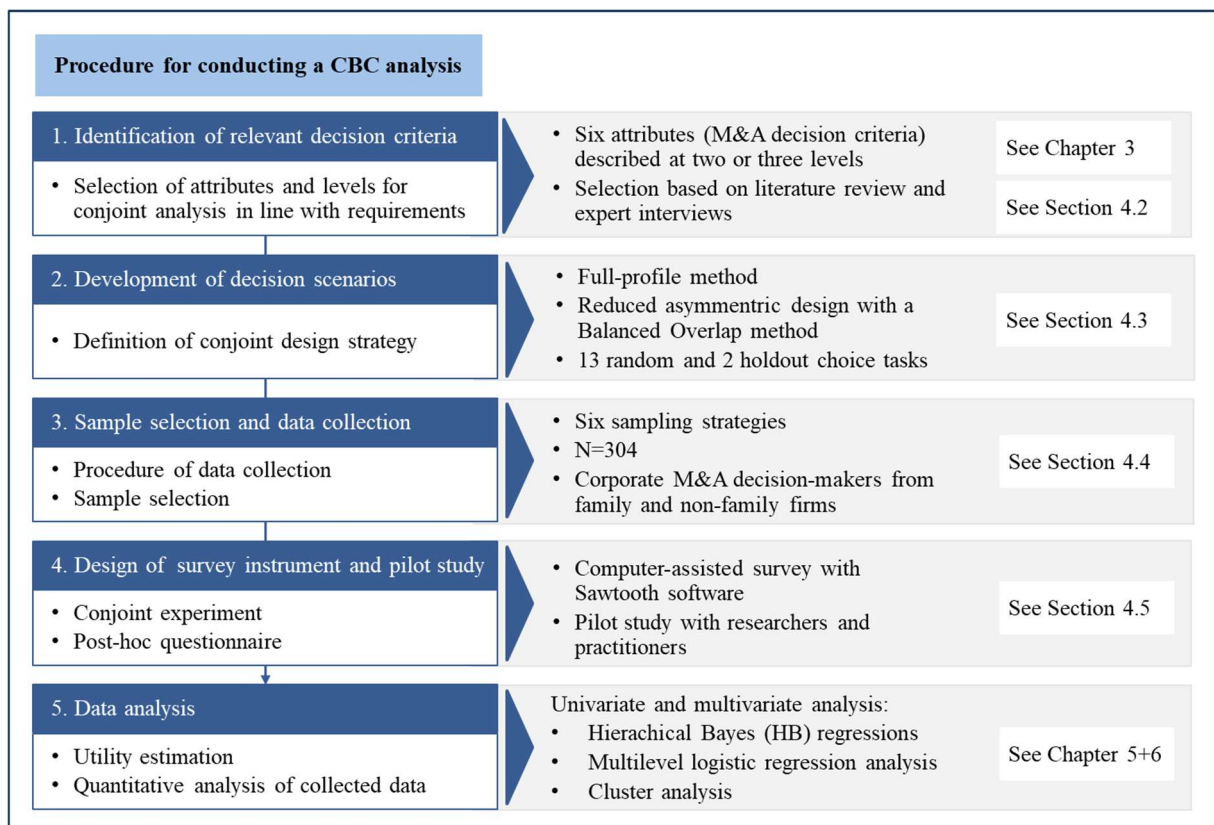
⁴⁸ For an overview of different conjoint methods, see Steiner and Meißner (2018).

⁴⁹ An investment teaser is a one- or two-page document that is introducing an acquisition opportunity to a potential strategic or financial buyer. A teaser usually includes an overview of the main features of a target firm (e.g. main industry, business description, locations, KPIs, customer segments) and provides information on the transaction structure and the investment rationale.

of decision scenarios, 3) selection of appropriate sample with sufficient size and procedure for collecting data, 4) design of survey instrument and pilot test, and 5) analysis of collected data.

These requirements for setting up a conjoint experiment guided the overall research approach of my dissertation (see Figure 1-1, p. 5), which is comprised of two parts. First, a conceptual and qualitative *preliminary study* with a review of literature on M&A screening criteria (see Chapter 3) and 19 qualitative expert interviews (see Section 4.2). Second, a quantitative, experimental *main study* that includes the survey instrument, consisting of the conjoint experiment and a questionnaire (see Section 4.5). The various steps involved in developing a conjoint experiment are described in detail in the next sections.

Figure 4-1: Procedure for conducting a choice-based conjoint analysis



Source: Based on Backhaus et al. (2016); Shepherd and Zacharakis (2018); Steiner and Meißner (2018)

4.2 Identification of screening criteria for conjoint experiment

As shown in Figure 4-1, the development of a conjoint experiment starts with the definition and selection of decision attributes and levels (i.e. decision criteria) that describe a choice profile (here, a target company profile). This first step is one of the most important tasks in the design of conjoint experiments (Weiber and Mühlhaus, 2009) as the decision criteria

chosen for the conjoint analysis convey all information critical to the decision being studied (here, a target screening decision) (Shepherd and Zacharakis, 2018). The attributes and levels selected for the conjoint experiment have to fulfil the following seven requirements (Backhaus et al., 2015; Orme, 2002a, 2013; Steiner and Meißner, 2018; Weiber and Mühlhaus, 2009). *Attributes and attribute levels* have to be (1) important and relevant to capturing decision-making preferences; (2) feasible, which means that the presented objects in each choice task (i.e. target company profiles that vary in terms of decision attributes) represent choices that can be observed by practitioners in reality; (3) understandable and unambiguously interpretable, so that all respondents interpret the presented information in choice tasks in the same way.⁵⁰ Furthermore, *attributes and attribute levels* (4) should not represent “knock-out” criteria⁵¹ that would prevent respondents from further evaluating the presented objects in the experiment. Selected *attributes* for the conjoint experiment should also be (5) empirically independent so that the estimated utility of an attribute level is not influenced by the level of another attribute. *Levels within each attribute* must also be (6) mutually exclusive, so that an attribute covers all possible level combinations (Orme, 2013). A violation of this condition would lead to inaccurate utility estimations. Finally, the number of *attributes and attribute levels* (7) must be limited so that choice tasks remain cognitively manageable for respondents. Literature suggests that the number of attributes selected for conjoint experiments should be restricted to six to eight attributes (Orme, 2002a, 2013).

To ensure that these requirements are met and the conjoint experiment possesses external validity, I followed the recommendation of the literature (Steiner and Meißner, 2018) and conducted a preliminary study prior to developing the main survey instrument. The preliminary study aimed to identify the most important screening criteria for corporate decision-makers in the process of target screening and selection, and consisted of a two-step process. First, I derived an overview of M&A decision criteria from prior literature (see Chapter 3). Second, I conducted 19 exploratory expert interviews with M&A professionals (e.g. investment bankers, M&A consultants) and corporate M&A decision-makers (e.g. CEOs, supervisory board members) from Germany. Insights into the process and findings of these exploratory interviews are provided in the following sections.

⁵⁰ To prevent any ambiguous terminology from being included in the experiment, attributes and levels were explained to respondents in mouse-over links (see Table 4-6, p. 74).

⁵¹ See examples of knock-out criteria in Section 3.2.3 (p. 48 et seq.).

4.2.1 Description of exploratory expert interviews

As part of the preliminary study, I conducted 19 expert interviews with corporate M&A decision-makers and M&A professionals from Germany. Expert interviews are often used as an exploratory tool to establish an initial picture of a subject matter and to extract valuable information that helps to structure the area under investigation (Bogner and Menz, 2009). As such, the objective of this qualitative approach is not to compare or standardize data but to make an initial exploration of a research field.⁵² The expert interviews in the preliminary study were exploratory in nature, and were intended to strengthen and validate the research design of my dissertation.

Description of interview sample:

Potential interview partners were primarily identified through my personal networks. All interviewees were initially contacted directly by email or phone and were informed about the topic of the research project. After they agreed to take part in the interview, the dates for the face-to-face or telephone interviews were arranged. I considered an interviewee to be an expert if they had a senior executive role in the organization and had considerable knowledge and expertise in the field of M&A or if they had previously been involved in corporate acquisition projects. Overall, 19 interviews with 16 corporate M&A decision-makers (CEOs, CFOs and supervisory board members) of German family firms and three M&A professionals with a background in M&A consultancy and/or investment banking were carried out. The interview sample therefore consists of important stakeholders in the corporate M&A decision-making process. Of the 19 interview partners, 18 were male and 17 were aged over 45. All of the 16 corporate M&A decision-makers worked for large German family firms that generated annual sales of over €250 million. In addition, all interviewees had been actively involved in the decision-making process for corporate acquisitions in the past. Their experience ranged from three up to more than 150 M&A transactions. Interviewees with an investment banking background had the highest exposure to M&A projects. The expert interviews took place in the period from August 2016 until June 2017, were conducted in German⁵³ and lasted between 21

⁵² Expert interviews were conducted for validation and exploratory reasons and were not intended to be used for theory-building in a qualitative research study. Hence, there was no methodological need to produce interview transcripts.

⁵³ All interviews were conducted in German. I translated the interviewees' audio-recorded statements into English afterwards.

and 135 minutes. Ten respondents were interviewed in a face-to-face setting, while nine were interviewed by telephone.⁵⁴ Most interviews (17 out of 19) were audio-recorded with the agreement of the respondent. Table 4-1 below outlines the characteristics of the interview partners.

Description of interview process:

I conducted semi-structured interviews with open-ended questions to allow participants to freely express their ideas and experiences with regards to the subject matter under consideration. This is in line with the recommendation of researchers who argue that exploratory expert interviews should be conducted as openly as possible (Bogner and Menz, 2009). Interviews were conducted on the basis of an interview guideline⁵⁵ that I developed by studying prior research in the field of M&A decision-making. The interview guideline started with a confidentiality agreement, a question asking whether the interview could be audio-taped and a short description of the research project. I then proceeded with general questions concerning the decision-maker's characteristics and previous M&A experience. Afterwards, interviewees were asked about the structure of the overall acquisition process within their organizations and their motives for engaging in acquisitions in the past. Then I continued with the core of the interview script and asked open questions regarding the respondent's key M&A decision criteria when screening and selecting acquisition targets. After interviewees had explained their decision criteria and fully expressed their views, I delved deeper into their statements by asking for further elaboration on specific criteria that they had mentioned. In particular, I asked respondents what makes a criterion important for them and how they evaluate it during the target screening and selection process. Finally, I enquired about additional decision criteria from the literature review and other interviews that had not yet been mentioned by the interviewee. This ensured that all predetermined issues were covered by the interview and that the respondent was not influenced by any prior beliefs that I may have had regarding the subject matter (Gioia et al., 2012).

⁵⁴ The decision to conduct expert interviews by telephone was motivated by economic reasons, as the interview partners were located in different parts of Germany.

⁵⁵ The interview guideline was used to structure the interview process and served as a general framework for all interviews. It was not distributed to interviewees prior to the interview, in order to ensure that the interviews could be conducted as openly as possible. The interview guideline is not included in this dissertation for reasons of brevity. I would be happy to provide interested readers with details on request.

Table 4-1: Characteristics of interviewees

ID	Type of company	Turnover in million €	Position	Gender	Age	Acquisition experience ^a	Type of interview	Length of interview
1	Corporation (public)	> 5,000	Supervisory board member, former CFO	Male	> 65	> 100	Telephone	30 min
2	M&A/strategy consultancy	501–1,000	M&A professional: senior consultant	Male	35–44	> 20	Telephone	35 min
3	Corporation (private)	501–1,000	Owner, supervisory board member, former CFO	Female	55–65	3	Face-to-face	47 min
4	Corporation (public)	251–500	CFO	Male	55–64	> 5	Face-to-face	30 min
5	Corporation (private)	501–1,000	Owner, supervisory board member, former CEO	Male	55–66	> 5	Face-to-face	98 min
6	Corporation (public)	251–500	Chairman of the supervisory board, former CFO	Male	> 65	> 10	Telephone	69 min
7	M&A/strategy consultancy	11–50	M&A professional: managing director, former investment banker, owner and chairman of supervisory board	Male	45–54	> 100	Face-to-face	43 min
8	Corporation (private)	11–50	Owner, CEO	Male	35–44	3	Telephone	34 min
9	Corporation (private)	501–1,000	CEO	Male	45–54	7	Face-to-face	65 min
10	Corporation (private)	251–500	CEO, supervisory board member	Male	45–54	> 10	Face-to-face	68 min
11	Corporation (private)	251–500	CEO, former M&A consultant	Male	45–54	> 15	Telephone	35 min
12	Corporation (private)	251–500	Chairman of the supervisory board, former investment banker	Male	55–64	> 150	Face-to-face	135 min
13	Corporation (private)	51–250	Founder-owner, CEO	Male	45–54	10	Face-to-face	60 min
14	Corporation (private)	251–500	Owner, CEO	Male	45–54	20	Telephone	32 min
15	M&A/strategy consultancy	51–250	M&A professional: managing director	Male	45–54	> 10	Face-to-face	27 min
16	Corporation (private)	1,000–5,000	CEO, supervisory board member	Male	55–64	> 5	Face-to-face	50 min
17	Corporation (private)	501–1,000	Owner, CEO	Male	45–54	5	Telephone	42 min
18	Corporation (public)	501–1,000	Owner, management board	Male	45–54	8	Telephone	31 min
19	Corporation (private)	1,000–5,000	Founder-owner, chairman of the supervisory board	Male	55–64	> 30	Face-to-face	30 min

Notes: ^a In terms of completed and terminated M&A transactions.

4.2.2 Insights into the findings of exploratory expert interviews

Focus on M&A decision criteria of strategic acquirers:

Prior research suggests that there are differences between strategically and financially motivated acquirers (Gorbenko and Malenko, 2014; Martos-Vila et al., 2014). Whereas financially motivated acquirers tend to focus on maximizing short-term profitability (Lim and Lee, 2016; Wirtz, 2017), strategically motivated acquirers generally pursue a long-term vision with an acquisition target (Datta, 1991; Gorbenko and Malenko, 2014; Müller-Stewens and Schäfer, 2016). As these diverging objectives may result in a different set of decision criteria being used in target screening and selection, I focused my investigation, including the exploratory expert interviews, on the preferences of strategically motivated acquirers. In line with this, all interviewed corporate M&A decision-makers stressed that their firms pursue acquisitions for strategic reasons only. Relevant excerpts are provided in Table 4-2.

Table 4-2: Interview quotes expressing acquirers' strategic motivation

Question	Excerpts from answers
Do you classify your company as a strategic or financial investor?	<p><i>“The shareholders of our company do not want the firm to act like a financial holding company. That means an acquisition must make sense strategically and technologically. (...) We do not invest money simply because it may be an attractive target if there is no strategic sense behind a deal.”</i> [Expert 9]</p>
	<p><i>“When we buy something then we must be in a position to create added value. When, besides financial aspects, we cannot contribute anything strategically then I am very sceptical about pursuing the deal.”</i> [Expert 10]</p>
	<p><i>“We were considering investing in areas that are less related to our core competencies. However, we ultimately rejected that idea by an official shareholders' resolution, as the shareholder pool believes that we do not have the capacity or the desire to manage different types of firms in a pure financial holding. (...) We regard ourselves as strategic investors and all acquisitions have to fit the business model of our company. We also do not want to build up a management structure outside the holding.”</i> [Expert 14]</p>
	<p><i>“We have never previously undertaken diversifying acquisitions outside the area of our core business activity. And I believe we will not do so in the future either.”</i> [Expert 16]</p>
<p><i>“For every acquisition opportunity that emerges, almost monthly, it is first of all important to evaluate how this target would fit into our group. We pay strong attention to the fact that every acquisition we undertake has a strategic component. Hence, each acquisition has to further support or extend the overall strategy of our company.”</i> [Expert 18]</p>	

Notes: All 16 corporate M&A decision-makers said that their firms engage in acquisitions for strategic reasons.

Contact approach:

The interviews revealed that there are three different ways that acquirers get to know about a potential acquisition opportunity. The first is an informal way, where investment banks or M&A advisory firms approach a company with an investment teaser that describes a potential investment opportunity. Second, a corporation's decision-makers hear about an investment opportunity through their extended network. Third, corporate acquirers implement a structured M&A process, where the market for corporate control is proactively screened for potential acquisition targets. The market screening is carried out either by the internal M&A team or by an external intermediary that is officially contracted to search for potential acquisition candidates that meet specific requirements. These differences are explained by Expert 10:

“The way we get to know about targets varies. On the one hand our network plays an important role, on the other hand external intermediaries such as investment banks or private equity firms inform us almost daily about opportunities. Internally, we follow a structured process. Based on white spots that we want to fill with an acquisition, we derive an ideal search profile. Within our network we generally approach firms by ourselves to maintain the exclusivity of the process (...). In markets where we don't know the players, we ask our financial advisors in the region to help us. We discuss with them the search profiles and they look for potential matches out there.”

M&A decision criteria:

In line with prior M&A literature,⁵⁶ the expert interviews showed that strategic acquirers tend to apply three main types of decision criteria when screening and evaluating the attractiveness of potential acquisition targets: strategic, organizational and financial decision criteria. An M&A professional (Expert 7) who has supervised more than 100 acquisition processes in the past summarized firms' M&A decision criteria in the target screening and evaluation process as follows:

“The decision criteria corporations focus on in acquisition screening strongly depend on the situation. There are companies that have purely short-term and quantitative goals. Then, there are those that instead focus on long-term strategic criteria and do not look so much at monetary issues like return on capital employed, payback and internal rate of return. There are even clients who I consulted in multiple projects that focused in one acquisition more on short-term and finance-oriented goals, and in the next applied purely strategic criteria. So, it really strongly depends on the situation. (...) You should not underestimate the emotional side, by which I mean the human and cultural aspects of deals, because they often ultimately determine whether a deal happens or not.”

⁵⁶ See review of literature on M&A decision criteria in Chapter 3 (p. 41 et seq.).

Strategic decision criteria⁵⁷ relate to those target characteristics that determine whether a “strategic fit” exists between an acquirer and target. Decision-makers make an assessment of whether any potential synergistic gains can be realized from the candidate (Eschen and Bresser, 2005; Jemison and Sitkin, 1986). Scholars argue that value creation in acquisitions comes from combining distinct resources and capabilities that may be either similar (economies of sameness) or complementary (economies of fitness) (Kim and Finkelstein, 2009; Larsson and Finkelstein, 1999; Pehrsson, 2006). Expert 9 summarizes the concept of strategic fit as follows:

“To see whether a strategic fit exists between us and the target I basically look at three dimensions. First, are the products of the target compatible or in conflict with my portfolio? Second, are the regions supplementary, so that I may be able to sell my products in the regions where the firm is active? Thus, I ask myself whether there are any product or regional synergies. (...) The third dimension is whether certain functional areas like production, sales, marketing, research and development can be strengthened: are there any functional capabilities I can gain that the firm would otherwise not have?”

The interviews further revealed that *relatedness aspects* and the *size criterion* represent a basic set of strategic decision criteria that a potential target has to satisfy in order to be attractive to a strategic acquirer.⁵⁸ As evidenced by Expert 10, these are often the first issues looked at when screening and evaluating a target and also determine whether there is a basis for a strategic fit:

“When I look at an investment teaser or company profile for the first time, the process is always the same. As a rule, I first look at the firm’s industry, product portfolio and customer segments. The second most important feature is that the firm is a good fit for us technologically – in the sense of what production processes the firm has and what raw material they process. Here basically I check whether we have competencies in what the firm is doing. Third, I look at the geographical scope of the firm and see whether it fits our interests. Fourth, I look at the size of the firm. A small acquisition is as time-consuming as a large acquisition and anything below 10 million does not make sense for us. The only case when the size of the firm is not an issue is if it is a start-up with an attractive technology.”

Another aim of the strategic screening is to assess whether the characteristics of the target match with the acquisition objectives of the acquirer (Berens et al., 2016). Whether an acquirer’s strategy is to introduce new products, grow its existing markets or gain access to technical or managerial talent, new customers, innovative technologies or business models, an

⁵⁷ See description of strategic decision criteria in Section 3.3.1 (p. 50 et seq.).

⁵⁸ The basic set of strategic decision criteria that corporate acquirers consider in the first screening of the target, such as the industry, product–customer mix and size of the target, have been held constant in the conjoint analysis as described in Section 4.5.1 (p. 81).

acquisition provides the means of executing these objectives quickly (Galpin and Herndon, 2007, p. 58). As Expert 4 explained, these acquisition objectives shape the target screening process and therefore also the weighting of different M&A decision criteria:

“Based on our strategic planning, we identify objectives for possible acquisitions. Such objectives may include tapping into a new market, developing additional market share in a business area or integrating new technologies. Based on this, we formulate an acquisition strategy that is agreed by the supervisory board. (...) The content of the acquisition strategy is the framework that guides the search for firms internally or with our intermediaries.”

The M&A literature suggests that there are two distinct sources of value creation from acquisitions. Acquisitions allow firms either to deploy their existing resources and capabilities (Capron, 1999; Capron et al., 1998) or to gain access to new resources and capabilities (Ahuja and Katila, 2001; Eschen and Bresser, 2005; Graebner, 2004; Karim and Mitchell, 2000). In the former case value creation comes from improving the performance of the acquired company, whereas in the latter acquisitions can be seen as a strategic choice to tackle resource and capability gaps (Capron and Mitchell, 2009). From this perspective it follows that strategic decision criteria are not only strongly related to the acquisition objectives of the acquirer but also reflect what gaps in the strategic positioning should be closed with a transaction (Becker, 2016). As Expert 9 noted:

“Basically, an acquisition has to close a strategic gap, be it technical, managerial, regional or in brands or distribution channels. In the narrowest sense, an acquisition has to secure or logically extend our business model or help us to prepare for the future.”

Organizational decision criteria⁵⁹ (“soft facts”) relate to the target characteristics that on the one hand convey information on whether an “*organizational fit*” may exist and on the other hand describe a target firm’s capabilities and resources. The expert interviews showed that a frequently discussed aspect of organizational fit among corporate M&A decision-makers in practice is whether the corporate culture of the target is compatible with that of the acquirer. As M&A Expert 1 noted:

“In the advisory board we usually present decision templates with calculations and strategic considerations for a deal. (...) And often the discussions hinge on whether the firms fit with us culturally. The cultural fit in the sense of matching values is extremely important for us.”

⁵⁹ See description of organizational decision criteria in Section 3.3.2. (p. 52 et seq.).

Culture, which affects the way people and groups interact with each other (Weber, 1996), is a theoretical construct that is difficult to measure in practice due to its subjective/intangible nature. The interviews revealed that decision-makers almost exclusively rely on their perceptions and “gut feeling” when making judgements about the cultural fit of the target.⁶⁰ As Expert 14 explained:

“Well, culture is difficult to measure and very wide-ranging. Normally I do not get to know the level below the senior management. However, I believe that culture plays an important role. Starting with the question: can we collaborate well with the people there? The point is that when we buy a firm then we have to deal with the people there for many years. For this reason, there must be a good feeling with regards to their personality. We also have to have a good impression about the way they work together, and there should not be too much hierarchy.”

Despite the subjective nature and challenges associated with assessing the corporate culture of a potential acquisition target, almost all interviewees confirmed that cultural considerations and related interpersonal issues are very relevant factors in the pre-acquisition target screening process (see Table 4-3).

Table 4-3: Interview quotes on the target’s corporate culture

Decision criterion	Evident cases	Excerpts from answers
Corporate culture	Yes (16)	<i>“Cultural fit was always absolutely crucial for us when screening a firm. (...) And I do not touch a company if I believe that their culture does not fit with ours.” [Expert 3]</i>
		<i>“If I acquire a company, then I also take over people, and therefore it is important what kind of culture the target has and how the people are led.” [Expert 5]</i>
	Partly important (3)	<i>“When clients assess a target, they also try to understand whether there is some kind of cultural fit between the firms. To get an idea about the culture they look at the target’s management and sometimes even at the hierarchical level below. Owner-managers of family firms in particular take a lot of time to visit and understand the firm.” [Expert 15]</i>
		<i>“Culture is definitely important. However, it has always played a subordinate role for us. In particular, culture was not an issue when we knew the owners of the firms that we wanted to buy.” [Expert 6]</i>
No (1)	<i>“In my opinion culture becomes more and more important the larger the company is that you want to buy.” [Expert 10]</i>	
		<i>“Culture is really a very decisive point but at the beginning I do not think it is the single most important issue. At the beginning, I first see whether the target is a strategic fit. Then the second point is where the target stands financially, and the third point is to investigate whether the deal could work out and how it could function.” [Expert 16]</i>
		<i>“When I acquire a firm, cultural fit is not a decision criterion for me. After I acquire a firm, I want to define the culture myself.” [Expert 13]</i>

⁶⁰ The expert interviews revealed that the interviewed corporate acquirers do not use tools to assess the cultural compatibility.

Another aim of the organizational screening is to evaluate the target's resources and capabilities in order to assess whether the acquirer can leverage any complementary or valuable resources (Ahammad and Glaister, 2013). The exploratory expert interviews revealed that the firm resources of particular interest for many corporate acquirers in the pre-acquisition target screening are the perceived *capabilities of top managers* and factors such as the target's *corporate reputation* (see Table 4-4). This is in line with predictions from the M&A literature that states that managerial capabilities and corporate reputation are intangible assets that may be of critical value for acquirers (Harvey and Lusch, 1995; Kiessling and Harvey, 2006; Saxton and Dollinger, 2004).

Table 4-4: Interview quotes on the target's capabilities and resources

Decision criterion	Excerpts from answers
Human capital and TMT	<p><i>"When we buy a company, then we look closely at the capabilities of the top management team. We always try to get an idea of whether they really understand their business, products, markets and customers. If we have the impression that their expertise is vital for the target's performance, then we try to retain them after we acquire the firm."</i> [Expert 9]</p>
	<p><i>"Retaining high-quality executives in the target who know the industry, customers and technology and who have leadership skills to motivate their people and facilitate the integration is in my opinion one of the most important factors for the long-term success of a deal."</i> [Expert 12]</p>
	<p><i>"As we normally integrate firms that we acquire, I try to understand whether the management team and the culture of the target are a good fit for us. We have done that in the past by discussing these issues within our management board."</i> [Expert 17]</p>
Corporate reputation	<p><i>"Besides financial and legal due diligence, we of course also look at the human capital. We have always looked at the human side very intensively and in detail. We tried to dive into the structures, and where possible conducted lots of interviews."</i> [Expert 19]</p>
	<p><i>"Frankly speaking, the reputation of the target firm is very important for us. However, it is difficult to grasp and not quantifiable. We therefore generally turn if possible to feedback from others in the industry and see what it tells us about the firm."</i> [Expert 4]</p>
	<p><i>"Whether corporate reputation is important or not in an acquisition depends. When we buy a company because of its technology and patents, then the firm does not necessarily need to have a good brand and reputation. But when we acquire a firm in the fast-moving consumer goods industry, then of course the corporate reputation and brand are important."</i> [Expert 9]</p>
<p><i>"We have our own code of conduct, and if we find out that there is something going on that seems problematic then we also refrain from further pursuing a transaction. For instance, in one project we encountered financial activities that we could only class as tax evasion. And for ethical reasons we decided that we did not want to proceed with such a deal."</i> [Expert 11]</p>	
<p><i>"The corporate reputation of a firm is extremely important. I mean, look at what we are doing – we are not selling candy. Our company vision is to create confidence. We want to build confidence, and if we acquired a firm that damages the trust we want to convey to our customers, that would be counterproductive."</i> [Expert 16]</p>	

Financial decision criteria⁶¹ (“hard facts”). The financial screening primarily involves an initial assessment of the target’s current financial performance so that corporate acquirers can develop an idea of the financial feasibility and financial risks involved in a transaction. As Expert 16 noted:

“It may sound trivial but first of all I look at whether a target is a logical extension from the market side and the product side. And then the second thing is that I look at where the firm stands financially. Is it a firm that is performing badly or one that is very successful? And from these considerations there follows the question of whether we can afford to undertake the acquisition.”

As evidenced by the interview quotes presented in Table 4-5, the financial screening also involves a critical assessment of the target’s assets and liabilities by making predictions about future revenues and costs and related financing and investment needs (Very and Schweiger, 2001). The data also suggests that key performance indicators related to the profitability and liquidity of the firm are common decision criteria applied by corporate acquirers in the early pre-acquisition screening. Past and current profitability acts as a strong signal for acquirers about the firm’s operating success and conveys information on the ability of a firm to keep generating profits in the future (Fombrun et al., 2015). In addition, a diligent screening and evaluation of potential acquisition targets in the pre-acquisition phase is required to determine an approximate price range that the acquirer is able and willing to pay for an acquisition. Based on this value, the acquirer decides whether to buy at a premium (i.e. price for a target company > average price paid for comparable companies) or at a discount (i.e. price for a target company < average price paid for comparable companies) (Koeplin et al., 2000). Such premiums are not only an important expression of acquisition pricing but also an indication of how much additional value acquiring managers expect to extract from a target (Hayward and Hambrick, 1997). At the early pre-acquisition stage, a rough price range is usually calculated by using valuation multiples (e.g. based on EBIT(DA)) of companies in their peer group (Lucks and Meckl, 2015, p. 128). Expert 10 suggests that one reason why acquisitions are ultimately not pursued is that no agreement could be reached on the final price:

“Some M&A projects that we were considering were not completed in the end, because no agreement could be reached on the acquisition price. The reason is that both parties have to be convinced that it is a good deal. It has to be a win-win situation for buyer and seller otherwise the deal will not work out.”

⁶¹ See description of financial decision criteria in Section 3.3.3 (p. 55 et seq.).

Table 4-5: Interview quotes on financial decision criteria

Decision criterion	Excerpts from answers
Financial issues	<p><i>“A target fit means for us first of all that a firm matches our strategic goals. Then in the screening of course there is also the question of whether a deal can be financed. The financial risks involved in a transaction must be manageable.”</i> [Expert 1]</p>
	<p><i>“The acquisition strategy normally also consists of a financial part that states for instance what volume of acquisitions an acquirer can generally afford without jeopardizing the firm if something goes wrong.”</i> [Expert 2]</p>
	<p><i>“First of all, I look at the firm’s ability to generate cash flow and whether it has a strong equity base. (...) The second point I consider is whether there are any investment backlogs because they indicate whether I will need to make further investments in the coming years”</i> [Expert 4]</p>
	<p><i>“When financially assessing a target then I first of all look at key performance indicators for profitability such as EBIT and EBITDA. EBITDA is especially important, as it shows the depreciation intensity. If you have a firm with low depreciation then it is possible that it has old equipment and has underinvested. If you buy old equipment, then the investor may face large additional investments to modernize machinery – and of course that adds to the purchase price, which is something I want to avoid. EBITDA is also the KPI that the multiples are based on. I look at the debt ratio of the firm – approximately three times EBITDA is okay.”</i> [Expert 7]</p>
	<p><i>“From our experience I can say that we are much better at buying and managing businesses that are profitable than those that need to be restructured. (...) I am always very critical if firms do not earn money. The reasoning is very simple: if I buy a company that is much more unprofitable than our business, how am I supposed to increase the overall profitability? (...) Profitability is not a knock-out criteria per se, but when a firm is extremely unprofitable then we have to be really convinced that they can offer us something very valuable, like attractive markets or technologies.”</i> [Expert 10]</p>

4.2.3 Selection of M&A decision criteria for the conjoint experiment

Based on the insights from the literature review on M&A decision criteria of Chapter 3 and the exploratory expert interviews, a combination of six M&A decision criteria was finally chosen for the conjoint experiment that shall be conducted for my dissertation (see Table 4-6).

In particular, the decision criteria used in the conjoint analysis include one *strategic criterion* (business model), two *financial criteria* (profitability and expected acquisition price) and three *organizational criteria* (quality of top management team, similarity of corporate culture and company reputation). The number of decision criteria (attributes and attribute levels) chosen for the conjoint experiment is in line with the recommendation of the conjoint analysis literature (Orme, 2002a). To prevent any ambiguous terminology from being included in the experiment, some attributes and levels were explained to respondents in mouse-over links (Orme, 2002a).

Table 4-6: Description of attributes and levels in the CBC analysis

Attribute	Attribute levels	Description ¹
Organizational criteria (“soft facts”):		
Corporate reputation (3 levels – ordinal)	- High - Average - Low	Captures stakeholders’ perceptions of the overall reputation of the target company. It reflects how much they admire and trust the target company relative to other companies.
Similarity of corporate culture (2 levels – ordinal)	- Similar - Different	Captures the similarity of the target company relative to the acquirer in terms of its underlying philosophy, values and norms.
Quality of top management team (TMT) (3 levels – ordinal)	- Outstanding - Average - Weak	Captures the perceived quality of how the top management runs the target company.
Strategic criterion:		
Business model (3 levels – nominal)	- Similar - Complementary - Disruptive	Captures how the business model of the target company relates to the business model of the acquirer: <u>What is a business model?</u> A business model describes the way a company creates, delivers and captures value. - Similar: The business model of the target company is <u>identical or very similar</u> to the acquirer’s business model. - Complementary: The business model of the target company <u>extends</u> the acquirer’s business model. - Disruptive: The business model of the target company has the potential to <u>disrupt/reinvent</u> the acquirer’s business model.
Financial criteria (“hard facts”):		
Profitability (3 levels – ordinal)	- Above industry average - Industry average - Below industry average	Captures the profitability of the target company relative to the industry average in the past 3 years.
Expected acquisition price (3 levels – ordinal)	- Above industry average - Industry average - Below industry average	Captures the expected acquisition price of the target company <u>relative to the average company valuation</u> of comparable transactions in the industry: - Above industry average: The acquisition price reflects a <u>company valuation above the industry average</u> . - Industry average: The acquisition price reflects a <u>company valuation in line with the industry average</u> . - Below industry average: The acquisition price reflects a <u>company valuation below the industry average</u> .

Notes: Each target company profile presented to respondents in the conjoint experiment consisted of six decision attributes (with two or three levels). ¹ The descriptions were provided to participants of the online survey in the form of mouse-over links.

4.3 Experimental design strategy of the CBC analysis

The second step in the development of a conjoint experiment is to define the experimental design of the conjoint analysis (see Figure 4-1, p. 61). To create choice tasks (i.e. decision scenarios) for the CBC experiment, an attribute-driven approach was used (Shepherd and Zacharakis, 2018). This means that a full-profile CBC was undertaken in which all attributes and levels from Table 4-6 are presented to the respondents. More specifically, respondents were confronted with hypothetical acquisition targets that were described by six attributes, each of which is represented with two or three levels. In a *full experimental design* this would yield $2^1 \times 3^5 = 486$ possible combinations of levels (i.e. hypothetical targets to be evaluated). As full replication of these profiles would result in an unrealistic and unfeasible experimental setting, I used a *reduced conjoint design* with a limited number of choice tasks for each respondent (Chrzan and Orme, 2000; Kuhfeld et al., 1994; Lenk et al., 1996).

The reduced design strategy led to a feasible and cognitively manageable experimental setting with 15 choice tasks (i.e. 15 decision scenarios in which respondents had to choose between two hypothetical target companies). As each of these choices included two concepts (i.e. hypothetical acquisition targets), each respondent had to make 30 target screening decisions. Moreover, as the number of levels across attributes is not equal (i.e. attributes were described in terms of two or three levels), a *fractional asymmetrical design* was employed. As the main design strategy, a random task generation approach with a “Balanced Overlap” method⁶² was used, which is recommended as the best-performing design strategy for CBC studies (Chrzan and Orme, 2000; Sawtooth, 2017). This design procedure leads to a modest degree of level overlap and produces efficient estimates for the main effects and interaction terms (Sawtooth, 2017).

Overall, 500 different experimental designs were created. This way, each respondent received a unique and randomly assigned version of the conjoint experiment, each involving a different combination of acquisition targets with different attribute levels (Orme, 2015). Each of the 500 experimental designs consisted of 15 choice tasks. From these choice tasks, 13 were assigned to be random choice tasks and two were holdout (fixed) choice tasks.⁶³ For the 13

⁶² The Balanced Overlap approach can be described as a combination of an “almost-but-not-quite” orthogonal design with minimal overlapping and a randomized design (Chrzan and Orme, 2000).

⁶³ The conjoint analysis literature recommends including at least two fixed choice tasks to test the predictive ability of the conjoint experiment (Chrzan, 2015; Orme, 2015). The two fixed choice tasks used in the experiment are displayed in Figure A4-4 and Figure A4-5 (Appendix, p. 282).

random choice tasks, attribute levels vary throughout the choice experiment so that each respondent is randomly selected to receive a unique version of the experimentally designed choice task (Orme, 2015). In fixed choice tasks, attribute level combinations are held constant across respondents and they are therefore not included in the utility estimation. However, they are used to test the predictive ability of the conjoint experiment (Orme, 2015; Orme et al., 1997; Shepherd and Zacharakis, 2018).⁶⁴

CBC experiments are designed in a way such that in each choice task respondents have to choose between different concepts (here, two target company profiles) that are specified in terms of a number of attributes and attribute levels. A CBC analysis therefore constitutes a “forced” experiment (Street and Burgess, 2007). Research has shown that these CBC experiments can be subject to three types of *question and response order effects* (Chrzan, 1994). These are effects of (1) the choice task order, (2) the order of concepts (here, target company profiles) in a choice task, and (3) the order of attributes within choice tasks. The design strategy chosen for the CBC experiment (see description above) accounts for these issues and uses a mechanism to circumvent the risk of *question and response order effects*. In particular, to avoid effects from the choice task order, the conjoint design strategy described in this section includes a randomly assigned order of choice tasks within each of the 500 experimental designs. To eliminate effects from the order of concepts, the two alternative concepts (i.e. target company profiles) are randomly ordered in each choice task in the 500 experimental designs. To deal with the third type of order effect, the attribute order presented to survey respondents randomly changes across the 500 experimental designs but is kept constant for each respondent.

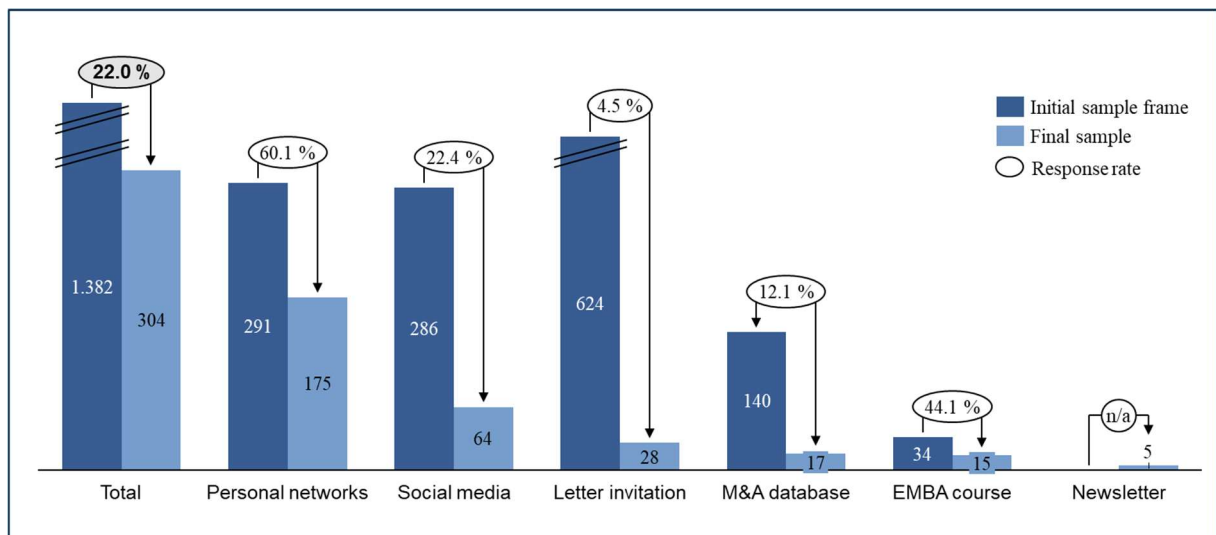
4.4 Sample selection and sampling strategies for data collection

The third step in the development of a conjoint experiment (see Figure 4-1, p. 61) is to select an appropriate sample with sufficient size and to determine a procedure for collecting data. The choice of the initial sample for the survey was dictated by the need to identify private and public companies that are very likely to have undertaken acquisitions in the past. The selection criteria used to develop the initial sample included (1) the firm size, (2) the type of company (family or non-family), (3) the headquarters of the company and (4) the respondent’s role in the organization. Sample selection for the survey focused on large family and non-family

⁶⁴ For details on the predictive ability of the conjoint analysis conducted in my dissertation, see Section 4.7.3 (p. 114).

firms (i.e. annual turnover > 50 million euros or > 500 employees)⁶⁵ from Germany, Austria and Switzerland (DACH region). Furthermore, sample selection concentrated on *corporate M&A decision-makers*, who are the primary stakeholders in corporate acquisitions and have the best knowledge about their firm's strategic and corporate development activities. Hence, respondents in the sample were restricted to corporate M&A decision-makers at different hierarchical levels: (1) supervisory and advisory board members, (2) members of the management board (in particular, CEOs, CFOs), (3) heads of and (4) members of departments involved in M&A transactions (e.g. M&A, strategy, corporate development, finance). A key informants method (Kumar et al., 1993; Seidler, 1974) was deemed necessary as conjoint experiments with decision-makers who are experienced in a specific task are subject to fewer external validity problems (Brehmer and Brehmer, 1988). Using a key informants approach is also in line with prior strategic management and family business research (Eddleston et al., 2012; Saxton and Dollinger, 2004; Walter et al., 2012). To identify an initial representative sample for the survey, I used a combination of six different sampling strategies, which yielded a total initial sampling frame of 1,382 potential survey respondents (see Figure 4-2). These sampling strategies are described in the following sections.

Figure 4-2: Overview of different sampling strategies and response rates



⁶⁵ The Institut für Mittelstandsforschung (IfM) Bonn (IfM Bonn, 2016) considers a company to be an SME if its annual turnover does not exceed 50 million euros or it has up to 499 employees. A company is classified as large if these cut-off values are exceeded.

First, I drew on personal connections to key corporate decision-makers to identify potential survey participants. In particular, I contacted, via phone or email, various owners, (former) managing directors and advisory board members within my and the project core team's closer network⁶⁶ whose firms matched with the sampling criteria. These contacts were utilized to get in touch with further potential respondents in either the same or other firms. This snowball sampling approach using personal networks was chosen because the sample selection was restricted to a group of decision-makers that are very difficult to convince to participate in a survey by means of "cold calls". Decision-makers from family firms, which are the main focus of my dissertation, are particularly likely to be reluctant to disclose their actual decision-making behaviour in relation to sensitive topics like corporate strategy for reasons of confidentiality (Strike, 2012). Making use of personal networks was therefore considered an appropriate and promising way to access a hard-to-find population (Biernacki and Waldorf, 1981). Upon positive response from potential respondents, an email invitation with a brief description of the research project, including a personalized survey link, was sent out. This sampling strategy led to 291 potential respondents out of which 175 useable and completed survey responses were generated (response rate of 60.1%).

Second, 624 printed invitation letters were sent by regular post to CEOs at the 1,000 largest (i.e. annual turnover > 160 million euros) German family firms. To identify these firms, I referred to a comprehensive Excel-based database that is released once a year by the research team of *Die Deutsche Wirtschaft*.⁶⁷ The database, named "Top 1,000", contains detailed company information such as legal status, industry, total annual sales and the name of the business-owning family(ies). I looked into the activities of each firm listed in the database by studying their websites, annual reports and press releases, and excluded 376 companies that are not very likely to be involved in M&A transactions. For the remaining 624 family firms, I took the name of the current CEO and the address of the corporation, and then sent out invitation letters with a brief description of the research project by regular post. 36 management board members replied saying that they were willing to take part in the survey and therefore received

⁶⁶ I am grateful to Prof. Block, Prof. Matthias Brauer and Dr Alexandra Moritz (core team of the research project) and also to my co-supervisor Prof. Hermut Kormann for their enduring support in finding survey respondents.

⁶⁷ The database of the 1,000 largest German family-owned companies was retrieved from: <https://die-deutsche-wirtschaft.de/biggest-german-family-owned-enterprises/> (accessed 1 September 2017).

a personalized survey link via email. Ultimately, 28 surveys were fully completed, which corresponds to a response rate of 4.5 percent for this sampling strategy.

Third, I used two social media platforms, LinkedIn and Xing, in order to identify potential survey respondents from the target group. Profiles on these social media platforms typically disclose the job titles and functions of individuals in organizations, which enabled a dedicated search for potential survey participants. 286 individuals who met the above-mentioned selection criteria were contacted via the messenger function and personally invited to take part in the research project. Upon positive response, an email containing information on the research project, including a personalized survey link, was sent out. Out of 72 individuals that gave positive feedback, 64 respondents ultimately completed the survey. This represents a response rate of 22.4 percent.

Fourth, I referred to a M&A database that was confidentially provided to me for the purpose of the research project. The database contained the personal details and direct contact information (e.g. names, role in the organization, postal and email addresses) of 627 owners and managing directors of small to medium-sized enterprises (SMEs) and large German family and non-family firms. All companies included in the database have been involved in M&A transactions in the past. After eliminating entries that did not meet the firm size criteria (i.e. all the SMEs), the database reduced to 140 potential respondents, who received a personal survey invitation via email. 19 individuals expressed an interest in participating. Upon positive response from potential respondents, a second email with a personalized survey link was provided. 17 respondents completed the survey, which represents a response rate of 12.1 percent.

Fifth, the survey instrument used in the research project was introduced as part of a pre-assignment task in an executive MBA course at the University of Mannheim in May 2018.⁶⁸ A brief description of the survey, including a personalized survey link, was distributed to each of the 34 participating executive MBA students prior to the start of the course. Out of the 34 potential respondents, 32 executives completed the survey. As 17 respondents were working for firms headquartered outside the defined target area, they were subsequently eliminated from the final sample. Hence, 15 relevant survey responses were generated through this sampling strategy (response rate of 44.1%).

⁶⁸ Many thanks to Prof. Matthias Brauer, holder of the Chair of Strategic and International Management at the University of Mannheim, for incorporating the topic of the research project into an EMBA course.

Finally, I asked four different professional networks from Germany that focus on M&A, family businesses and corporate leadership to advertise the research project in their newsletters. I preformulated a text that briefly explained the research project and asked interested executives to write to me in order to receive a personalized survey link. From these newsletter advertisements, five completed and useable responses were generated. As the reach of the newsletters is unknown, no response rate can be calculated for this initiative.

To sum up, the six different sampling strategies resulted in an overall sampling frame of 1,382 potential respondents. Over the 10-month data collection period that started in September 2017 and ended at the end of June 2018, up to three reminders were sent out. From the 389 individuals that expressed an interest in participating in the survey, 324 eventually completed the survey. Due to missing data, unreliable responses (e.g. click-through behaviour) or non-compliance with selection criteria, 20 survey responses were eliminated from the sample.⁶⁹ The final sample consists of 304 corporate M&A decision-makers from 264 firms that are headquartered primarily in the DACH region.⁷⁰ The 304 survey responses yielded 7,904 recorded individual target screening decisions from the conjoint experiment.⁷¹ The overall response rate across all sampling strategies is 22 percent. This response rate is slightly higher than in other survey-based studies that focused on family firms in Germany (e.g. Koropp, Kellermanns, Grichnik and Stanley, 2014; Pieper, Klein and Jaskiewicz, 2008). Compared to prior conjoint studies that also included a post-experiment questionnaire, the final sample size of my dissertation's study is comparatively high⁷² (Hanisch and Rau, 2014; Lohrke et al., 2010). This success is attributable to the kind support of various (former) industry executives who wrote letters of endorsement to their networks, including a recommendation to participate in the survey. This initiative added credibility to the content of the survey and helped to raise awareness for the research project.

⁶⁹ Seventeen respondents did not comply with selection criteria, In addition, three respondents gave unreliable answers due to click-through behaviour as shown in the data quality test of Section 4.7.2 (p. 112 et seq.).

⁷⁰ Firms in the sample are from Germany (95.4%), Austria (1.3%), Switzerland (1.3%) and other Central European countries (2.0%).

⁷¹ The overall number of recorded individual target selection decisions is calculated as follows:
 $7,904 = 13 \text{ random choice tasks} \times 2 \text{ options (target profiles)} \times 304 \text{ survey participants}$. Additionally, 1,216 individual choices were generated for the two holdout (fixed) tasks.

⁷² Most prior conjoint studies recorded a sample size of around 100, as shown by the literature reviews by Hanisch and Rau (2014) and Lohrke et al. (2010).

4.5 Description of the survey instrument and pilot study

The fourth step in the development of a conjoint experiment (see Figure 4-1) is to design the survey instrument and pilot-test it before data collection.

4.5.1 Design of the survey instrument

A computer-assisted (Web-based) survey instrument⁷³ was used to investigate the target screening decisions of corporate M&A decision-makers. Potential survey respondents were provided with a personalized survey link by email.⁷⁴ The first page of the survey included a welcome text with a brief description of the research project and a statement that all data collected will be treated strictly confidentially and only used for the purpose of this dissertation and related scholarly research (see Figure A4-1, Appendix, p. 276). The second page introduced the conjoint experiment and provided a description of the target screening task so that respondents could develop a common understanding of the experimental setting and relate it to the decisions they make in reality (see Figure A4-2, Appendix, p. 276).

This kind of decision framing is important in experimental studies because the preferences of decision-makers are usually context-dependent (Steiner and Meißner, 2018). In the decision framing, participants were first of all asked to imagine that their company is considering engaging in a strategically motivated corporate acquisition and that they have been asked to screen various acquisition targets with the aim of evaluating their attractiveness and potential fit. In addition, the decision framing was necessary to assign constant values to the decision attributes that are not included in the experiment (Shepherd and Zacharakis, 2018). In line with this, it was clarified that all targets presented are from industries and countries of interest to them and have an attractive product–customer mix, and that the size of the transactions fits their company. Then it was explained that all targets are described on the basis of six screening criteria (attributes) and that profiles only differ across these dimensions (attribute levels). Based on this information, respondents were told that in each choice task they are presented with, they have to choose the one target that best describes their preferences.

⁷³ The online survey instrument (i.e. choice experiment and questionnaire) was designed and implemented using Sawtooth (Lighthouse Studio Version 9), which is a leading conjoint analysis software.

⁷⁴ Two language versions of the online survey were developed (German and English). The two versions were fully identical. The majority of respondents had a German language background and filled in the German version of the survey. If necessary, respondents received a survey link for the English version of the survey.

Figure 4-3 shows an example of a choice task presented to survey respondents. Hence, each respondent evaluated 15 choice tasks (30 target profiles), each of which presented two hypothetical acquisition target profiles that varied across six decision attributes.

Figure 4-3: Example of choice task presented to survey respondents

| 1. Introduction | 2. Target Screening Decisions | 3. Questionnaire | 4. End |

Which target profile appears more attractive to you?
The targets differ only in the characteristics listed below.

Decision 5 of 15:

Target characteristics:	Acquisition target A	Acquisition target B
Expected acquisition price*:	Above industry average*	Below industry average*
Similarity of corporate culture*:	Different corporate culture	Similar corporate culture
Profitability*:	Above industry average	Industry average
Quality of top management team*:	Outstanding top management team	Weak top management team
Business model*:	Reinvents your business model*	Same business model*
Company reputation*:	Low company reputation	High company reputation
More attractive:	<input type="radio"/>	<input type="radio"/>

If you have made your choice, please click on the grey arrow below to continue.

*For details please move the cursor over the text.

After completion of the conjoint experiment, participants were asked to fill in a post-experiment questionnaire that included characteristics of the decision-maker, the organization and the environment. The full questionnaire used in the survey is included in the Appendix to Chapter 4 (see Figure A4-3, p. 277 et seq.). The variables collected in the questionnaire provided detailed information on the characteristics of the overall sample.⁷⁵ At the end of the survey, respondents were asked if they would like to receive a management summary of the study's results. Almost all participants showed an interest in the study's results, confirming the practical relevance of the research topic. Furthermore, as an incentive for potential respondents

⁷⁵ See descriptive statistics in Section 4.8 (p. 114 et seq.).

to participate, a donation to a charitable foundation was offered for each completed survey. Survey respondents could select between three charitable foundations.⁷⁶

4.5.2 Pilot study to validate the survey instrument

Prior research has argued that the results generated by conjoint experiments are an accurate reflection of individuals' real-world decision-making behaviour (Brown, 1972; Hammond and Adelman, 1976; Louviere and Hensher, 1983). However, a frequently mentioned criticism of conjoint analysis is that the hypothetical choice profiles (here, target company profiles) are not reflections of real-world decision-making situations. To improve the external validity, a comprehensive pilot study was conducted from April 2017 until August 2017 with eight academic experts, six corporate investors and three M&A consultants to evaluate the relevance of the survey instrument.⁷⁷ The 17 respondents of the pilot study required between 15 and 20 minutes to complete the survey instrument (i.e. CBC experiment and questionnaire). The survey instrument was analysed and individual feedback was discussed with the respondents of the pilot study. The pilot study suggested that the decision criteria and attribute levels used to simulate hypothetical target screening decisions (choice tasks) in the CBC experiment were viable and inclusive and that the experiment had face validity. Furthermore, academic experts confirmed that the conjoint design and questionnaire covered aspects relevant to investigating the decision-making preferences of corporate investors. Before the survey instrument was used, two other people undertook a final review of the wording of the whole survey instrument to ensure that all terms and expressions used are easily understandable. The comprehensive feedback from the pilot study provided guidance regarding the type of instructions necessary to accurately complete the online survey instrument.

4.6 Operationalization of variables and validity of measures

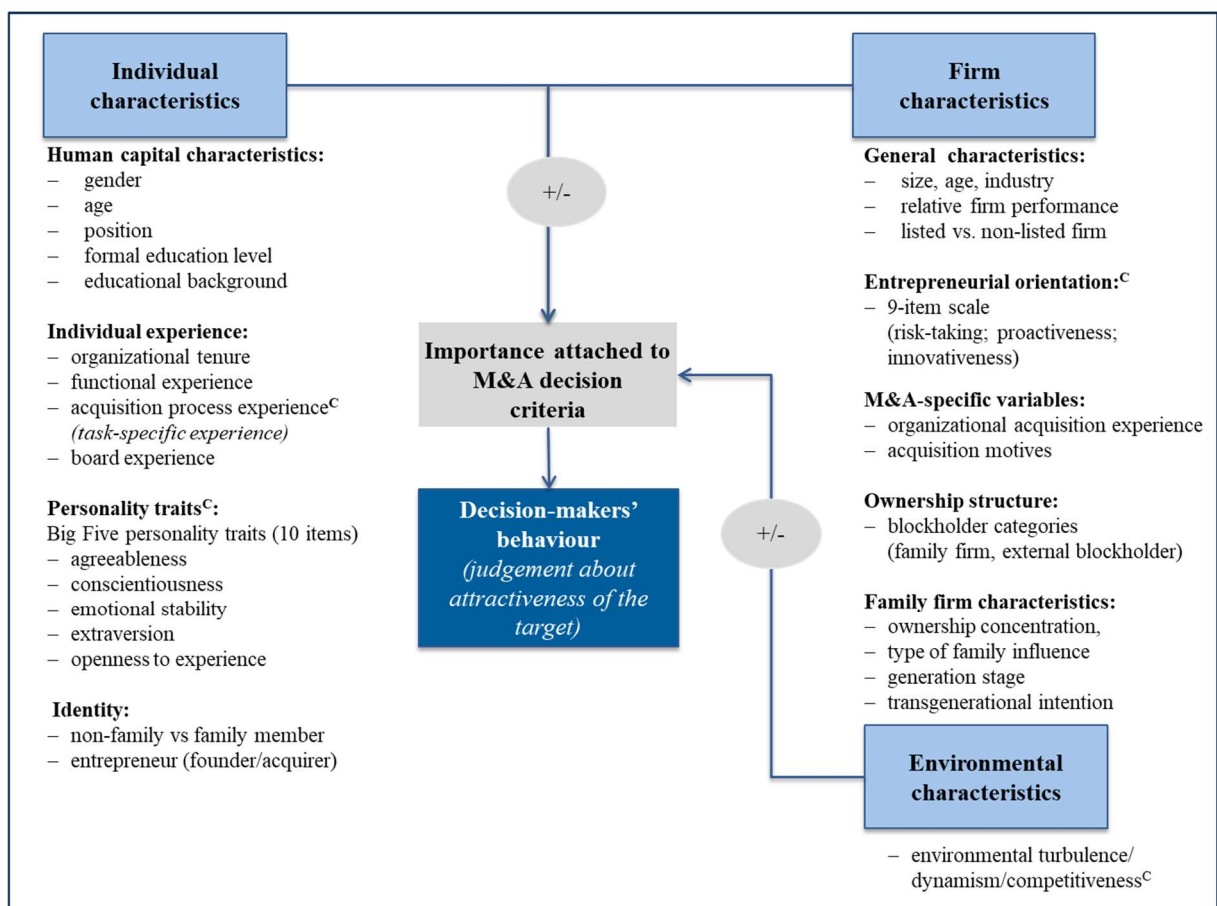
Prior research has shown that strategic decision-making behaviour depends on (1) *characteristics of decision-makers* such as gender, age, experience, education and personality

⁷⁶ I donated 1,000 euros to the Dominik Brunner Stiftung, 500 euros to Die Chancenstiftung – Bildungspaten für Deutschland, and 50 euros to Deutsche Welthungerhilfe e.V. With the donations, I and the rest of the research team wanted to express our gratitude to all participants for taking the time to complete the survey and support the research project.

⁷⁷ See pilot study sample in Table A4-1 (Appendix, p. 283).

traits (e.g., Finkelstein and Hambrick, 1990; Hambrick and Fukutomi, 1991; Hambrick and Mason, 1984; Herrmann and Datta, 2006; Herrmann and Nadkarni, 2014; Malhotra et al., 2018; Wiersema and Bantel, 1992), (2) *firm characteristics* such as firm size, firm age, ownership structure, acquisition experience and entrepreneurial orientation (e.g., Asker et al., 2015; Chao, 2018; Cho et al., 2019; Coad, 2018; Covin and Slevin, 1989; Fredrickson and Iaquinto, 1989; Haleblan and Finkelstein, 1999; Kotha et al., 2011) and (3) *environmental characteristics* such as the degree of environmental competitiveness and dynamism (e.g., Beckman et al., 2004; Elbanna et al., 2017; Fredrickson and Mitchell, 1984; Heeley et al., 2006; Mitchell et al., 2011). In the questionnaire, a range of variables and measurement constructs were included that address these three dimensions⁷⁸ (see Figure 4-4).

Figure 4-4: Structure and content of the questionnaire



Notes: Variables denoted with “C” refer to measurement scales.

⁷⁸ For a list of all variables included in the questionnaire and the corresponding descriptions of the coding, see Table A4-4 (Appendix, p. 286 et seq.).

All questionnaire items were developed by reviewing relevant literature, and they serve primarily as *passive variables* for the cluster analysis conducted in Chapter 5 and for the investigation of the relative importance of M&A screening criteria in family and non-family firms in Chapter 6. The most relevant individual, (family) firm and environmental-level variables and measures used in the empirical analysis of my dissertation are summarized in Table 4-7 (p. 94), Table 4-8 (p. 104) and Table 4-10 (p. 110), and described in the following sections.

4.6.1 Validity of measurement scales

I used various established individual and firm-level scales (measurement constructs) in the questionnaire: (1) the Ten Item Personality Inventory (TIPI) scale capturing the “Big Five” personality traits (Gosling et al., 2003), (2) a nine-item entrepreneurial orientation (EO) scale (Covin and Slevin, 1989, 1991), (3) a two-item subjective measure of relative firm performance (Eddleston, Kellermanns, et al., 2008; Zellweger, Kellermanns, Chrisman, et al., 2012) and (4) two environmental-level scales. All established scales and items were originally written in English, and where no validated translation existed they were translated into German. To ensure that translated scales were consistent in meaning with the originals, a forward and backward translation approach, as recommended by the academic literature, was used (Brislin, 1980).⁷⁹ With regards to individual acquisition process experience (i.e. task-specific experience) an appropriate scale was not available. I therefore reviewed relevant literature and generated a set of items that captures the acquisition experience of respondents with regards to subphases of the acquisition process (e.g. target screening, due diligence and valuation).⁸⁰

The internal consistency and reliability of all these measurement scales was examined by using Cronbach’s alpha (α), which is a common test theory for this purpose (Cronbach, 1951, 1987). In general, α can take values between negative infinity and 1 and will increase as correlations between items increase. The scholarly literature mentions different acceptance values of Cronbach’s alpha as an indicator for internal consistency reliability. For instance,

⁷⁹ I translated the scales from English into German. To ensure equivalence between the translated constructs and the original scales, all scale items were additionally reviewed by two other researchers. I would like to thank Prof. Jörn Block and Dr Alexandra Moritz for their support in this matter.

⁸⁰ For a description of the scale, see Table A4-6 (Appendix, p. 296).

Kerlinger and Lee (2000) suggest a Cronbach's alpha of more than 0.50 for a reliable measure of internal consistency. Other scholars recommend a more conservative reliability score of 0.60 or higher as a minimum threshold to build a construct of multiple items (Nunnally and Bernstein, 1994; Uma and Roger, 2013). This more conservative threshold value was used in my dissertation.⁸¹

4.6.2 Description of individual-level variables

Upper echelons theory posits that strategic decisions have a large behavioural component and that choices are reflections of the idiosyncrasies of values and heuristics among executives (Hambrick, 2007; Hambrick and Mason, 1984). Previous research has found that observable demographic factors (e.g. age, formal education), human capital characteristics such as experience (e.g. task-specific and functional experience) and personality traits affect the decision-makers' cognitive model (i.e. heuristics and cognitive maps) and hence their decision-making behaviour (e.g., Finkelstein and Hambrick, 1990; Gerstner et al., 2013; Hitt and Tyler, 1991; Malhotra et al., 2018). Several variables were included in the questionnaire used in this study to describe the individual characteristics of corporate M&A decision-makers. For a summary and description of these variables, see Table 4-7 (p. 94).

Human capital characteristics:

Gender: Respondents were asked to indicate their gender, and the measure was operationalized as a dummy variable (0 = female; 1 = male). The variable was included in the questionnaire as management and social psychology research suggests that gender is an important characteristic of executives that serves as a proxy for individuals' opinions, cognitions, values and perceptions, which in turn influence strategic decision-making processes and outcomes (Eagly et al., 2003; Huang and Kisgen, 2013; Klenke, 2003; Levi et al., 2014; Parola et al., 2015; Tullett, 1995; Yang and Wang, 2014).

Age of respondent:⁸² Respondents were asked to indicate their year of birth. The variable was recoded manually in five categories (1 = < 35 years, 2 = 35–44 years, 3 = 45–54 years, 4 = 55–64 years, 5 = > 65 years). In upper echelons theory, the age of executives has

⁸¹ For an overview of different measurement scales and corresponding reliability values, see Table A4-5 (p. 295), Table A4-6 (p. 296) and Table A4-7 (p. 297) in the Appendix.

⁸² The age of respondents also serves as a proxy for individuals' general experience.

typically been found to be an indicator of decision-makers' level of experience (Hambrick and Mason, 1984; Herrmann and Datta, 2006) and career horizon (Matta and Beamish, 2008; McClelland et al., 2012). In particular, the variable serves as a proxy for an individual's risk-taking behaviour and willingness to undertake strategic change (e.g. Herrmann and Datta, 2006; Wiersema and Bantel, 1992). Prior research has demonstrated that the incentives to engage in acquisitions vary with an executive's age (Yim, 2013). Older executives generally strive for financial and career security and are more reluctant to engage in risky strategic choices (Hambrick and Mason, 1984; Matta and Beamish, 2008). In contrast, younger executives have been found to not only pursue riskier strategies (Hambrick and Mason, 1984) and evaluate riskier acquisition targets more favourably than older executives, but also to weight criteria differently (Hitt and Tyler, 1991).

Position in the firm: The current position of the respondent in the firm was measured in four categories, which represent corporate M&A decision-makers at different hierarchical levels: 1 = advisory/supervisory board member; 2 = member of the management board; 3 = head of and 4 = member of specialized department (e.g. M&A, corporate development, strategy, finance). The variable was included in the questionnaire as prior management research indicates that strategic decision processes and criteria used to make decisions may vary depending on the level of the executive in the firm (Hitt and Tyler, 1991; Ireland et al., 2011). The level of executives in the firm (i.e. top, middle or lower level) serves as a proxy for differences in information availability (Ireland et al., 2011) and in incentive compensation (Hoskisson et al., 1993). Scholars suggest that managers at different levels tend to concentrate on different tasks and find different salient information important (Ireland et al., 2011), which means that the type and amount of information available and relevant for making strategic decisions also varies across hierarchical levels (Hitt and Tyler, 1991). In addition, normally a larger part of executives' compensation is tied to firm performance compared with those at lower hierarchical levels. Prior research has found that managers who receive higher levels of equity-based compensation tend on the one hand to pay significantly lower acquisition premiums and on the other hand to favour target companies with higher growth opportunities, which are also often riskier (Datta et al., 2001, 2004).

Formal education level: The attained level of formal education captures respondents' highest educational qualification. The variable was coded in six categories (1 = below secondary school qualification, 2 = secondary school qualification or equivalent (e.g. Mittlere

Reife), 3 = university entry qualification (e.g. Abitur), 4 = bachelor's degree; 5 = master's degree, diploma or MBA, 6 = PhD, doctoral degree or higher). A high level of formal education is generally considered a proxy of an individual's cognitive ability (Pelled, 1996; Wiersema and Bantel, 1992), more abstract ways of thinking and problem-solving skills (Gibbons and Johnston, 1974; Wiersema and Bantel, 1992). An individual's ability to manage multiple and complex decision criteria is constrained by their cognitive abilities (March and Simon, 1958). Hence, educational level reflects an individual's capacity to perform leadership tasks such as driving change and handling administrative complexity (Westphal and Zajac, 1995). In addition, previous research has found that a higher educational level leads to a greater conformity in cognitive models, as experiences and perspectives become more focused and specialized (Hitt and Tyler, 1991).

Educational background: Respondents were asked to indicate the main focus of their education (e.g. business administration or economics, engineering, law, mathematics). The type of educational background, which represents the main area of study, was coded as a dummy variable. This operationalization is in line with prior research (Hitt and Tyler, 1991). The variable was included in the questionnaire as prior research indicates that the field of education impacts on individual decision-making behaviour (Hambrick and Mason, 1984). In particular, behavioural scholars posit that individuals with different educational backgrounds develop different knowledge bases and skill sets, meaning that they utilize different cognitive models when taking strategic decisions (Hambrick and Mason, 1984; Hitt and Tyler, 1991). In line with this, the researchers suggest that executives with an educational background in, for instance, engineering utilize different cognitive models than those with formal education in business administration or economics.

Individual experience:

Upper echelons theory (Hambrick, 2007; Hambrick and Mason, 1984) further suggests that executives' level of experience serves as a proxy for their cognitions, skills, values, knowledge base and risk-taking behaviour and therefore represents a powerful explanation for variations in their strategic choices. Hence, several measures of individual experience were included in the questionnaire used for this dissertation.

Organizational tenure: The variable organizational tenure was operationalized as the length of time a respondent has worked at the company, and was coded in five categories: (1 = < 1 year, 2 = 1–3 years, 3 = 4–5 years, 4 = 6–10 years, 5 = 11–15 years, 6 = 16–20 years, 7 = > 20 years). This operationalization is in line with prior literature (Herrmann and Datta, 2006). This variable was included in the questionnaire as scholars using upper echelons theory suggest that greater firm experience (i.e. a longer firm tenure) is an indicator of strategic persistence, cognitive rigidity and commitment to the status quo, and it is also associated with higher risk aversion in strategic decision-making (Finkelstein and Hambrick, 1990; Hambrick et al., 1993; Hambrick and Fukutomi, 1991; Herrmann and Datta, 2006; Wiersema and Bantel, 1992).

Functional experience: Respondents were asked to rate on a 5-point Likert-type scale (ranging from 1 = no knowledge to 5 = very high knowledge) their level of knowledge in the following areas: (1) accounting, (2) finance, (3) general management, (4) legal, (5) marketing, (6) operations. These questionnaire items have been included in the study as prior research suggests that the functional experience of decision-makers has an impact on strategic decision-making behaviour (Hambrick and Mason, 1984; Herrmann and Datta, 2006; Hitt and Tyler, 1991; Hoskisson et al., 2017). In particular, behavioural scholars argue that functional experience shapes the attitudes and knowledge of decision-makers and hence impacts on the way strategic decisions are framed and evaluated (Dearborn and Simon, 1958; Hambrick and Mason, 1984; Herrmann and Datta, 2006). In particular, scholars suggest that decision-makers with experience predominantly in “throughput-oriented” functions (e.g. manufacturing or operations, accounting, finance, process R&D) are characterized by a strategic decision-making behaviour that is directed towards control and operational efficiency (Hambrick and Mason, 1984). Moreover, greater experience in finance, accounting and law has been shown to result in more diversification via acquisitions (Finkelstein, 1992; Jensen and Zajac, 2004). In contrast, experience in “output-oriented” functions (e.g. sales, marketing, product R&D) has been associated with market-oriented strategic changes (Strandholm et al., 2004) and decision-making preferences that favour innovation and competitive market strategies (Gupta and Govindarajan, 1984).

Acquisition process experience (index): Individual acquisition experience was conceptualized as the amount of task-specific experience a corporate M&A decision-maker has acquired in the past. Participants were asked to indicate their level of acquisition process

experience with regards to five phases of the acquisition process on a 5-point Likert-type scale ranging from 1 = no experience to 5 = very high experience. The five items (process phases) measured are: (1) formulation of acquisition strategy; (2) target screening; (3) due diligence and valuation; (4) negotiation and (5) integration. The acquisition process experience measure was operationalized as a unidimensional scale by calculating the mean value of the five scale items. The Cronbach's alpha test produced a highly satisfactory result ($\alpha = 0.82$), which indicates that the acquisition process index represents a reliable construct (see Table A4-6, Appendix, p. 296). I included the measure in the questionnaire as past research has found that decision-makers with prior work experience in a particular task utilize information that fits with their experience (Cho and Hambrick, 2006) and this task-specific experience therefore influences strategic decision-making behaviour (Wang et al., 2016). Furthermore, higher acquisition experience may refine existing routines associated with making decisions and improve the ability of decision-makers to manage the acquisition process and select appropriate target companies (Chakrabarti and Mitchell, 2013; Haleblan et al., 2006; Kaul and Wu, 2015; Zollo and Winter, 2002).

Board experience: Respondents were asked to indicate the number of board seats they hold in other companies. The variable was operationalized into seven categories: 1 = none, 2 = 1 seat, 3 = 2 seats, 4 = 3 seats, 5 = 4 seats, 6 = 5 seats, 7 = > 5 seats. The measure was included in the questionnaire as prior research indicates that board connections and interlock networks have an influence on strategic choices such as acquisition decisions (Beckman and Haunschild, 2002; Cai and Sevilir, 2012; Davis, 1996; El-Khatib et al., 2015; Haunschild, 1993, 1994; Haunschild and Beckman, 1998; Malhotra et al., 2018). In particular, scholars suggest that higher board activity is associated with greater exposure to different strategic viewpoints (McDonald et al., 2008) and provides decision-makers with valuable information on the latest business practices, industry trends and market conditions (Haunschild, 1993; Malhotra et al., 2018). Acquisitions are critical strategic decisions that are usually discussed in board meetings. Hence, board networks may also be a source of learning for decision-makers on how to carry out and structure transactions and how to deal with critical topics in the M&A process (Haunschild, 1993).

Personality traits: To measure the personality traits of respondents, a ten-item measure of the five-factor model of personality (Big Five) was used.⁸³ The Ten Item Personality Inventory (TIPI) scale developed by Gosling et al. (2003) is a short measurement instrument for the five-factor model that captures the personality traits of individuals across five broad dimensions: agreeableness, conscientiousness, emotional stability, extraversion and openness to new experience (Gosling et al., 2003; Hofmans et al., 2008; Muck et al., 2007).⁸⁴ For a better understanding of the meaning behind these personality traits, a brief description is provided below.⁸⁵ The TIPI scale was measured on a 7-point Likert-type scale ranging from 1 = disagree strongly to 7 = agree strongly. Examples of items include: “I see myself as someone who is dependable, self-disciplined” (conscientiousness) or “I see myself as someone who is sympathetic/warm” (agreeableness). The survey respondents provided a self-assessment of their own personality in terms of these five personality traits.

The different personality trait scales (including indications of reverse-coded items) and the reliability of the measures are shown in Table A4-5 (p. 295) in the Appendix. The Cronbach’s alpha test for the personality trait scale (TIPI) showed the following results: emotional stability ($\alpha = 0.39$), extraversion ($\alpha = 0.75$), conscientiousness ($\alpha = 0.61$), agreeableness ($\alpha = 0.22$) and openness to experience ($\alpha = 0.45$). Three dimensions of the scale fall below the recommended minimum threshold of 0.6. These low internal consistency estimates, however, should not represent a major concern for the empirical analysis of this dissertation as the TIPI scale generally emphasizes content validity⁸⁶ (Gosling et al., 2003).

The five-factor model was included in the questionnaire as prior research has found that executives’ personality traits have an influence on strategic decision behaviour and outcomes (Chatterjee and Hambrick, 2007, 2011; Gerstner et al., 2013; Herrmann and Nadkarni, 2014; Hiller and Hambrick, 2005; Malhotra et al., 2018; Nadkarni and Herrmann, 2010). The

⁸³ Many thanks to Prof. Michael Stützer for his recommendations with respect to the operationalization of the 10-item personality trait scale.

⁸⁴ For the German version of the survey instrument, the validated German translation of the TIPI scale by Muck et al. (2007) was used in my dissertation.

⁸⁵ For a description of all five personality traits and their relationship with strategic conduct and issues such as transformational leadership, see for instance De Hoogh et al. (2005); Judge et al. (2002); McCrae and Costa (1987); Nadkarni and Herrmann (2010).

⁸⁶ The goal of Gosling et al. (2003) when designing TIPI was to create a short measurement scale that optimizes content validity. It is not an instrument that produces high Cronbach’s alphas, since each dimension only consists of two scale items (Gosling et al., 2003). For details, see the official website for Gosling’s TIPI scale: <https://gosling.psy.utexas.edu/scales-weve-developed/ten-item-personality-measure-tipi/a-note-on-alpha-reliability-and-factor-structure-in-the-tipi/> (accessed 29 May 2019).

personality traits serve as indicators for issues such as the willingness to engage in risky decisions, strategic flexibility, persistence and transformational leadership (e.g. Chatterjee and Hambrick, 2007, 2011; Herrmann and Nadkarni, 2014; Malhotra et al., 2018; Nadkarni and Herrmann, 2010).

Description of Big Five personality trait dimensions:

Agreeableness refers to the tendency of individuals to be altruistic, warm, generous, trusting and cooperative (McCrae and Costa, 1987). Agreeable individuals tend to be concerned with the interests of others, like to avoid conflicts (Bono and Judge, 2004) and are very submissive and conforming, even when they have different viewpoints (Graziano and Eisenberg, 1997). In contrast, disagreeable executives tend to promote a climate of competition and fear (Peterson et al., 2003), which is likely to lead to a culture that is inhibiting and constrains independent thinking (Nadkarni and Herrmann, 2010).

Conscientiousness refers to the tendency of individuals to be achievement-oriented, dependable and responsible. In addition, conscientious individuals are characterized by cautious and thoughtful behaviour and tend to stick to established rules and standards of conduct (McCrae and Costa, 1987). Highly conscientious executives who operate in dynamic environments tend to conform to rules and regulations rather than staying open and alert to new opportunities (De Hoogh et al., 2005).

*Emotional stability*⁸⁷ refers to the ability of individuals to cope with unstable or changing situations. Emotionally stable individuals tend to be self-confident, remain balanced and calm in stressful situations (McCrae and Costa, 1997) and provide focus and stability in dynamic situations (Peterson et al., 2003). Scholars also argue that emotionally stable executives are not afraid to adjust strategies when they think it is necessary, and they tend to challenge the status quo, which fosters strategic flexibility in organizations (Herrmann and Nadkarni, 2014; Nadkarni and Herrmann, 2010).

Extraversion refers to the tendency of individuals to be active, adventurous, assertive, bold, energetic, sociable, spontaneous and passionate (McCrae and Costa, 1987). Extraverted individuals tend to be very articulate, dominant and expressive in their interactions with other

⁸⁷ In this dissertation, the personality trait of *emotional stability* is used. Some scholars applying the five-factor model use the inverse trait of *neuroticism* (De Hoogh et al., 2005).

people (McCrae and Costa, 1987). These characteristics are important for persuading, influencing and mobilizing others and have been shown to be related to transformational leadership (Bono and Judge, 2004; Judge et al., 2002). In addition, extraverted executives tend to maintain extensive social networks within and outside their firms, leading to high exposure to new viewpoints (McDonald et al., 2008). Malhotra et al. (2018) argue that this socialization may lead to greater access to information on M&A opportunities, increasing the likelihood of being able to identify attractive target companies before others.

Openness to new experience refers to the tendency of individuals to be intellectually curious, imaginative, creative, thoughtful and attentive to new opportunities (McCrae and Costa, 1987). In addition, prior research has shown that executives who are characterized by openness tend to be risk-seeking (Judge et al., 2002), have a strong need for change and are able to adapt to different perspectives (Costa and McCrae, 1988). Scholars suggest that these personality characteristics in executives may foster strategic adaptation in dynamic environments (Datta et al., 2003). In contrast, individuals who are averse to new experiences tend to have a narrower perspective from which to evaluate and develop alternatives (Finkelstein Hambrick, 1986) and tend to act based on established routines and rely on past experience when making decisions (Datta et al., 2003).

Identity of decision-maker:

Prior research suggests that the identity of decision-makers, in particular that of founders and owners of firms, may have an impact on their entrepreneurial orientation and on strategic decision-making behaviour in organizations (e.g. Block, 2012; Block et al., 2011, 2013; Jaskiewicz et al., 2017; Miller et al., 2011; Miller and Le Breton-Miller, 2011). Scholars argue that the social context of the decision-maker may affect their cognitive frames and role identities, especially if they belong to distinct groups such as the business-owning family or the class of entrepreneurs (Miller et al., 2011). In the questionnaire, I included two dummy variables that capture whether the decision-maker is a **member of the business-owning family** (0 = not a family member; 1 = family member) or if she/he is an **entrepreneur** (0 = not an entrepreneur; 1 = entrepreneur).

Table 4-7: Description of individual-level variables

Variable	Description	Selected studies
Age of respondent	Variable serves as an indicator of general experience and career horizon and as a proxy of individual risk-taking behaviour and willingness to undertake strategic change. ⇒ Compared with younger executives, older executives tend to focus on career stability and engage in lower-risk projects.	Hambrick and Mason (1984) Hermann and Datta (2006) Hitt and Tyler (1991) Wiersema and Bantel (1992) Matta and Beamish (2008) McClelland et al. (2012) Yim (2013)
Gender	Variable serves as a proxy for opinions, cognitions, values and perceptions of decision-makers. ⇒ Female executives are associated with innovative behaviour, transformational leadership, higher risk aversion and less overconfidence in strategic decision-making.	Eagly et al. (2013) Hung et al. (2013) Klenke (2003) Parola et al. (2015) Tullett (1995) Yang and Wang (2014)
Position in firm	Variable serves as a proxy for differences in information availability and in incentive compensation plans. ⇒ It has been suggested that differences in information availability and incentive-based compensation both influence the criteria on which strategic decisions are based.	Datta et al. (2001, 2004) Hoskisson et al. (1993) Ireland et al. (2011) Tyler and Hitt (1991)
Formal education level	Variable serves as a proxy for cognitive ability, abstract ways of thinking and problem-solving skills. ⇒ A higher formal education level is associated with a greater capacity to perform complex leadership tasks and greater conformity in cognitive models.	Hitt and Tyler (1991) Westphal and Zajac (1995) Wiersema and Bantel (1992)
Educational background	Variable serves as a proxy for a decision-maker's innovative and risk-taking behaviour. ⇒ The field of educational background influences an individual's knowledge and skill base and hence the cognitive models used to make decisions.	Hambrick and Mason (1984) Hitt and Tyler (1991)
Organizational tenure (<i>firm experience</i>)	Variable serves as an indicator of strategic persistence, commitment to the status quo and cognitive rigidity. ⇒ Longer firm experience is associated with characteristics such as greater risk aversion, commitment to the status quo, narrower knowledge base and lower ability to recognize opportunities.	Finkelstein and Hambrick (1990) Hambrick and Fukutomi (1991) Hambrick et al. (1993) Herrmann and Datta (2006) Rajagopalan and Datta (1996) Wiersema and Bantel (1992)
Functional experience	The functional background influences the attitude and knowledge of decision-makers and shapes the way decisions are framed and evaluated. ⇒ "Throughput-oriented" functional experience leads to control and efficiency-oriented decision-making, whereas "output-oriented" functional experience is associated with decision-making preferences for innovation and competitive market strategies.	Hambrick and Mason (1984) Hitt and Tyler (1991) Herrmann and Datta (2006) Hoskisson et al. (2017) Finkelstein (1992) Gupta and Govindarajan (1984) Jensen and Zajac (2004) Strandholm et al. (2004)

Notes: Overview of literature on individual-level influences on decision-making.

⇒ Representative finding from past literature.

Table 4-7 (continued): Description of individual-level variables

Variable	Description	Selected studies
Acquisition process experience (<i>task-specific experience</i>)	⇒ Higher task-specific experience is supposed to refine existing routines and improves the ability of decision-makers to manage different phases of the acquisition process.	Charkabarti and Mitchell (2013) Cho and Hambrick (2006) Haleblian et al. (2006) Kaul and Wu (2015) Wang et al. (2016) Zollo and Winter (2002)
Board experience	Higher board experience is associated with greater exposure to different viewpoints, the latest business practices, market trends and acquisition opportunities. ⇒ Board networks influence acquisition decisions and acquisition premiums. ⇒ Through board networks, acquirers receive private information that may reduce asymmetric information on potential acquisition targets.	Beckman and Haunschild (2002) Cai and Sevilir (2012) El-Khatib et al. (2015) Haunschild (1993, 1994) Haunschild and Beckman (1998) Malhotra et al. (2018)
Personality traits (<i>Big Five</i>)	Personality traits serve as indicators for factors such as risk-taking behaviour, strategic flexibility and persistence and transformational leadership. ⇒ Extraverted CEOs are associated with bold acquisition decisions. ⇒ Emotional stability, extraversion and openness to new experience facilitate the initiation of strategic change; personality traits of CEOs such as agreeableness or conscientiousness hinder it.	Chatterjee and Hambrick (2007) Chatterjee and Hambrick (2011) Gerstner et al. (2013) Herrmann and Nadkarni (2014) Malhotra et al. (2018) Nadkarni and Herrmann (2010)
Identity of decision-maker (<i>member of business-owning family; founder</i>)	The social context impacts on the cognitive frame of a decision-maker. ⇒ The identity of the decision-maker has an impact on entrepreneurial orientation and strategic decision-making behaviour. ⇒ Family owners and managers frame strategic decisions in a way that avoids loss of SEW, and pursue more conservative and risk-averse strategies. ⇒ Founders (i.e. entrepreneurs) are more willing to take risky decisions.	Block et al. (2011, 2013) Block (2012) Gómez-Mejía et al. (2007) Berrone et al. (2012) Miller et al. (2011a, 2011b)

Notes: Overview of literature on individual-level influences on decision-making.

⇒ Representative finding from past literature.

4.6.3 Description of environment and firm-level variables

I have included several variables in the questionnaire to describe the environmental and organizational characteristics of participating companies as these factors have been found to influence strategic decision-making behaviour, organizational processes and outcomes. These variables are described in the following sections and summarized in Table 4-8 (p. 104).

Environmental, industry and general firm characteristics:

Nature of the external environment:⁸⁸ To capture the perceived nature of the environment in which the firm operates, I included two environmental measures in the questionnaire: environmental dynamism and environmental competitiveness. Specifically, respondents were asked to indicate their level of agreement on a 5-point Likert-type scale ranging from 1 = disagree strongly to 5 = agree strongly with the following four items, which are all based on scales used in prior literature (Jansen et al., 2006). The two items capturing environmental dynamism are: (1) our market environment is characterized by significant changes and (2) our customers regularly ask for new products or services. The *environmental dynamism index* addresses the rate of change and the degree of instability in the external environment of the firm (Dill, 1958; Jansen et al., 2006; Volberda and van Bruggen, 1997). The two items for environmental competitiveness are: (3) our company has strong competitors and (4) competition in our market environment is intense. The *environmental competitiveness index* reflects respondents' perception of how weak or strong their firms' competitors are and the extent to which the market environment is characterized by fierce competition among firms in the industry (Birkinshaw et al., 1998; Jansen et al., 2006; Jaworski and Kohli, 1993). To assess the reliability of these measures, I calculated the Cronbach's alpha for each of the two environmental indexes (see Table A4-6, p. 296 in the Appendix). The alpha reliabilities of the *environmental dynamism* and *environmental competitive* indexes were 0.65 and 0.84 respectively, indicating strong reliability for both measures.

The measures were included in the questionnaire as prior strategic management literature suggests that the attributes of the environmental context influence on the one hand the strategic decision-making process (Baum and Wally, 2003; Bourgeois and Eisenhardt, 1988; Fredrickson, 1984; Fredrickson and Iaquinto, 1989; Fredrickson and Mitchell, 1984; Goll and Rasheed, 1997; Judge and Miller, 1991; Shepherd and Rudd, 2014) and on the other hand the strategic behaviour of firms (Beckman et al., 2004; Brauer and Schmidt, 2006; Elbanna et al., 2017; Heeley et al., 2006; Mitchell et al., 2011). For instance, in uncertain and dynamic corporate environments, decision-makers tend to increase decision-making speed (Baum and

⁸⁸ For a discussion of the conceptualization of the corporate environment, see Sharfman and Dean (1991). For a summary of the literature on the influence of environmental factors on strategic decision-making process characteristics, see Hutzschenreuter and Kleindienst (2006); Rajagopalan, Rasheed and Datta (1993) and Shepherd and Rudd (2014). For a review of the literature on how the external environment shapes top management characteristics and behaviour, see Yamak et al. (2014).

Wally, 2003) by relying more on intuition (Khatri and Ng, 2010) or personal sources of information (Elenkov, 1997) rather than engaging in time-consuming comprehensive research. In contrast, executives of firms that operate in stable market environments exhibit more rational and comprehensive strategic decision-making than those operating in dynamic environments (Fredrickson, 1984; Fredrickson and Iaquinto, 1989; Fredrickson and Mitchell, 1984).

Industry: Respondents were asked to indicate the main industry in which their firm operates. The type of industry was coded as a dummy variable. The firms in the sample were classified into the following industries: (1) automotive; (2) aerospace and defence; (3) chemicals and chemical products; (4) electricity and gas; (5) financial services and insurance; (6) food and beverages; (7) mechanical engineering; (8) media and telecommunications; (9) pharmaceuticals; (10) rubber and plastics; (11) transport and logistics; (12) wholesale and retail trade; (13) other industries (e.g. biotechnology, construction and building materials, consumer goods, industrial services, information technology, semiconductors, steel, textiles). The industry dummies were included in the questionnaire, as prior research found that the objective criteria used by executives in strategic decision-making may vary across industries (Hitt and Tyler, 1991). For instance, an acquirer that is active in an R&D-intensive industry (e.g. pharmaceuticals or chemicals) might place a stronger weight on R&D capabilities when evaluating and assessing target companies than an acquiring firm that is active in a marketing-intensive industry (e.g. food and beverages or consumer goods).

Firm age: The variable firm age was coded manually by looking up companies' founding dates on their websites or the Amadeus database.⁸⁹ The variable was coded in such a way that it reflects the number of years since the company was founded (i.e. 2018 minus the founding year). The variable was included in the questionnaire as it is used by scholars as a proxy for organizational processes that change over time (Henderson, 1999; Naldi and Davidsson, 2014) and as an indicator of a firm's ability to seize new opportunities and anticipate future market demands (Naldi et al., 2007). In addition, in the context of family business research firm age serves as a proxy for the family generation currently in control and the family's accumulated experience that the business can draw on (Block, 2009, p. 20; Zellweger, Kellermanns, Chrisman, et al., 2012).⁹⁰

⁸⁹ Bureau van Dijk's Amadeus database is a comprehensive European company database containing information on private and public organizations.

⁹⁰ The variables firm age and generational stage are usually highly correlated, however, they are not identical (Zellweger, Kellermanns, Chrisman, et al., 2012).

Firm size 1 and 2: Firm size was measured using both the firm's total annual sales in the 2016 financial year (in € million) and the total number of employees. The variable total sales (firm size 1) was coded in eight categories (1 = < 2, 2 = 2–10, 3 = 11–50, 4 = 51–250, 5 = 251–500, 6 = 501–1,000, 7 = 1,001–5,000, 8 = > 5,000). The variable total number of employees (firm size 2) was also operationalized into eight categories (1 = < 10, 2 = 10–49, 3 = 50–499, 4 = 500–1,000, 5 = 1,001–3,000, 6 = 3,001–5,000, 7 = 5,001–10,000, 8 = > 10,000). These variables were included in the questionnaire as scholarly research suggests that the firm size moderates managerial decision-making behaviour (Humphery-Jenner and Powell, 2014; Miller et al., 2010; Moeller et al., 2004) and has an impact on the strategic decision-making process (Fredrickson and Iaquinto, 1989; Papadakis et al., 1998). First, with regards to strategic decision-making behaviour, the variable has been used as an indicator of risk-taking and overpayment (Hitt et al., 1990). In particular, prior research has revealed that there is a positive correlation between firm size and the number of acquisitions undertaken (Miller et al., 2010) and that larger firms tend to offer higher acquisition premiums and engage in deals with more negative synergy gains (Moeller et al., 2004). Second, with regards to the decision-making process, the firm size serves as a predictor of analytical intensity and comprehensive and rational decision-making (Fredrickson and Iaquinto, 1989; Papadakis et al., 1998). Scholars suggest that larger firms employ more comprehensive and rational strategies (i.e. more formal and analytical processes) in their strategic decision-making than smaller firms.

Relative firm performance: Respondents in the survey were asked to rank, on a 5-point Likert-type scale ranging from “1 = much worse” to “5 = much better”, how their companies were performing in terms of *profitability* and *sales growth* relative to their competitors. I applied a subjective measure of performance as the majority of firms in the sample are privately owned,⁹¹ meaning that public information is scarce (Love et al., 2002), and as the disclosure of objective performance metrics (i.e. detailed financial or accounting data) was considered to be too sensitive for executives (Priem, 1994).⁹² In addition, comparison of performance with competing firms also presents a control for differences in performance that may be due to the industry (Dess et al., 1990). In order to reflect the multidimensionality of the performance measure, I chose two different performance items that are based on prior research (Eddleston,

⁹¹ See descriptive statistics related to firm-level variables in Section 4.8.2 (p. 119 et seq.).

⁹² Subjective, self-reported performance measures like the one used in my dissertation are frequently used in strategic management and family business research (Eddleston, Otondo, et al., 2008; Eddleston and Kellermanns, 2007; Priem, 1994; Zellweger, Kellermanns, Chrisman, et al., 2012). These measures have been found to correlate with objective performance constructs (Ling and Kellermanns, 2010).

Kellermanns, et al., 2008; Zellweger, Kellermanns, Chrisman, et al., 2012). The two individual scores were summed up to create an overall *relative firm performance index*, with high values connoting a better firm performance relative to competitors. The Cronbach alpha test for the measure produced a satisfactory result ($\alpha = 0.62$), which indicates that the *relative firm performance index* represents a reliable construct (see Table A4-6, Appendix, p. 296).

The measure was included in the questionnaire as prior research suggests that strategic decisions that involve risks may result in decision-makers comparing their own firm with external competitive benchmarks (Fiegenbaum et al., 1996; Kotlar, De Massis, et al., 2014). The financial performance and relative market power of competitors are considered two examples of competitive benchmarks that serve as external reference points for decision-makers (Porter, 1980). Scholars argue that a comparison with external competitive benchmarks guides the strategic risk-taking behaviour of decision-makers, especially in the event of performance hazards or when a firm faces a threat due to an increase in its competitors' market power (Kotlar et al., 2013; Kotlar, De Massis, et al., 2014).

Listed firm (vs non-listed): Respondents were furthermore asked to indicate whether their firm is listed on the stock exchange. The variable was operationalized as a dummy variable (0 = private firm; 1 = listed firm). The measure was included in the questionnaire as prior research suggests that private and public firms differ in their investment behaviour when it comes to expanding a company through acquisitions (Asker et al., 2011, 2015). The research shows that private firms are more responsive to investment opportunities and invest more than half as much than their publicly owned counterparts (Asker et al., 2011). The authors suggest that these difference in investment behaviour are mainly related to “managerial myopia” (i.e. managerial short-termism), which describes the tendency of executives in public firms to favour short-term profits over long-term gains (Asker et al., 2011, 2015).

Entrepreneurial orientation (EO) has emerged as an important concept in the strategic management, entrepreneurship and family firm literature.⁹³ The EO scale refers to a firm's strategic orientation and was included in the questionnaire as it captures entrepreneurial aspects of organizations' practices, choices and decision-making styles (Covin and Slevin, 1989, 1991; Lumpkin and Dess, 1996; Rauch et al., 2009; Wiklund and Shepherd, 2005). EO was measured

⁹³ For a discussion and overview of literature on entrepreneurial orientation, see for instance Cruz and Nordqvist (2012); Engelen et al. (2015); Lomberg et al. (2017); Rauch et al. (2009) and Wales (2016).

in my dissertation research project based on the traditional Miller/Covin and Slevin scale (Covin and Slevin, 1989, 1991). This scale consists of nine items and includes three subdimensions: innovativeness, proactiveness and risk-taking.⁹⁴

Table A4-7 (Appendix, p. 297) provides an overview of the nine-item EO scale as used in my dissertation and outlines the reliability of the different EO measures.⁹⁵ On the basis of the Cronbach's alpha test, the *unidimensional index* of EO produced a highly satisfactory result ($\alpha = 0.71$), which indicates that it represents a reliable construct. In addition, I analysed the internal consistency reliability of the three EO subscales. While the alpha for the *innovativeness index* ($\alpha = 0.71$) and the *risk-taking index* ($\alpha = 0.78$) produced satisfactory results, the alpha for the three-item *proactiveness index* ($\alpha = 0.49$) fell below the minimum threshold of 0.60. To circumvent this reliability issue, in the end I excluded the ambivalent EO item from the proactiveness index that captures "competitive aggressiveness", which led to an acceptable Cronbach's alpha value of 0.66. The reduced *proactiveness index*⁹⁶ was used both in the descriptive statistics of Section 4.8 (p. 114 et seq.) and in the empirical analysis of Chapter 5 and Chapter 6.

Description of EO dimensions:

Innovativeness refers to a firm's efforts and willingness to engage in new ideas, experimentation and creative processes that may result in new technological processes, products/services and markets (Lumpkin and Dess, 1996; Rauch et al., 2009). The *innovativeness index* included in the study therefore reflects the top management's emphasis on issues like new product development and technological leadership.

Proactiveness refers to a firm's efforts and willingness to recognize and seize potential new business opportunities (Lumpkin et al., 2010; Lumpkin and Dess, 2001). Proactive firms generally take an active stance and are characterized by a forward-looking attitude, since these

⁹⁴ In the scholarly literature, there exists an alternative conceptualization of EO with two additional dimensions, "autonomy" and "competitive aggressiveness" (Lumpkin and Dess, 1996). However, the EO construct with three dimensions is the most widely used framework in the entrepreneurship and strategic management literature (Rauch et al., 2009). Hence, in my dissertation I used an EO construct with three dimensions.

⁹⁵ The EO scale has been conceptualized in the scholarly literature both as a unidimensional and as a multidimensional construct, and scholars have also varied in the number of items used within each of the EO subdimensions (Runyan et al., 2012). Most scholars that deviated from the original nine-item scale used an eight-item version of the EO measure (Kreiser et al., 2002, 2013; Lomberg et al., 2017).

⁹⁶ Many thanks to Prof. Christoph Stöckmann for his recommendations with respect to the operationalization of the EO construct and the treatment of the ambivalent item in the proactiveness scale.

firms tend to incorporate anticipated future developments in the market and industry into current actions (Lumpkin and Dess, 1996; Venkatraman, 1989). The *proactiveness index* therefore captures the firms' propensity to initiate changes in the marketplace.

Risk-taking refers to a firm's willingness to undertake risky resource commitments and strategic actions without knowing exactly what the probable outcomes are (Covin and Slevin, 1991). Risky activities include acts such as venturing into new and untested markets, investing in unproven technologies or committing financial and firm resources to activities with uncertain outcomes (Baird and Thomas, 1985; Lumpkin and Dess, 2001; Wiklund and Shepherd, 2005). The *risk-taking index* included in the study therefore captures risk-taking preferences and the tendency of firms to pursue opportunities in a fearless manner.

Ownership structure: Firms may be owned by different types of blockholders. Prior literature posits that blockholder preferences are heterogeneous in terms of risk-taking, strategic decision-making and investment horizons (Cho et al., 2019; Gaspar et al., 2005; Krause et al., 2014; Leitterstorf and Wachter, 2016; Miller et al., 2010). In line with this, scholars suggest that the goals of and motives for engaging in acquisitions may differ among firms with different ownership structures (Angwin, 2007; Halebian et al., 2009; Worek et al., 2018). For this reason it is recommended to differentiate between ownership types when studying firm-level strategic activities such as acquisitions (Achleitner et al., 2018; Connelly et al., 2010; Leitterstorf and Wachter, 2016).⁹⁷ To get an idea about the ownership structure of firms in the sample, respondents were asked to indicate whether their company is partly or fully owned by (1) one family, (2) multiple families, (3) a family foundation and/or (4) one or more external blockholders (e.g. institutional investor, bank, private equity company). The items for the variable **blockholder category**⁹⁸ were operationalized as dummies. Hence, in the questionnaire for my dissertation, I accounted for two categories of blockholders: external blockholders (e.g. institutional investors, banks, private equity companies) and family firms.

⁹⁷ For an overview of corporate ownership structures, see Connelly et al. (2010).

⁹⁸ In the Web-based questionnaire, the variable *blockholder category* was used to technically implement a "skip logic". Hence, if the respondent clicked on category 1, 2 or 3 then she/he was asked to fill in the family-firm-specific questions; otherwise the family firm part of the questionnaire was skipped.

External blockholder: The variable external blockholder was operationalized as a dummy variable (0 = not an external blockholder; 1 = external blockholder) from the *blockholder category* variable and captures whether the company is partly or fully owned by one or more external blockholders such as banks, institutional investors or private equity funds. External blockholders are shareholders with no relationship to the firm besides their ownership stake. The variable was included in the survey as prior research suggests that external blockholders with a significant ownership stake in the firm may influence corporate strategy through their monitoring activities (Hansen and Hill, 1991; Kroll et al., 1997; Shleifer and Vishny, 1986). Hence, they also exert a high degree of influence on M&A decisions as these corporate development activities are usually discussed in board meetings (Wright et al., 2002). Scholars suggest that external blockholders are primarily driven by financial decision criteria and profit maximization (Miller et al., 2010) and tend to have shorter investment horizons (Cho et al., 2019) compared with internal blockholders such as family business owners.

M&A-related firm-level variables:

The questionnaire for my dissertation incorporated three measures of **organizational acquisition experience**: (1) overall organizational acquisition experience, (2) acquisition intensity and (3) serial acquirer. According to the M&A literature, organizational acquisition experience serves as a proxy for a firm's acquisition capabilities (Laamanen and Keil, 2008). The three acquisition experience measures were included in the questionnaire as prior research suggests that acquisition experience has an impact on the acquisition decisions taken by firms and on their outcomes (Barkema and Schijven, 2008; Chao, 2018; Haleblian et al., 2006; Haleblian and Finkelstein, 1999; Hayward, 2002).

Organizational acquisition experience (overall): To operationalize this measure respondents were asked to indicate how many acquisition projects (i.e. terminated and completed transactions) the company has been involved in during the past five years. This measure was operationalized as a categorical variable (1 = none, 2 = 1–5, 3 = 6–10, 4 = 11–15, 5 = > 15) and captures the overall organizational acquisition experience of a firm in both terminated and completed transactions. Prior research shows that in practice more than 70 percent of firms' M&A initiatives are actually terminated during the course of the pre-acquisition process (Angwin et al., 2015; Weiber and Mühlhaus, 2009; Wong and O'Sullivan, 2001). As acquirers also accumulate M&A capabilities from projects that are terminated before

deal closure, the measure was included to capture the overall organizational acquisition experience of firms in the sample.

Acquisition intensity: The variable acquisition intensity was conceptualized by asking respondents to indicate how many firms their company had acquired in the past five years. The measure was operationalized (as above) into the following five categories (1 = none, 2 = 1–5, 3 = 6–10, 4 = 11–15, 5 = > 15) and captures the level of knowledge and skills an organization has developed through past deals. The measure was operationalized in line with prior M&A experience studies⁹⁹ (e.g. Haleblian and Finkelstein, 1999; Haleblian, Kim and Rajagopalan, 2006; Kroll et al., 1997).

Serial acquirer: The variable serial acquirer was manually coded from the variable *acquisition intensity* and captures acquirers that have completed more than ten acquisitions in the past five years. It was coded as a binary variable (0 = not a serial acquirer; 1 = serial acquirer). Serial acquirers are companies that proactively conduct a series of interrelated acquisitions within the scope of a “buy-and-build” strategy that is part of a larger corporate development programme, rather than making acquisitions only occasionally (Hansell et al., 2014; Laamanen and Keil, 2008).

Acquisition motives: Respondents were asked to rate (on a 5-point Likert-type scale ranging from 1 = unimportant to 5 = very important) how important the following acquisition motives are for their organization: (1) realizing synergies, (2) achieving greater scale and lower operating costs, (3) meeting growth objectives, (4) extending into new products or markets, (5) diversifying risks, (6) gaining access to technical or managerial talent, (7) gaining access to new technologies/R&D know-how, and (8) gaining access to innovative/disruptive business models. All eight Likert items were developed on the basis of prior scholarly literature (Angwin, 2007; Bower, 2001; Calipha et al., 2010; Christensen et al., 2011; Trautwein, 1990). These questionnaire items have been included in the questionnaire as prior research suggests that acquisition motives are a reflection of acquirers’ strategic intent (Bower, 2001) and capture the gaps in the strategic positioning that a firm wants to close with a deal (Becker, 2016, p. 302).

⁹⁹ For a comprehensive review of the role of acquisition experience and different measures of acquisition experience, see Barkema and Schijven (2008).

Table 4-8: Description of environmental and firm-level variables

Variable	Description	Selected studies
Environment and industry characteristics:		
External environment	⇒ The nature of the environment has an influence on strategic decision-making process characteristics (e.g. speed, comprehensiveness) and the strategic behaviour of firms (e.g. acquisition intensity).	Beckman et al. (2004) Heeley et al. (2006) Elbanna et al. (2017) Mitchell et al. (2011) Shepherd and Rudd (2014)
Industry	Decision criteria applied by acquirers may vary in different industries. ⇒ A firm active in an R&D-intensive industry puts more weight on R&D capabilities than a firm active in a marketing-intensive industry.	Hitt and Tyler (1991)
General firm characteristics:		
Firm age	The variable serves as an indicator of - organizational processes that change over time - the firm's ability to seize new opportunities - the generation of the family currently in control	Henderson (1999) Naldi and Davidsson (2014) <i>Family firm context:</i> Block (2009, p. 20) Zellweger, Kellermanns et al. (2012)
Firm size (of acquirer)	The variable serves as an indicator of - risk-taking and overpayment - analytical intensity ⇒ Larger firms tend to overpay for acquisitions and use more formal and analytical decision-making processes.	Fredrickson and Iaquinto (1989) Hitt et al. (1990) Humphery-Jenner and Powell (2014) Papadakis et al. (1998) Miller et al. (2010) Moeller et al. (2004)
Relative firm performance	The measure serves as a reference point that guides strategic decision-making behaviour.	Fiegenbaum et al. (1996) Kotlar et al. (2013) Kotlar, De Massis et al. (2014)
Listed firm	The type of company serves as an indicator of the time horizon of investments. ⇒ Public firms tend to favour short-term profits over long-term gains (managerial myopia).	Asker et al. (2011, 2015)
Entrepreneurial orientation	The measure captures the extent to which a firm is characterized by decision-making behaviour that is innovative, proactive and risk-taking.	Covin and Slevin (1989, 1991) Lumpkin and Dess (1996, 2011) Rauch et al. (2009)
M&A-specific variables:		
Organizational acquisition experience measures ¹	The measures serve as a proxy for a firm's acquisition capabilities. ⇒ Firms with greater acquisition experience develop routines that help them to familiarize themselves with the acquisition process.	Barkema et al. (2008); Chao (2018); Laamen and Keil (2008) Hansell et al. (2014) Haleblian and Finkelstein (1999) Haleblian et al. (2006)
Acquisition motives	The variables serve as an indicator of the strategic intent behind an acquisition.	Angwin (2007); Bower (2001) Calipher et al. (2010) Trautwein (1990)
Ownership structure:		
Ownership structure	It is suggested that firms with different ownership structures have distinct investment horizons, decision-making preferences and acquisition goals/motives.	Cho et al. (2019) Gaspar et al. (2005); Kraise et al. (2014) Leitterstorf and Wachter (2016) Worek et al. (2018)
External blockholder	⇒ External blockholders (e.g. institutional investors) influence the strategic decisions of portfolio firms through their monitoring activities.	Cho et al. (2019) Hansen and Hill (1991) Kroll et al. (2002) Wright et al. (2002)

Notes: ¹ The questionnaire included three organizational acquisition experience variables.
⇒ Representative finding from past literature.

4.6.4 Description of family firm-specific variables

A major research objective of my dissertation is to analyse whether there are differences between family and non-family firms and within the group of family firms with regards to the importance attached to different screening criteria and their M&A decision-making patterns. Hence, the questionnaire also includes variables that capture characteristics of family firms such as ownership concentration, governance, generational stage and transgenerational intention (see Table 4-10, p. 110). I established all these items on the basis of prior family business literature.

Definitions used to determine the group of family firms:

In the empirical analysis of Chapter 5 and Chapter 6, I analyse decision-making patterns and compare the M&A decision-making preferences of family-owned firms with those of non-family firms, and also examine the heterogeneity among the group of family firms. To address these research objectives, an operationalization of family firm definitions is necessary. For the operationalization of family firm definitions in this dissertation, I referred to guidelines and recommendations established in prior family business literature.¹⁰⁰ Hence, to distinguish between the groups of family and non-family firms, I applied three different family firm definitions that fit the research context and research question of my dissertation (see Table 4-9, p. 107). Using several family firm definitions is necessary in order to compare empirical results and test the robustness of the findings (Block, 2009, p. 12).

Family firm1 serves as the baseline definition and is used to determine the groups of family and non-family firms in both the descriptive results section of this chapter and the empirical findings of Chapter 5 and 6. The definitions **family firm2** and **family firm3** are used for the robustness test. In each family firm definition described below, I classified family firms by using a dummy variable (equal to 1). In addition, the term “family” is defined in a broad and inclusive way and includes natural persons who either founded the firm or acquired the share capital of the firm, and also includes the founder’s spouse, parents, children and children’s

¹⁰⁰ An operationalization of a family firm definition must fit the research question, the research context and the cultural and legal environment of a study (Block, 2009; Gómez-Mejía, Cruz, Berrone and De Castro, 2011). In addition, the following aspects should be accounted for: the size and type of firms (listed on the stock exchange vs non-listed) in the sample, the ownership structure and ownership thresholds, and the corporate governance system of a given study context (Block, 2009, p. 9 et seq.). In addition, an operationalization should account for the channels of family involvement and, if possible, a distinction between ownership, management and control should be made (Matzler et al., 2015; Villalonga and Amit, 2006; Zellweger et al., 2010).

direct heirs. This definition of the “family” concept is based on definitions of the European Commission (2009) and Stiftung Familienunternehmen (2007). The family firm variables collected and definitional approaches used in my dissertation research project are described in the following sections.

Family firm I (*narrow family firm definition*): In line with previous family business literature,¹⁰¹ this definition is an application of the components-of-involvement approach and is based on the criteria of ownership and involvement. I classified firms in the sample as family firms if the following two conditions were satisfied:

- (1) Ownership criterion: In a private firm (i.e. not listed on the stock exchange) at least 50 percent of the total equity is family-owned (including stakes of family foundations). A public firm (i.e. listed on the stock exchange) is considered a family firm if at least 25 percent of the total equity is family-owned (including stakes of family foundations).
- (2) Involvement criterion: One or more members of the business-owning family is represented in either the management board or in the advisory/supervisory board of the firm.

As the sample includes both listed and non-listed firms (see Figure 4-8, p. 119), I used two different ownership thresholds to account for the fact that private (public) firms have more concentrated (widely dispersed) ownership structures (Block, 2009, p. 14).¹⁰² In line with prior empirical studies focusing on Germany (Andres, 2008; Schmid et al., 2015; Volk, 2013), the minimum ownership threshold to classify a firm as a family firm was set at > 50 percent for non-listed firms and > 25 percent for listed firms. A 25 percent ownership threshold was chosen for listed firms as it represents a critical control threshold (i.e. blocking minority) in accordance with the German Stock Exchange Act.¹⁰³

¹⁰¹ For an overview of different family definitions used in prior literature, see Steiger et al. (2015).

¹⁰² Two threshold values for private and public firms are used as a 25 percent ownership stake in a listed firm provides greater influence on a firm’s decisions than a 25 percent ownership stake in a non-listed firm.

¹⁰³ In German listed firms, important corporate decisions (e.g. changes in articles of incorporation, employment and dismissal of supervisory board members, capital increases/decreases) require a supermajority of at least 75 percent of all votes in the shareholder assembly. Hence, a 25 percent ownership threshold was used for listed firms because it represents a “blocking minority” in accordance with the German Stock Corporation Act.

The operationalization of *family firm1* is similar to the definitional approach used in a recent study on the growth of German family firms (Seibold, Kormann and Lantelme, 2019, p. 5). It also corresponds to the recommendations of the European Commission (2009) and Stiftung Familienunternehmen (2007).

Family firm2 (*broad family firm definition*): This definition is a more inclusive approach to defining a family firm as it does not refer to any specific ownership thresholds. I manually coded the variable on the basis of the variables *blockholder category* and *family involvement*. According to this definitional approach, a firm is considered a family firm if it is partly or fully owned by one or more families or a family foundation and if at least one family member is involved in the top management or has a seat on the supervisory/advisory board of the firm. This definition is similar to the family firm definition used by Naldi et al. (2007).

Family firm3 (*subjective family firm definition*): To differentiate between family and non-family firms, I furthermore included a subjective and self-reported measure in the questionnaire that asked respondents whether they consider their company to be a family firm. The variable *family firm3* was operationalized as a dummy variable (0 = non-family firm; 1 = family firm). Such a subjective assessment by respondents is not ideal, however, it is a common approach in the family firm literature (Eddleston et al., 2012; Martin et al., 2016; Vandemaele and Vancauteran, 2015).

Table 4-9: Family firm definitions used in the dissertation

No.	Definition	Variable
1	A listed (non-listed) firm is a family firm if > 25% (> 50%) of the total equity is family-owned (including stakes of family foundations). <u>In addition</u> , at least one member of the business-owning family is either represented in the management or in the advisory/supervisory board.	Family firm1 ^a (narrow definition)
2	A firm is a family firm if it is partly or fully owned by one or more families or a family foundation <u>and</u> at least one member of the business-owning family is either represented in the management or in the advisory/supervisory board.	Family firm2 ^b (broad definition)
3	Subjective assessment of the survey respondent that firm is a family firm	Family firm3 ^b (subjective definition)

Notes:

^a *Family firm1* is used for descriptive results and statistical analysis in the empirical chapters.

^b *Family firm2* and *family firm3* are used to test the robustness of the findings.

To measure the **concentration of family ownership** respondents were asked to indicate what percent of the total equity of the firm is family-owned, including stakes of family foundations. The variable captures the distribution of equity in the organization and was operationalized into five categories: 1 = less than 5 percent, 2 = between 5 and 25 percent, 3 = between 26 and 50 percent, 4 = between 51 and 75 percent, 5 = between 76 and 100 percent. The categorical measure was included in the questionnaire as past scholarly research suggests that the ownership concentration of a firm has implications for risk-taking behaviour, diversification and acquisition decisions (Denis et al., 1997; Lane et al., 1998, 1999; Miller et al., 2010; Morck et al., 1990). More specifically, scholars have shown that with increasing levels of family ownership, family shareholders are less likely to engage in risky investment projects such as high-technology acquisitions (André et al., 2014). Miller et al. (2010) furthermore found that the propensity to undertake diversifying acquisitions increases with the level of family ownership. In addition, agency scholars have shown that the scale and volume of acquisitions generally decrease with increasing ownership concentration (Caprio et al., 2011; Denis et al., 1997; Lane et al., 1998, 1999; Morck et al., 1990; Shleifer and Vishny, 1997).

To get an idea about the type of family involvement in the firm, respondents were asked in the questionnaire to indicate in what organizational bodies the business-owning family(ies) is (are) represented. The variable **family involvement** was operationalized into four categories: 1 = in the advisory board¹⁰⁴ (in German: Beirat), 2 = in the supervisory board (in German: Aufsichtsrat), 3 = in the management board, 4 = other. The measure was included in the questionnaire because it reveals the channels through which the business-owning family can influence the strategic decisions of firms. Whereas all family businesses are partly or fully owned by one or more families, only some of them are actually led and managed by members of the business-owning family. Usually, family management takes a form such that a founder or a family descendent is involved in the top management of the firm (Miller and Le Breton-Miller, 2006). Hence, in this dissertation I do not exclusively rely on family ownership as the defining characteristic of family firms but distinguish between family management and family

¹⁰⁴ In the German business environment, advisory boards play an important role in the governance of (family) firms. The advisory board may have an advisory, directive or controlling function. When a critical firm size is reached, then non-listed firms are legally obliged in Germany to install a supervisory board (Bachmann, 2015). In those instances, family firms often install an additional advisory board, which may be regarded as a plenary for major shareholders to coordinate issues such as the voting choice (Kormann, 2017, p. 406). An example of such a company is the German family firm Giesecke + Devrient GmbH. For details and literature review on the role of advisory boards, see Kormann (2017, p. 387 et seq.) and Henseler (2006).

ownership. In line with this, I created a dummy variable, **family management**¹⁰⁵ (from category 3), to capture family firms in which the business-owning family is actively involved in the running of the firm through representation in the management board.

Transgenerational intention:¹⁰⁶ Respondents were asked in the questionnaire how likely they believe it is that the business-owning family will pass on the firm to future family generations. The variable *transgenerational intention2* was measured in the questionnaire in five categories (1 = very unlikely; 2 = unlikely; 3 = likely; 4 = very likely; 5 = I don't know). For the statistical analysis in Chapter 6, I recoded the variable into the dichotomous measure *transgenerational intention1* (0 = no transgenerational intention, 1 = transgenerational intention). The measure was included in the questionnaire as previous family business literature suggests that transgenerational control intentions are a primary driver of socioemotional wealth in family firms, thereby helping to explain variations in family firm behaviour (Chrisman et al., 2012; Chrisman and Patel, 2012; Gómez-Mejía et al., 2007; Zellweger et al., 2013; Zellweger, Kellermans, Chrisman, et al., 2012). In addition, other scholars suggest that non-economic family-specific goals such as transgenerational intention are indicators of a long-term orientation in decision-making (Chrisman and Patel, 2012; Gu et al., 2016; Kammerlander and Ganter, 2015).

Generational stage:¹⁰⁷ To capture the generational stage of the family firm, survey respondents were asked to indicate what ownership generation the family firm is currently in. The variable was measured in four categories: (1) "first generation", (2) "second generation", (3) "third generation" and (4) "fourth or later generation". This operationalization is in line with prior research (Binacci et al., 2016; Ling and Kellermans, 2010; Vandemaele and Vancauteran, 2015). The variable was included in the analysis as past research suggests the attitudes, objectives, governance needs and strategic behaviour of family firms may change across generations (Bammens et al., 2008; Chrisman and Patel, 2012; Cruz and Nordqvist, 2012; Gersick et al., 1997; Sciascia et al., 2014; Vandemaele and Vancauteran, 2015). In particular, scholars posit that the generational stage serves as an indicator of the importance attached to non-economic goals and SEW considerations in decision-making. While family

¹⁰⁵ The variable *family management* is expected to be one of the main moderators of the family firm acquirer target screening decisions, as investigated in Chapter 6.

¹⁰⁶ The variable *transgenerational intention* is expected to be one of the main moderators of the family firm acquirer target screening decisions, as investigated in Chapter 6.

¹⁰⁷ The variable *generational stage* is expected to be one of the main moderators of the family firm acquirer target screening decisions, as investigated in Chapter 6.

firms in earlier generations tend to focus on non-financial objective goals, later generations emphasize the need to increase economic wealth (Gómez-Mejía et al., 2011; Gómez-Mejía et al., 2007; Sciascia et al., 2014; Vandemaele and Vancauteran, 2015). In this dissertation, the generational stage measure serves as a proxy for the importance attached to SEW considerations and as an indicator of identification with and emotional attachment to the firm.

Table 4-10: Description of family firm-specific variables

Variable	Description	Selected studies
Concentration of family ownership	The variable serves as a proxy for risk-taking behaviour in strategic decisions. ⇒ A higher ownership concentration is associated with a higher risk aversion (lower scale and scope of acquisitions; fewer high-tech M&A).	André et al. (2014) Caprio et al. (2011) Denis et al. (1997) Lane et al. (1998, 1999) Miller et al. (2010) Morck et al. (1990)
Family management/ family involvement in governance	The variable serves as a proxy for the strength of SEW preservation. ⇒ Family involvement signals a stronger attachment to SEW priorities.	Block et al. (2013) Gomez et al. (2010) Requejio et al. (2018)
Generational stage	The variable serves as a proxy for the emphasis put on non-economic goals vs economic goals in family firm decision-making. ⇒ Family firms at later generational stages place emphasis on financial wealth, and the preservation of SEW becomes less important.	Chrisman and Patel (2012) Gersick et al. (1997) Gómez-Mejía et al. (2007) Sciascia et al. (2014) Vandemaele and Vancauteran (2015)
Transgenerational intention	The variable serves as a proxy for - risk-taking behaviour and the importance of SEW in decision-making. ⇒ An emphasis on transgenerational control intention can foster the pursuit of other SEW goals and result in risk-averse decision-making behaviour. - temporal orientations in decision-making (i.e. long-term orientation). ⇒ An emphasis on transgenerational control intention may foster strategic decisions that require a long-term investment horizon.	Chrisman and Patel (2012) Gu et al. (2016) Hoffmann et al. (2017) James (1999) Kammerlander and Gantner (2015) Sirmon and Hitt (2003) Zellweger (2007) Zellweger et al. (2012a)

Notes: Overview of literature on family firm-level variables included in the questionnaire.

⇒ Representative finding from past literature.

4.7 Examination of potential biases in data collection (data quality tests)

In this section, I assess the quality of the collected data by testing for the validity of answers and the predictive ability of the conjoint experiment. To detect potential data collection biases, I performed various data quality tests: (1) a test of non-response bias by comparing characteristics of respondents with non-respondents, (2) a test of decision-making patterns and duration per choice task in the conjoint experiment and (3) an assessment of conjoint experiment validity on the basis of holdout choice tasks.

4.7.1 Test of non-response bias

To investigate whether my dissertation study is subject to a non-response bias (Armstrong and Overton, 1977; Dalecki et al., 1993; Rogelberg and Stanton, 2007), I compared the corporate M&A decision-makers who did participate in the survey with those who did not participate. This was done by using a two-sample t-test of equality of means and a two-sample test of proportions on the following four variables: gender, position held in the company, firm size and firm location. A non-response bias exists if the comparison of respondents and non-respondents shows that the two groups have significantly different characteristics.

As shown in Table 4-11, no statistically significant difference ($p < 0.10$) was found between respondents and non-respondents for the variables gender ($p = 0.23$), firm size ($p = 0.45$) and firm location ($p = 0.17$), mitigating potential concerns of a non-response bias. A statistically significant difference between the groups of respondents and non-respondents was found for the variable position ($p < 0.01$). The difference can be explained by the extremely large effort required to get management board members to participate in surveys. Out of all potential respondents contacted (initial sampling frame: $N = 1,382$), 75% were management board members ($N = 1,041$). The response rate among management board members was fairly low as merely 157 out of 1,041 (15.1%) decided to participate, which obviously distorts the calculations. Furthermore, the difference between the respondents and non-respondents in the variable *position* can be explained by the lower proportion of supervisory board members (2.04%) and heads (9.28%) and members of (6.68%) specialized departments in the non-respondent sample.

Table 4-11: Test of non-response bias

Variable	Non-respondents (N = 1,078)	Respondents (N = 304)	Δ between samples and statistical significance test ¹⁾
Individual characteristics			
Gender (<i>male in %</i>)	93.14%	91.12%	-2.02%
Position (in 4 categories):	2.21	2.45	0.24***
Member of advisory/supervisory board (<i>in %</i>)	2.04%	9.21%	7.17%***
Member of management board (<i>in %</i>)	82.00%	51.64%	-30.36%***
Head of specialized department (<i>in %</i>)	9.28%	24.34%	15.06***
Member of specialized department (<i>in %</i>)	6.68%	14.80%	8.12%***
Firm characteristics			
Firm size 1: total sales (in 8 categories)	5.75	5.67	-0.08
Firm location (country):	1.14	1.08	0.06
Germany (<i>in %</i>)	94.25%	95.39%	1.14%
Austria (<i>in %</i>)	0.93%	1.32%	0.39%
Switzerland (<i>in %</i>)	1.86%	1.32%	-0.54%
Other (<i>in %</i>)	2.97%	1.97%	-1.00%

Notes: Initial sampling frame: N = 1,382

¹ Comparison of non-respondents and respondents; t-tests for equality of means (for ratio-scaled variable) and t-tests for equality of proportions (for non-ratio-scaled variables) were used;

*p > 0.10, **p < 0.05, ***p < 0.01.

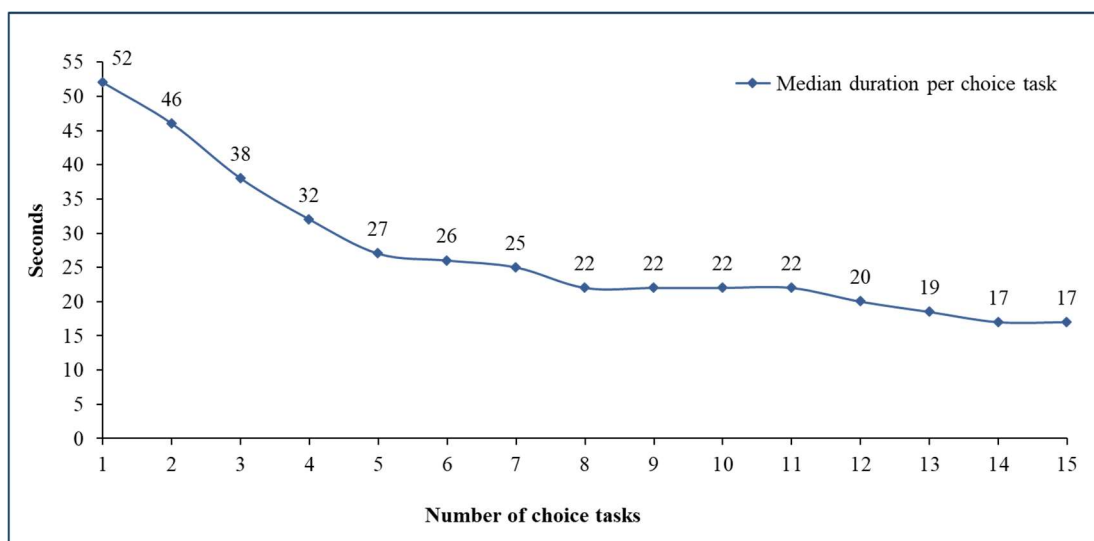
4.7.2 Test of decision-making patterns and duration per choice task

As mentioned in Section 4.4, the 304 survey responses yielded 7,904 recorded individual target screening decisions from the conjoint experiment. To determine whether respondents carried out the experiment reliably, I analysed the quality of experiment responses by looking at the pattern of decision-making and a time statistics measure, *duration per choice task*.¹⁰⁸ One potential bias that may occur in Web-based survey instruments is that respondents click through questions without carefully elaborating on the answers they have given. Click-through behaviour can be assumed in conjoint experiments if respondents' answering pattern shows no variation (e.g. the respondent always selects the first alternative in the choice task) or if the time

¹⁰⁸ Referring to time statistics is important in conjoint analysis for verifying the quality of the collected data. See: <https://www.sawtoothsoftware.com/support/knowledge-base/design-and-methodology-issues/1879-impeccable-timing-using-time-statistics-to-improve-your-results> (accessed 5 April 2019).

to answer a choice task is considerably below the average duration per choice task recorded in other CBC studies (Andres, 2018). As shown in Figure 4-5, the median response time in the CBC experiment gradually decreased from 52 seconds to 17 seconds as the number of choice tasks completed increased (see Figure 4-5). This is in line with prior research which shows that the last few choices take around one third as long to complete as the first task (Johnson and Orme, 1996). On average, survey respondents needed 31 seconds to complete a choice task. This is in line with comparable CBC experiments (Block et al., 2019; Johnson and Orme, 1996). Finally, the investigation of survey respondents' response patterns and time statistics revealed that three participants provided unreliable answers due to click-through behaviour. They either consistently chose the first or the second profile in each choice task or the time spent per choice task was clearly below the average duration reported in comparable CBC studies. These respondents were eliminated from the final sample.

Figure 4-5: Median response time per choice task



Notes: Based on data collected from 304 respondents in the survey.

4.7.3 Test-retest reliability and validity of conjoint experiment

While a direct assessment of the external validity¹⁰⁹ of the conjoint analysis is not possible, many scholars have pointed out that conjoint utilities are accurate predictors of decision-makers' preferences and correlate strongly with real-world decision policies (Brown, 1972; Hammond and Adelman, 1976; Louviere and Hensher, 1983; Orme, 2010a). To assess whether the conjoint experiment conducted for my dissertation serves as a good predictor of real-world decision-making behaviour, I analysed how well the 13 random choice tasks can predict the two holdout (fixed) choice tasks (Chrzan, 2015; Orme, 2015; Orme et al., 1997; Shepherd and Zacharakis, 2018). This is a common approach to test predictive ability and evaluate conjoint validity, and serves as a proxy for the test-retest reliability (Chrzan, 2015; Orme, 2015; Orme et al., 1997). In the conjoint analysis of my dissertation, this leads to a mean test-retest reliability for holdout tasks of 71%, which is comparable to values reported in prior studies (Holland and Shepherd, 2013; Shepherd, 1999b).

4.8 Descriptive analysis of the overall sample

In this section, a range of summary statistics for individual and firm-level variables for the overall sample (N = 304) and the family firm subsample are presented.¹¹⁰ The descriptive statistics concerning the background of respondents (see Table 4-12, p. 117) and organizational and environmental characteristics (see Table 4-13, p. 122) are considered central to understanding the composition of the sample, and will be discussed below. In addition, the descriptive statistics for family firm characteristics are shown in Table 4-14 (p. 125). All three tables show the mean, median standard deviation and minimum and maximum values of the variables.¹¹¹ The descriptive statistics provide evidence of sufficient variation within the overall sample (N = 304) in terms of respondents (e.g. demographic factors such as age, tenure, position, education) and firm characteristics (e.g. firm size, industry). Hence, the risk of sampling bias is only of minor concern in my dissertation.

¹⁰⁹ To enhance the external validity of the conjoint experiment several measures were taken. The measures are described in Section 7.3 (p. 217 et seq.).

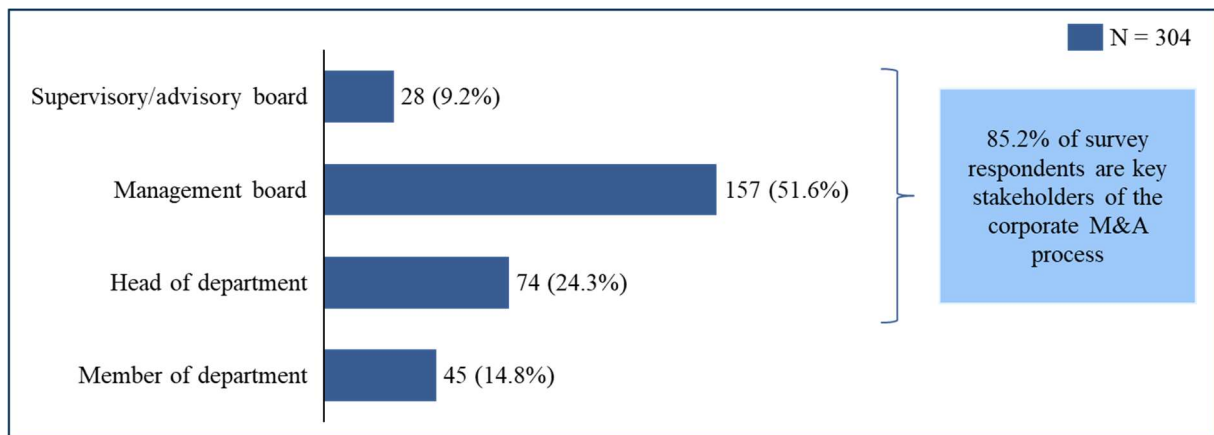
¹¹⁰ Descriptive statistics include methods for (1) summarizing collected numeric data into easily interpretable tables and graphs, (2) interpreting the data and (3) detecting patterns and relationships (Teddie and Tashakkori, 2009).

¹¹¹ The correlation matrixes for individual-level (Table A4-2, p. 284) and firm and environmental-level variables (Table A4-3, p. 285) are included in the Appendix to Chapter 4.

4.8.1 Characteristics of decision-makers (overall sample)

As shown in Table 4-12 (p. 117), the majority of participating corporate M&A decision-makers are male (91.1%), and only 8.9% are female. This is in line with empirical evidence showing that only a small fraction (often less than ten percent) of senior corporate positions (e.g. in top management and in governance) are held by women (Adams and Ferreira, 2009; Chen et al., 2016; Dezsö and Ross, 2012). In addition, the majority of respondents (66.4%) are aged over 45, and 20.4% are between 55 and 64. This descriptive finding shows that the sample consists primarily of senior corporate M&A decision-makers. The distribution of positions held by respondents furthermore reveals that 85.2% of the sample can be considered key decision-makers in the corporate M&A process (see Figure 4-6). More specifically, 51.6% of respondents are management board members (mainly CEOs and CFOs), 9.2% are advisory/supervisory board members and 24.3% are heads of and 14.8% members of departments involved in M&A transactions.¹¹²

Figure 4-6: Sample characteristics by position of respondents



Notes: Figures in % are rounded.

Regarding participants' level of formal education, a large majority of corporate M&A decision-makers in the sample (89.5%) are highly educated, holding a master's degree or MBA (59.9%) or a PhD or doctoral degree (29.6%). The remaining respondents hold a bachelor's degree (6.6%), a university entry qualification (1.2%) or lower qualifications (2.3%). In addition, the majority of respondents have an educational background in business

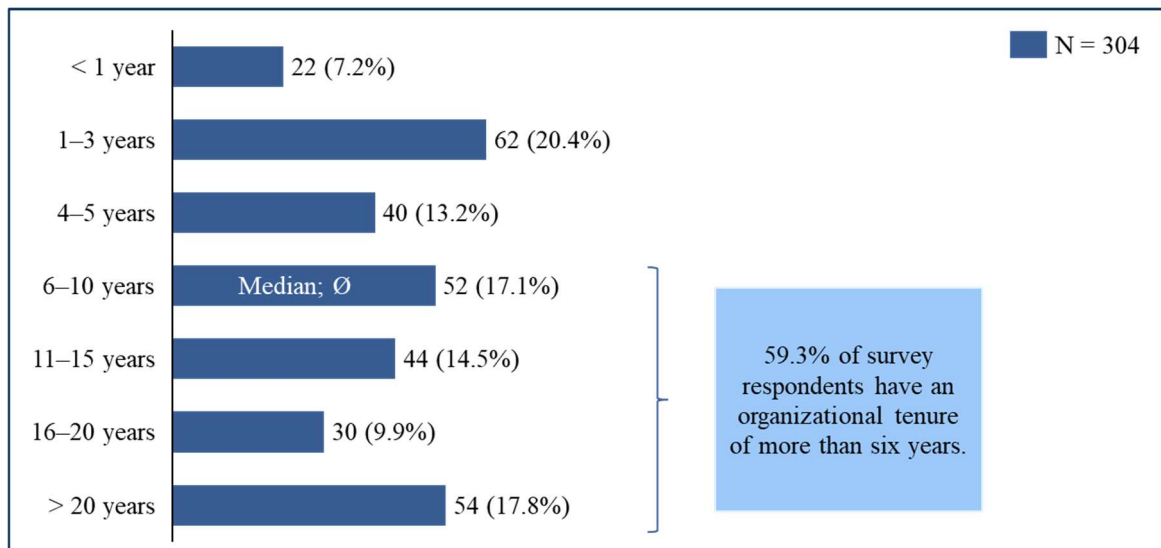
¹¹² Departments such as M&A, corporate development, strategy and finance.

administration or economics (79.3%) or in engineering (10.5%). The remaining respondents have an educational background in law (3.3%), natural science (3.0%), mathematics (1.6%) or other fields such as the humanities (0.3%) and social sciences (0.3%).

With regards to external board experience, the descriptive analysis shows that the majority of corporate M&A decision-makers in the sample (56.6%) do not have a board seat at other companies. 14.8 percent of respondents hold one seat at another company, while 15.8 percent hold two. Only around 12.8 percent of survey participants can be classified as multi-board members who have three or more external board seats at other companies.

With regards to the organizational tenure (see Figure 4-7) of survey respondents, the majority of participating corporate M&A decision-makers have been with the same company for more than six years (59.3%). 27.7 percent of respondents in the sample have an organizational tenure of more than 15 years. The relatively long firm experience of respondents might be related to the high percentage of family firms (62.5%) in the sample (see Figure 4-8, p. 119). Previous research suggests that family firm executives tend to have considerably longer tenures than those in non-family firms (Le Breton-Miller et al., 2004; Miller and Le Breton-Miller, 2005; Zellweger, 2007).¹¹³

Figure 4-7: Sample characteristics by organizational tenure of respondents



Notes: Figures in % are rounded.

¹¹³ A similar pattern can be observed in the data collected for my dissertation, where decision-makers in family firms were found to have longer tenures than those in non-family firms. See the univariate analysis of differences between family and non-family firms in Section 6.1.2.1 (p. 178 et seq.).

Table 4-12: Summary statistics for individual characteristics

Variable	Percentage ¹	Mean	Std. dev.	Min.	Max.
Male (in %)	91.1%	0.91	-	0	1
Age (in 5 categories):	2.96		1.03	1	5
< 35 years	6.6%	-	-	-	-
35–44 years	27.0%	-	-	-	-
45–54 years	37.8%	-	-	-	-
55–64 years	20.4%	-	-	-	-
> 64 years	8.2%	-	-	-	-
Position in firm (in 4 categories):	-	2.45	0.85	1	4
Member of the advisory/supervisory board	9.2%	-	-	-	-
Member of the management board	51.6%	-	-	-	-
Head of department involved in M&A projects	24.3%	-	-	-	-
Member of department involved in M&A projects	14.8%	-	-	-	-
Entrepreneur	10.2%	0.10	-	0	1
Organizational tenure (in 7 categories):	-	4.12	1.93	1	7
< 1 year	7.2%	-	-	-	-
1–3 years	20.4%	-	-	-	-
4–5 years	13.2%	-	-	-	-
6–10 years	17.1%	-	-	-	-
11–15 years	14.5%	-	-	-	-
> 15 years	27.6%	-	-	-	-
Board seats (in 7 categories):	-	1.97	1.40	1	7
No seat	56.6%	-	-	-	-
1 seat	14.8%	-	-	-	-
2 seats	15.8%	-	-	-	-
3 seats	5.9%	-	-	-	-
4 seats	3.6%	-	-	-	-
5 seats	1.6%	-	-	-	-
> 5 seats	1.6%	-	-	-	-
Formal education level (in 5 categories):	-	5.13	0.77	2	6
Below university entry qualification	2.3%	-	-	-	-
University entry qualification or equivalent	1.2%	-	-	-	-
Bachelor's degree	6.6%	-	-	-	-
Master's degree or MBA	59.9%	-	-	-	-
PhD or doctoral degree	29.6%	-	-	-	-
Education background:					
Business administration or economics (in %)	79.3%	-	-	0	1
Engineering (in %)	10.5%	-	-	0	1
Humanities (in %)	0.3%	-	-	0	1
Law (in %)	3.3%	-	-	0	1
Mathematics (in %)	1.6%	-	-	0	1
Natural science (in %)	3.0%	-	-	0	1
Social science (in %)	0.3%	-	-	0	1
Other (in %)	1.6%	-	-	0	1

Notes: N = 304 corporate M&A decision-makers from 264 firms.

¹Percentage values for dummy and categorical variables.

Table: 4-12 (continued): Summary statistics for individual characteristics

Variable	Percentage ¹	Mean	Std. dev.	Min.	Max.
Functional experience:					
Accounting ²	-	3.56	0.89	1	5
Finance ²	-	3.95	0.88	1	5
General management ²	-	4.27	0.77	2	5
Legal ²	-	3.41	0.92	1	5
Marketing ²	-	3.47	0.95	1	5
Operations ²	-	3.47	0.94	1	5
Acquisition process experience index ³	-	3.71	0.92	1	5
Acquisition process experience:					
Strategy formulation ²	-	3.65	1.06	1	5
Target screening ²	-	3.68	1.11	1	5
Due diligence and target valuation ²	-	3.89	1.07	1	5
Deal negotiation ²	-	3.72	1.18	1	5
Integration ²	-	3.60	1.08	1	5
Personality traits:					
Agreeableness ⁴	-	4.77	0.95	2.5	7
Conscientiousness ⁴	-	6.15	0.75	2.5	7
Emotional stability ⁴	-	5.86	0.84	3	7
Extraversion ⁴	-	5.15	1.27	1	7
Openness to new experience ⁴	-	5.63	0.86	3	7

Notes: N = 304 corporate M&A decision-makers from 264 firms.

¹ Percentage values for dummy and categorical variables.

² Likert item measured on a 5-point Likert-type scale.

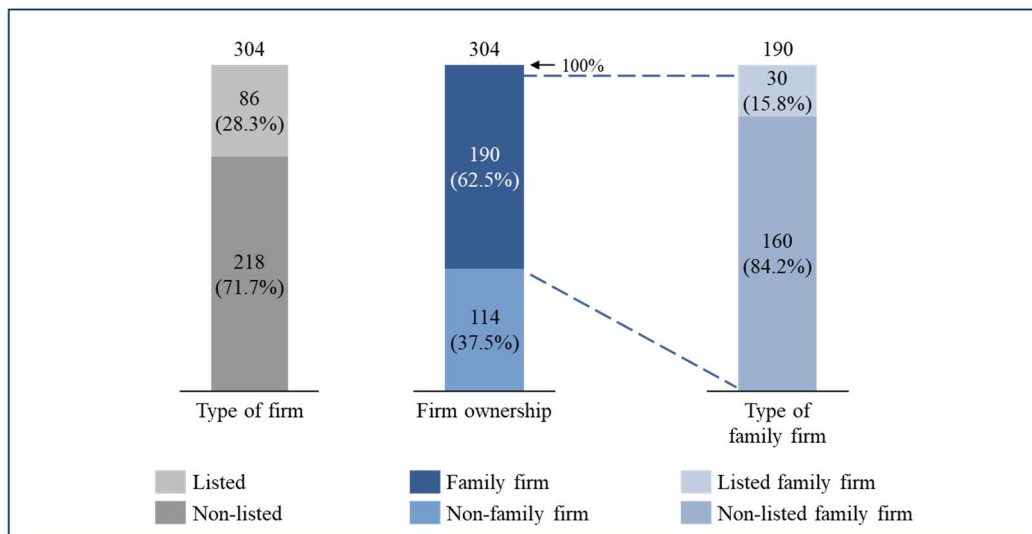
³ Index measured on a 5-point Likert-type scale.

⁴ Index measured on a 7-point Likert-type scale.

4.8.2 Characteristics of firms (overall sample)

My dissertation study includes 304 decision-makers from 264 firms that are headquartered almost exclusively in the DACH region. As shown in Table 4-13 (p. 122), the firms in the sample come from Germany (95.4%), Austria (1.3%), Switzerland (1.3%) and other Central European countries such as Luxembourg and the Netherlands (2.0%).¹¹⁴ Around one third (28.3%) of all participating firms are listed corporations that are represented in various stock market segments such as the German Prime Standard (DAX, MDAX, TecDAX and SDAX) and General Standard (see Figure 4-8). Further analysis of the descriptive statistics shows that the overall sample consists of 190 (62.5%) family firms and 114 (37.5%) non-family firms.¹¹⁵ Within the group of family firms,¹¹⁶ 15.8 percent of firms are listed on the stock exchange. This proportion of listed family firms in the sample is lower than official statistics reported by a study on German listed family firms (Achleitner et al., 2009).¹¹⁷ This study showed that around 45 percent of firms that were listed on the CDAX in the period between 1998 and 2008 are family firms.

Figure 4-8: Sample characteristics by structure of participating firms



Notes: Figures in % are rounded. *Family firm1* was used to define the group of family firms.

¹¹⁴ As almost all firms in the sample are headquartered in Germany, this legal and national context serves in my dissertation as the main reference for cited statistics and the derivation of the family firm definition (i.e. the threshold used in *family firm1*).

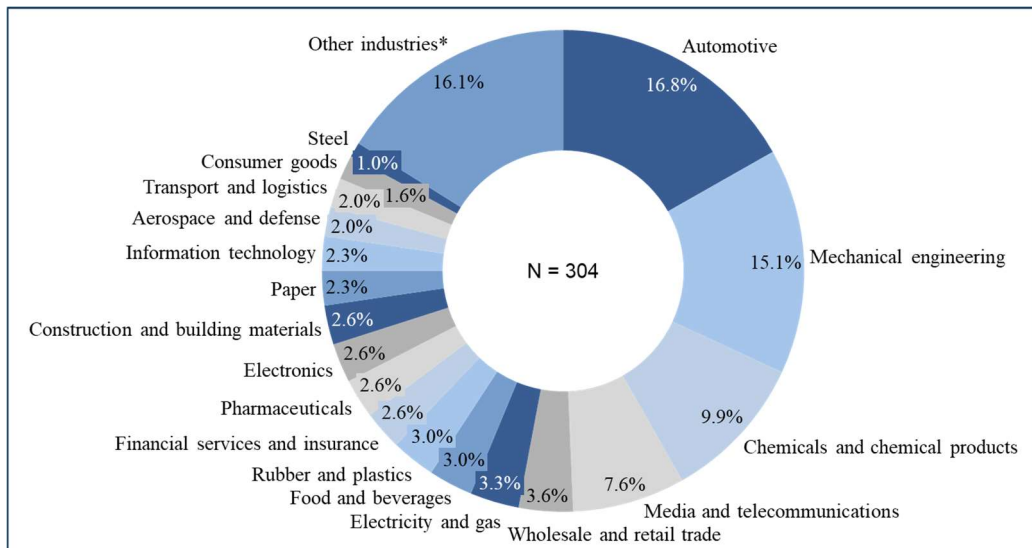
¹¹⁵ The definition *family firm1* was used to define the groups of family and non-family firms.

¹¹⁶ See description of family firm characteristics in Section 4.8.3 (p. 123 et seq.).

¹¹⁷ For details on the economic importance of family firms, see the Stiftung Familienunternehmen website: <https://www.familienunternehmen.de/de/daten-fakten-zahlen> (accessed 24 April 2019).

The industry distribution of the sample is presented in Figure 4-9. The participating firms operate in over 30 different industries, with no single industry accounting for more than 20 percent. The four most prominent industries in the sample are the automotive (16.8%), mechanical engineering (15.1%), chemical and chemical products (9.9%) and media and telecommunications (7.6%) industries.

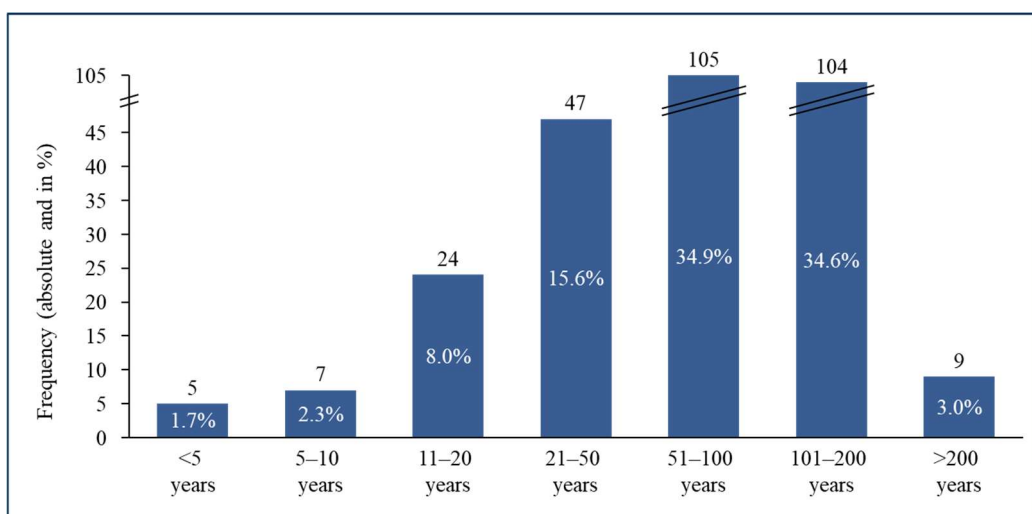
Figure 4-9: Sample characteristics by industry of participating firms



Notes: Figures in % are rounded. *Firms operating in other industries such as biotechnology, engineering services, fashion, furniture and healthcare.

On average, firms in the sample were founded in 1928 and are 90 years old. An analysis of the distribution of firm age shows that the majority of companies in the sample are over 50 years old (72.5%). The median firm age is 77 years (see Figure 4-10).

Figure 4-10: Sample characteristics by firm age

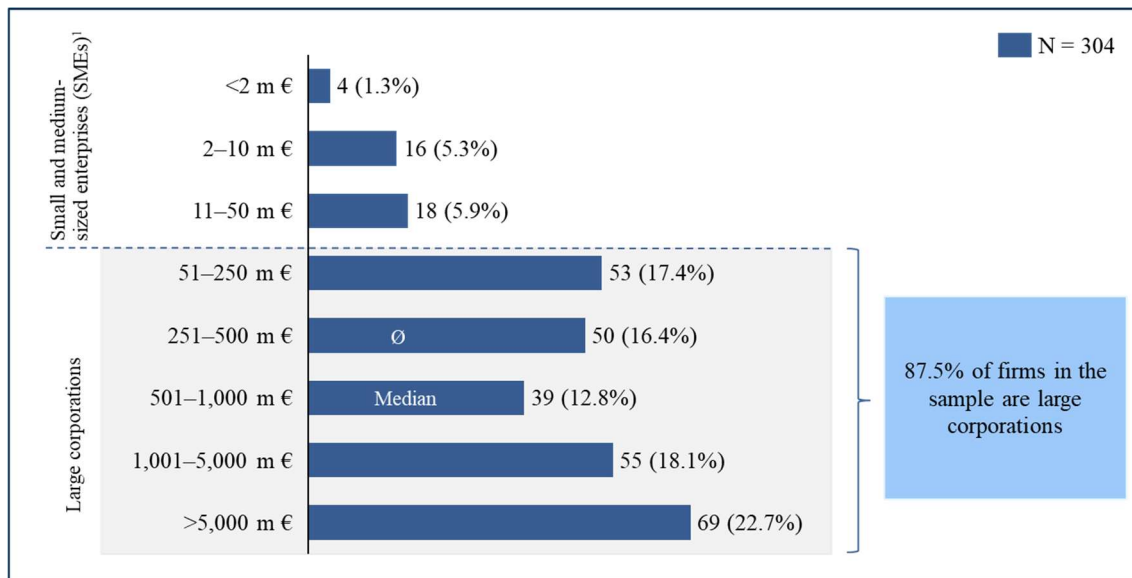


Notes: N = 301 (3 missing values); figures in % are rounded.

The sample also includes some very old companies dating back to the early 16th century. This observed longevity of the firms is a reflection of the relatively high proportion of family-owned firms (67.5%) in the sample that are already in later family ownership generations (see Figure 4-12, p. 124). In addition, this distribution of firm age is similar to the statistics presented in a recent study by Gottschalk et al. (2017) on the economic importance of family firms.

With regards to **firm size**, 87.5 percent of firms in the sample can be considered large corporations.¹¹⁸ The majority of firms (53.6%) in the sample generated total sales of more than 500 million euros in 2016, and 22.7% of these firms had a sales volume of over 5 billion euros (see Figure 4-11). In addition, the distribution of firm size in terms of number of employees reveals that companies in the sample have on average between 1,001 and 3,000 employees, with the median falling in the range between 3,001 and 5,000 employees.

Figure 4-11: Sample characteristics by total sales in 2016



Notes: Figures in % are rounded. ¹ SME definition based on the Institut für Mittelstandsforschung (IfM) Bonn.

With regards to the **organizational acquisition experience** of firms in the sample, the descriptive statistics reveal that the majority of firms (52.3%) completed one to five acquisitions in the past five years. Moreover, 15.8% of all participating firms can be considered serial acquirers as they undertook more than ten transactions in that time frame.

¹¹⁸ SME definition based on the Institut für Mittelstandsforschung (IfM) Bonn. See website: <https://en.ifm-bonn.org/definitions/sme-definition-of-ifm-bonn/> (accessed 24 April 2019).

Table 4-13: Summary statistics for firm characteristics

Variable	Percentage ¹	Mean	Std. dev.	Min.	Max.
Location of decision-makers' firms:	-	-	-	-	-
Austria	1.3%	-	-	-	-
Germany	95.4%	-	-	-	-
Switzerland	1.3%	-	-	-	-
Other	2.0%	-	-	-	-
Firm size 1: total sales in 2016 in million euros (in 8 categories)	-	5.67	1.89	1	8
< 2	1.3%	-	-	-	-
2–10	5.3%	-	-	-	-
11–50	6.0%	-	-	-	-
51–250	17.4%	-	-	-	-
251–500	16.5%	-	-	-	-
501–1,000	12.8%	-	-	-	-
1,001–5,000	18.1%	-	-	-	-
> 5,000	22.7%	-	-	-	-
Firm size 2: employees (in 8 categories)	-	5.65	2.05	1	8
< 10	2.6%	-	-	-	-
10–49	2.3%	-	-	-	-
50–499	14.1%	-	-	-	-
500–1,000	12.2%	-	-	-	-
1,001–3,000	17.8%	-	-	-	-
3,001–5,000	9.2%	-	-	-	-
5,001–10,000	11.2%	-	-	-	-
> 10,000	30.6%	-	-	-	-
Firm age (in 7 categories):	-	4.95	1.19	1	7
< 5 years	1.7%	-	-	-	-
5–10 years	2.3%	-	-	-	-
11–20 years	8.0%	-	-	-	-
21–50 years	15.6%	-	-	-	-
51–100 years	34.9%	-	-	-	-
101–200 years	34.6%	-	-	-	-
> 200 years	3.0%	-	-	-	-
Firm orientation ²	-	1.67	1.08	1	5
Relative firm performance index ³	-	3.61	0.68	1	5
Relative firm performance:					
Sales growth ²	-	3.61	0.82	1	5
Profitability ²	-	3.60	0.79	1	5
Listed firm (in %)	28.3%	0.28	-	0	1
External blockholder (in %)	19.4%	0.19	-	0	1
Entrepreneurial orientation index ³ (unidimensional)	-	3.29	0.67	1.44	4.89
Innovativeness index ³	-	3.61	0.90	1	5
Proactiveness index ³	-	3.43	0.93	1	5
Risk-taking index ³	-	2.95	0.87	1	5

Notes: N = 304 corporate M&A decision-makers from 264 firms,

¹ Percentage values for dummy and categorical variables.

² Likert item measured on a 5-point Likert-type scale.

³ Index measured on a 5-point Likert-type scale

Table: A4-13 (continued): Summary statistics for firm characteristics

Variable	Percentage ¹	Mean	Std. dev.	Min.	Max.
Organizational acquisition experience (in 5 categories)	-	3.03	1.34	1	5
None	9.2%	-	-	-	-
1–5 years	36.8%	-	-	-	-
6–10 years	20.1%	-	-	-	-
11–15 years	9.9%	-	-	-	-
> 15 years	24.0%	-	-	-	-
Acquisition intensity (in 5 categories)	-	2.41	1.17	1	5
None	17.1%	-	-	-	-
1–5 completed acquisitions	52.3%	-	-	-	-
6–10 completed acquisitions	14.8%	-	-	-	-
11–15 completed acquisitions	4.3%	-	-	-	-
> 15 completed acquisitions	11.5%	-	-	-	-
Serial acquirer (in %)	15.8%	-	-	0	1
Acquisition motive:					
Realize synergies ²	-	3.72	1.00	1	5
Achieve greater scale, lower operating costs ²	-	3.42	1.04	1	5
Meet growth objectives ²	-	4.09	0.99	1	5
Extend into new products or markets ²	-	4.34	0.81	1	5
Diversify risks ²	-	3.03	1.09	1	5
Access to managerial/technical talent ²	-	3.26	1.09	1	5
Access to new technologies/R&D ²	-	3.85	1.05	1	5
Access to innovative/disruptive business models ²	-	3.62	1.11	1	5
Environmental dynamism index ³	-	3.80	0.86	1	5
Environmental competitiveness index ³	-	4.30	0.69	2	5

Notes: N = 304 corporate M&A decision-makers from 264 firms

¹ Percentage values for categorical variable.

² Likert item measured on a 5-point Likert-type scale.

³ Index measured on a 5-point Likert-type scale

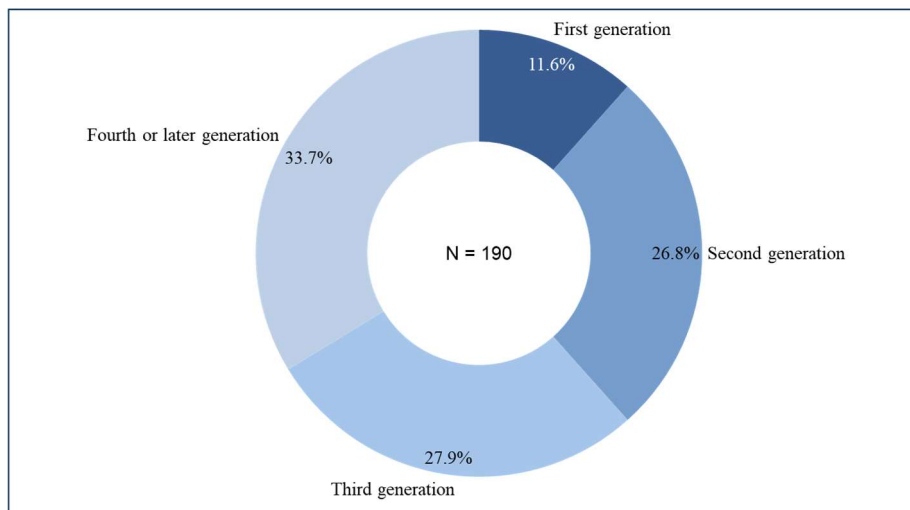
4.8.3 Characteristics of family firms (subsample)

To divide the entire sample (N = 304) into groups of family and non-family firms, I applied three family firm definitions as described in Table 4-14 (p. 125). When using the definition *family firm1*, 190 (62.5%) of the observations in the sample fall into the category of family firms and 114 (37.5%) are classified as non-family firms (see Figure 4-8, p. 119). This is the main definitional approach used for the descriptive and the multivariate analysis in Chapter 5 and Chapter 6. Applying the subjective family firm definition (*family firm3*) leads to the same proportions found as in *family firm1*; however, the observations do not fully

coincide.¹¹⁹ Using a definition without ownership thresholds for private and public firms (*family firm2*) increases the number of family firms to 207 (67.5%) observations. As can be seen from this result, the composition of the family firm subsample is dependent on the definitional approach used and confirms the need to test the robustness of findings by using different definitional approaches. The definitional approaches *family firm2* and *family firm3* are used for robustness tests for the empirical findings in Chapter 6.

The majority of family firms in the sample (61.6%) are owned by the third or later generation of the family, indicating that a large proportion of firms are relatively old (see Figure 4-12). Specifically, 11.6% of firms are in the first (founding) generation, 26.8% are in the second, 27.9% are in the third and the remaining 33.7% are in the fourth or later generation.

Figure 4-12: Sample characteristics by generational stage of family firms



Notes: N = 190; figures in % are rounded. *Family firm1* was used to define the group of family firms.

The descriptive statistics further reveal that the sample of family firms (N = 190) is comprised of 105 (55.3%) firms in which the business-owning family is involved in the running of the business through a seat on the management board. Hence, the majority of family firms in the sample can be considered **family-managed firms**.¹²⁰ In addition, out of all respondents from family firms, 32.1 percent indicated that they are members of the business-owning family.

Moreover, the **concentration of family ownership** in the participating family firm is quite high. In 83.7 percent of the observations one or more families or a family foundation holds

¹¹⁹ A comparison of *family firm1* (broad family firm definition) and *family firm3* (subjective family firm definition) shows that 17 observations did not match.

¹²⁰ Descriptive statistics are based on the variable *family management*. See description of variables and coding in Table A4-4 (Appendix, p. 290).

more than 75 percent of the total firm equity. In addition, the descriptive statistics reveal that in 10.5% of cases the family owns between 51 and 75 percent, and in 5.8% of cases between 26 and 50 percent of total equity.¹²¹ This descriptive result is in line with the generally very high ownership concentrations among family firms in Central European countries (in particular in Germany) reported in the statistics in prior literature (Andres, 2008; Becht and Röell, 1999; La Porta et al., 1999). Finally, with regards to the **transgenerational intention**¹²² of family firms in the sample, 75.3 percent of corporate M&A decision-makers from family firms reported that the business-owning family intends to pass the business on to the next generation.

Table 4-14: Summary statistics for family firm variables

Variable	Percentage ¹	Mean	Std. dev.	Min.	Max.
Family firm1: narrow definition (in %)	62.5%	-	-	0	1
Family firm2: broad definition (in %)	68.1%	-	-	0	1
Family firm3: subjective definition (in %)	62.5%	-	-	0	1
Family management ²	55.3%	-	-	0	1
Listed family firm	15.6%	-	-	0	1
Concentration of family ownership ² (in 5 categories):	-	4.78	0.54	3	5
less than 5 percent	0.0%	-	-	-	-
between 5 and 25 percent	0.0%	-	-	-	-
between 26 and 50 percent	5.8%	-	-	-	-
between 51 and 75 percent	10.5%	-	-	-	-
between 76 and 100 percent	83.7%	-	-	-	-
Generational stage (in 4 categories): ²	-	2.84	1.02	1	4
First generation	11.6%	-	-	-	-
Second generation	26.8%	-	-	-	-
Third generation	27.9%	-	-	-	-
Fourth or later generation	33.7%	-	-	-	-
Transgenerational intention1 ³ (in %)	75.3%	-	-	0	1
Transgenerational intention2 (in 5 categories): ²	-	3.03	1.11	1	5
Very unlikely	14.8%	-	-	-	-
Unlikely	7.9%	-	-	-	-
Likely	23.2%	-	-	-	-
Very likely	45.8%	-	-	-	-
Don't know	8.4%	-	-	-	-
Member of business-owning family (in %)	32.1%	0.32	-	0	1

Notes: N = 190 corporate M&A decision-makers from family firms.

¹ Percentage values for categorical variable. ² *Family firm1* definition used to define the group of family firms.

³ Transgenerational intention dummy variable relates to N = 174 observations in family firms, as the "Don't know" observations were omitted.

¹²¹ As (listed) non-listed firms with an ownership threshold of (< 25) < 50 percent were excluded from the group of family firms, no ownership concentrations below this value are reported.

¹²² The variable transgenerational intention1 (dummy) was used to calculate descriptive statistics.

5 Decision criteria and decision-making patterns in acquisition target screening

The strategic management literature and acquisition criteria research have discussed a large number of decision criteria that acquirers apply in acquisition target screening and selection.¹²³ This research has focused to a large extent on how individual characteristics of target companies (e.g. size, financial performance, reputation) or a strategic, financial, organizational or cultural fit between the acquirer and the target influences the selection of acquisition targets and acquisition outcomes (e.g. Bae et al., 2013; Bauer and Matzler, 2014; Bettinazzi et al., 2018; Chakrabarti and Mitchell, 2013; Chatterjee et al., 1992; Claussen et al., 2018; Datta, 1991; Datta and Puia, 1995; Jemison and Sitkin, 1986; Kim and Finkelstein, 2009; Pablo et al., 1996; Rao et al., 2016; Shelton, 1988; Shirley, 1977; Weber et al., 1996; Yu and Rao, 2009). This literature has been largely silent about the relative importance of decision criteria for corporate acquirers in the process of target screening and selection. This is surprising as many scholars in the field of managerial and entrepreneurial decision-making research have highlighted that decision-makers use various decision criteria simultaneously in their decision-making process (Bagchi and Rao, 1992; Franke et al., 2008; Hitt et al., 2000; Hitt and Tyler, 1991; Kiessling and Harvey, 2008; Mahajan et al., 1994; Mensching et al., 2016; Monika and Sharma, 2015; Patzelt and Shepherd, 2008; Rao et al., 1991) and in the context of acquisitions face trade-offs in weighting “hard facts” and “soft facts” (Kiessling and Harvey, 2008). With the first research question (RQ1), I address this research gap by using the comprehensive dataset collected in Chapter 4, which includes demographic information and preference data on 7,904 hypothetical target screening decisions taken from 304 corporate acquirers (see Section 5.1).

In the CBC experiment conducted in my dissertation, the acquisition process is conceptualized as a discrete choice model in which the acquirer evaluates the attributes of different acquisition targets. The utility estimates (i.e. preference data) of CBC experiments are frequently subject to considerable variance across individuals (Orme, 2000; Shepherd and Zacharakis, 2018).¹²⁴ This heterogeneity stems from external factors that influence the decision

¹²³ See review of literature on M&A decision criteria in Chapter 3 (p. 41 et seq.).

¹²⁴ In CBC experiments utility estimates are based on a hierarchical Bayes (HB) regression model, which allow utility estimations at the level of individual participants. To deal with heterogeneous observations in a sample, these individual-level utilities can be used to segment respondents into distinct groups (Orme, 2000).

behaviour (Andres, 2018; Hitt and Tyler, 1991). As already discussed in the previous chapter, empirical evidence shows that the strategic decision-making behaviour of individuals and firms is influenced by a large number of different individual, firm and environment-specific characteristics.¹²⁵ With the second research question, I explore managerial perceptions of decision criteria in M&A target screening further, by using a cluster analysis to identify groups of corporate acquirers with homogeneous preferences (see Section 5.2). To the best of my knowledge, this is the first empirical study which provides a holistic perspective on M&A decision-making patterns by using a large number of individual, firm and environmental characteristics to characterize identified segments.

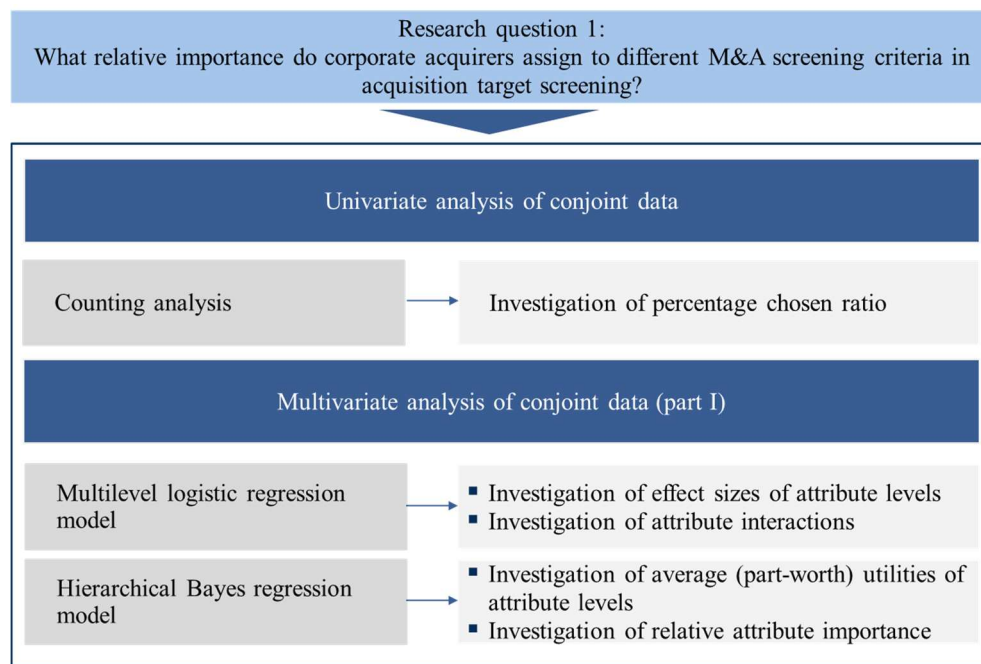
5.1 Importance of M&A decision criteria in acquisition target screening

In the conjoint analysis of Chapter 4, each respondent in the sample ($N = 304$) had to accomplish 15 choice tasks¹²⁶ including two alternative target profiles. The experiment resulted in a dataset of 7,904 hypothetical target screening decisions, which serves as the basis for the statistical analysis of the present chapter. To investigate the first exploratory research question (RQ1), which aims to assess the relative importance of M&A decision criteria in target screening, I proceeded in four steps (see Figure 5-1).

First, I used univariate analysis and explored descriptive information on the decisions taken by respondents in the conjoint experiment, using a counting analysis methodology. Second, a multilevel logistic regression model was estimated to find out whether the decision criteria tested in the conjoint analysis significantly influence an acquirer's target screening choice. Third, I evaluated and compared effect sizes to determine which attribute levels within a decision criterion increase the chance of a positive decision. This was done by interpreting odds ratios. In addition, I explored whether any contingent relationships exist between different decision criteria. Fourth, I used a hierarchical Bayes regression model and derived the part-worth utilities and the relative importance measures of each decision criterion. The univariate and multivariate results related to the first research question are presented in the next sections.

¹²⁵ See discussion and summary of literature on individual, firm and environmental-level variables that influence strategic decision-making behaviour and processes in Section 4.6 (p. 83 et seq.).

¹²⁶ 13 random choice tasks result in 7,904 hypothetical target screening decisions. The two holdout tasks are not included in the utility estimation but were used to measure the retest reliability of the conjoint analysis (see Section 4.7.3, p. 114).

Figure 5-1: Approach to address the first research question

5.1.1 Univariate results

Table 5-1 (p. 130) shows the results of the counting analysis conducted for the CBC experiment. Counting analysis reveals the number of times a certain attribute level was chosen by a respondent relative to the number of times it was available for choice in a choice task (Orme, 2010b). When using a randomized CBC design,¹²⁷ each attribute level is equally likely to occur with each level of every other attribute. Hence, the impact of each level can be assessed by counting the proportion of times a concept including a specific attribute level was chosen (Sawtooth, 2017). The percentage chosen (PC) ratio, shown in Table 5-1, is calculated as the number of times a concept including an attribute level is chosen by a corporate investor, divided by the number of times a concept including that attribute level was shown in the choice task. The higher the value of the PC ratio shown in the table the more often the case including the attribute level was chosen by the respondent. A direct comparison of count proportions (PC ratios) from one attribute level to a level from other attributes is, however, not possible as the

¹²⁷ As CBC design strategy, a Balanced Overlap approach with a fractional asymmetric design was used (see Section 4.3, p. 75). This comprises a combination of an orthogonal design with minimal overlapping and a randomized design (Sawtooth, 2017).

preference for an attribute level also depends on the desirability of other levels within the same attribute (Orme, 2002b, 2010b).

The counting results in Table 5-1 show that there is some heterogeneity with regards to cases chosen across attribute levels. Participants most frequently selected acquisition targets with an outstanding top management team (66.05%), above-industry-average profitability (62.48%), a similar corporate culture (58.06%) and a high corporate reputation (56.37%). In contrast, attribute levels that were least frequently chosen by respondents are weak TMT quality (34.56%), target profitability below industry average (37.18%) and a different corporate culture (41.94%). Moreover, respondents preferred acquisition targets that sell at a price below the industry average (56.66%) or at around the industry average (51.08%) over targets with an acquisition price above the industry average (42.32%). The results further show that respondents were almost indifferent between acquisition candidates with a disruptive business model (53.67%) and those with a complementary business model (52.94%), but were markedly less likely to select target companies with a similar business model (43.42%).

The investigation of the counts provides a preliminary insight into the ranking and importance attached to different attribute levels. With these univariate findings, however, no final inference about the relative importance of decision attributes (and levels) compared with other attributes (and levels) can be made, for the following reasons. In CBC experiments all attributes constantly vary, so that the counting result for a specific attribute also depends on the other attribute levels shown. This means that the results of the counting analysis are somewhat biased, as even an undesired attribute level may be chosen by a respondent in a choice task when paired with other desirable attribute levels.¹²⁸ Hence, to get a comprehensive picture about the preferences in M&A decision-making and the heterogeneity among decision-makers, more advanced multivariate methods of analysis are necessary. These multivariate findings are presented in the next sections.

¹²⁸ For more details on counting analysis, see:

https://www.sawtoothsoftware.com/help/lighthouse-studio/manual/hid_counting_analysis.html
(accessed 18 November 2018).

Table 5-1: Counting analysis of conjoint data

Organizational criteria (“soft facts”)					
(1) Company reputation			(2) Corporate culture		
Level	Cases shown	Cases chosen (PC)	Level	Cases shown	Cases chosen (PC)
Low	2,638	1,149 (43.56%)	Similar	3,951	2,294 (58.06%)
Average	2,628	1,316 (50.08%)	Different	3,953	1,658 (41.94%)
High	2,638	1,487 (56.37%)			
Strategic criterion					
(3) Quality of top management team (TMT)			(4) Business model		
Level	Cases shown	Cases chosen (PC)	Level	Cases shown	Cases chosen (PC)
Weak	2,627	908 (34.56%)	Similar	2,644	1,148 (43.42%)
Average	2,644	1,305 (49.36%)	Complementary	2,620	1,387 (52.94%)
Outstanding	2,633	1,739 (66.05%)	Disruptive	2,640	1,417 (53.67%)
Financial criteria (“hard facts”)					
(5) Profitability			(6) Expected acquisition price		
Level	Cases shown	Cases chosen (PC)	Level	Cases shown	Cases chosen (PC)
Below industry average	2,636	980 (37.18%)	Below industry average	2,642	1,494 (56.55%)
Industry average	2,627	1,322 (50.32%)	Industry average	2,627	1,342 (51.08%)
Above industry average	2,641	1,650 (62.48%)	Above industry average	2,641	1,118 (42.32%)

Notes: N = 7,904 decisions from 304 decision-makers; CBC data collected in dissertation research project.

5.1.2 Multivariate results

5.1.2.1 Multilevel logistic regression model

The statistical analysis in this section draws on 26 decisions taken by 304 individuals, which yields a total of 7,904 hypothetical target screening decisions.¹²⁹ These data points, however, are not independent of each other since multiple decisions (each set of 26 observations) are nested within an individual corporate M&A decision-maker. Hence, the data used for the analysis has a hierarchical/multilevel structure and consists of two levels. Level 1 represents multiple decisions by the individual and Level 2 represents the individual.

¹²⁹ 13 random choice tasks result in 7,904 hypothetical target screening decisions. The two holdout tasks are not included in the utility estimation but were used to measure the retest reliability of the conjoint analysis (see Section 4.7.3, p. 114).

To account for this hierarchical structure in the data, a multilevel logistic regression model was estimated (Aguinis et al., 2013; Mathieu et al., 2012). The screening decisions made by the corporate M&A decision-makers (1 = target chosen, 0 = target not chosen) serves as the binary dependent variable, while the different attribute levels are used as independent variables. Table 5-2 (p. 132) presents the results of the multilevel logistic regression analysis.¹³⁰ For each decision criterion, the estimated log odds¹³¹ and levels of significance of the different attribute levels (main effects) are reported.

The results of the multilevel logistic regression analysis show that all attribute levels of the ordinal decision criteria have a significant impact on the target screening decision of acquirers ($p < 0.001$). In particular, a decision-maker's preference for an acquisition target increases with (1) a higher *corporate reputation*, (2) an outstanding *top management team*, (3) a similar *corporate culture*, (4) a *profitability* above the industry average and (5) an *acquisition price* below the industry average. In addition, for the nominal decision criterion (6) *business model*, acquirers show a statistically significant positive preference for *disruptive* and *complementary* business models over *similar business models*. The analysis further indicates that decision-makers may be indifferent between disruptive and complementary business models.

In order to get a complete picture of the nominal attribute *business model*, I recalculated the multilevel logistic regression model by changing the reference categories of the main effects model (see Table A5-1, p. 298 in the Appendix). If the reference category is changed to *complementary business model*, the attribute level *disruptive business model* does not significantly influence the decision of the investor ($\beta = 0.070$; $p = 0.429$). This further proves evidence that participants may have indifferent preferences between the choice of *complementary* and *disruptive business models*.

¹³⁰ The multilevel logistic regression model was calculated using HLM7 from SSI (Scientific Software International). Many thanks to my fellow doctoral candidate Walter Diegel for his technical support with these calculations.

¹³¹ The regression coefficients of multilevel logistic regressions are called log odds. They are calculated as follows: $\ln(\text{odds ratio}) = \text{log odds}$ and $e^{(\text{log odds})} = \text{odds ratio}$.

Table 5-2: Importance of different screening criteria (main effects model)

Attributes and levels	Log odds (p-value)
Organizational criteria (“soft facts”)	
Corporate reputation: high	0.760 (< 0.001)
Corporate reputation: average (Reference category: low)	0.358 (< 0.001)
Corporate culture: similar (Reference category: different)	0.925 (< 0.001)
Quality of top management team: outstanding	1.628 (< 0.001)
Quality of top management team: average (Reference category: weak)	0.768 (< 0.001)
Strategic criterion	
Business model: complementary	0.472 (< 0.001)
Business model: disruptive (Reference category: similar)	0.540 (< 0.001)
Financial criteria (“hard facts”)	
Profitability: above industry average	1.352 (< 0.001)
Profitability: industry average (Reference category: below industry average)	0.696 (< 0.001)
Acquisition price: below industry average	0.794 (< 0.001)
Acquisition price: industry average (Reference category: above industry average)	0.463 (< 0.001)
N (decisions)	7,904
N (decision-makers)	304

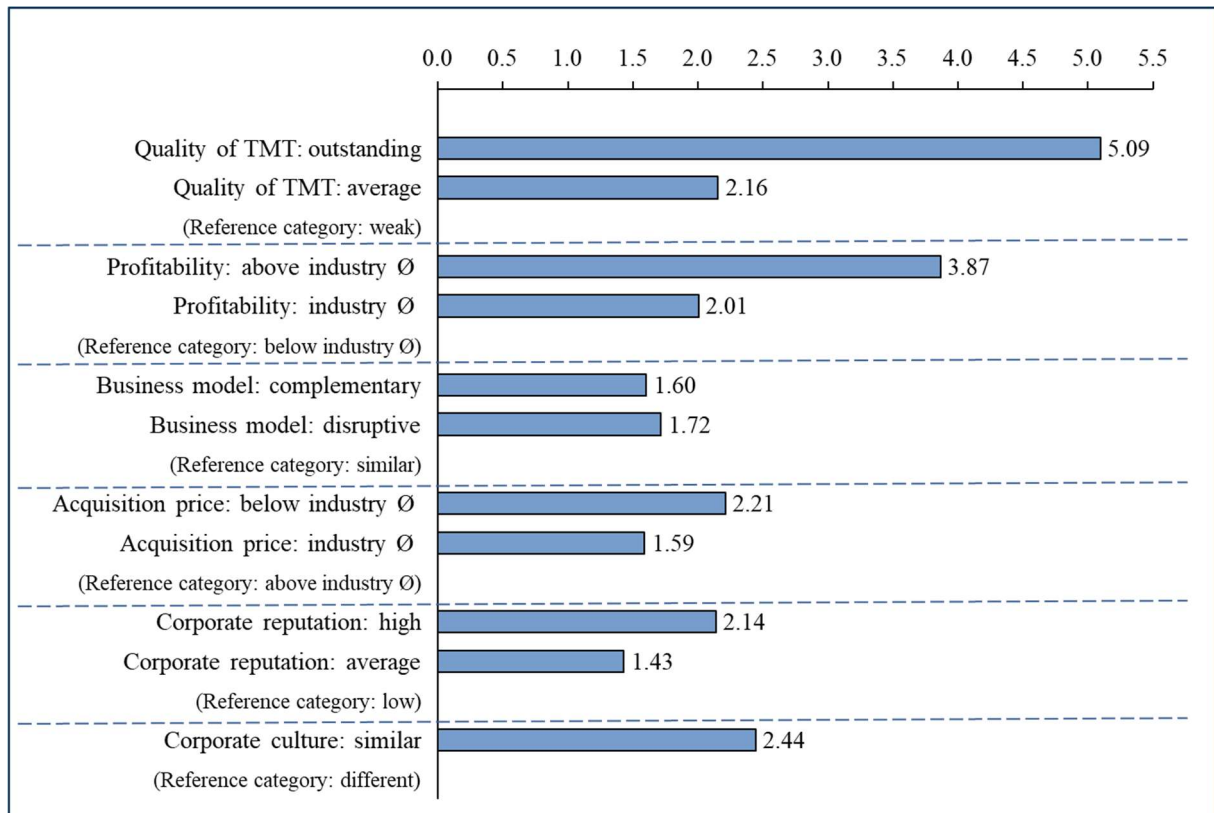
Notes: Regression type: multilevel logistic regression with random intercepts and random slopes. Estimated with robust standard errors. Dependent variable: decision of the decision-maker.

Effect size of attribute levels:

In the next step, the effect sizes of different attribute levels on the probability that a target will be chosen are evaluated. In logistic regression models the interpretation of regression coefficients is not trivial, since there is a non-linear relationship between independent variables and the predicted probabilities (Backhaus et al., 2016; Balderjahn et al., 2009). When a binary outcome variable (1 = target chosen; 0 = target not chosen) is modelled with a logistic

regression, then it is assumed that the logit transformation of the outcome variable has a linear relationship with the predictor variable (Backhaus et al., 2016). To make inferences about the effect sizes of different attribute levels on the target screening choice, odds ratios were computed, and are displayed in graphic form in Figure 5-2.¹³² With these odds ratios the magnitude of the effect of attribute levels within a criterion on the binary choice can be assessed.

Figure 5-2: Effect size of attribute levels on target screening choice (odds ratios)



Notes: N = 7,904 decisions from 304 decision-makers. Odds ratio calculation is based on the coefficients from the multilevel logistic regression model in Table 5-2. For each decision criterion a reference category was chosen. Interpretation example: in comparison with a target with a *different corporate culture*, the odds of being selected by a decision-maker increase by a factor of 2.44 if the target has a *similar corporate culture*.

As shown in the table above, the effect size of the attribute level *outstanding top management team* on the target screening choice is very high, which indicates that corporate M&A decision-makers in the sample react most sensitively to changes in the perceived quality of the target's top management team. Target companies with an *outstanding top management team* have an odds ratio of 5.09, which means that these targets are 5.09 times more likely to

¹³² Odds ratios are calculated using the formula: $\text{odds ratio} = e^{(\log \text{ odds})}$

be chosen by acquirers than targets that have a *weak top management team*. The second highest effect on the target screening decision was found for the financial decision criterion *profitability*. Acquisition targets with a *profitability above the industry average* are 3.87 times more likely to be selected by acquirers than firms whose *profitability is below the industry average*. For the criterion *expected acquisition price*, the magnitude of the effect on the target screening choice is highest for target companies that sell *below the industry average*. These acquisition targets are 2.21 times more likely to be chosen by acquirers than those with an *expected acquisition price above the industry average*. Moreover, targets that have a *similar corporate culture* (odds ratio of 2.44) and a *high corporate reputation* (odds ratio of 2.14) are more likely to be favoured by acquirers than target companies that have a different *corporate culture* and a *low corporate reputation*. Finally, with regards to the strategic decision criterion *business model*, target companies with *disruptive* (odds ratio of 1.72) or *complementary* (odds ratio of 1.60) *business models* have a higher chance of being chosen by decision-makers than target companies with a *similar business model*.

Given the observed non-linear relationship between attribute levels for the ordinal criterion *business model* (see Section 5.1.2.2) a further investigation of effect sizes by changing the reference categories in the multilevel logistic regression analysis was deemed necessary. The odds ratios for the re-estimated multilevel logit model is shown in Figure A5-1 (p. 299) in the Appendix. The estimated odds ratio for the attribute level *disruptive business model* relative to the reference category *complementary business model* is 1.07. As evidenced by the hatched bar in the recalculated chart, this effect size was not found to be statistically significant. This confirms the observation in the previous sections that corporate M&A decision-makers are indifferent between choosing a target company with a *disruptive* or a *complementary* business model.

To sum up, the analysis of odds ratios shows that the chance of an acquisition target being selected by acquirers is strongly affected by *high values* in the attribute levels of the decision criteria *quality of top management team*, *profitability*, *corporate reputation* and *corporate culture* and a *low value* for the attribute *expected acquisition price*. In addition, the comparison of effect sizes further revealed that acquirers tend to be indifferent between *complementary* and *disruptive business models*, while the chance of target selection is lower if the target has a *similar business model*. This observation may be explained by the two distinct sources of value creation in acquisitions mentioned in the literature. Acquiring a target with a similar business model may enable an acquirer to deploy its existing resources and capabilities as the value

chains of the two companies resemble each other (Capron, 1999; Capron et al., 1998). In such cases, value creation may stem from improving the performance of the target or gaining market power. Conversely, the acquisition of targets with either complementary or disruptive business models may represent a strategic choice to tackle the acquirer's resource and capability gaps (Capron and Mitchell, 2009). The fact that both complementary and disruptive business models involve an extension of the acquirer's existing value chain may explain the indifference preferences between the two.

5.1.2.2 Hierarchical Bayes regression model

Average utilities of target screening choices:

In conjoint experiments it is assumed that decision-makers maximize utility, and that the overall utility of any given alternative is the sum of the part-worth utilities (also referred to as average utilities) of the different attribute levels (Backhaus et al., 2016). In Figure 5-3 the average utilities for each attribute level from the conjoint experiment are displayed in graphic form. These average utilities (positive and negative values) are derived from a hierarchical Bayes (HB) regression model¹³³ (Johnson, 2000; Lenk et al., 1996; Orme, 2000; Sawtooth, 2009). An HB procedure allows for an estimation of coefficients at the individual level rather than just at an aggregate group level, and provides stable and robust coefficient estimates even in the event of scarce information as the procedure is able to separate heterogeneity from noise in the data (Orme, 2000).

So what are average utilities, how do they relate to the hypothetical target screening decisions investigated in the conjoint analysis and how can utilities be interpreted? Utility is a numerical measure that expresses the relative desirability or worth of an attribute level in a hypothetical decision situation (Orme, 2002b, 2010a). Hence, average utilities describe the effect of a particular attribute level on the overall utility of a respondent in the target screening decision.¹³⁴ Average utilities are effects-coded zero-centred differentials that sum up to zero within each attribute (Orme, 2002b, 2010a). When analysing utilities from conjoint data, it is

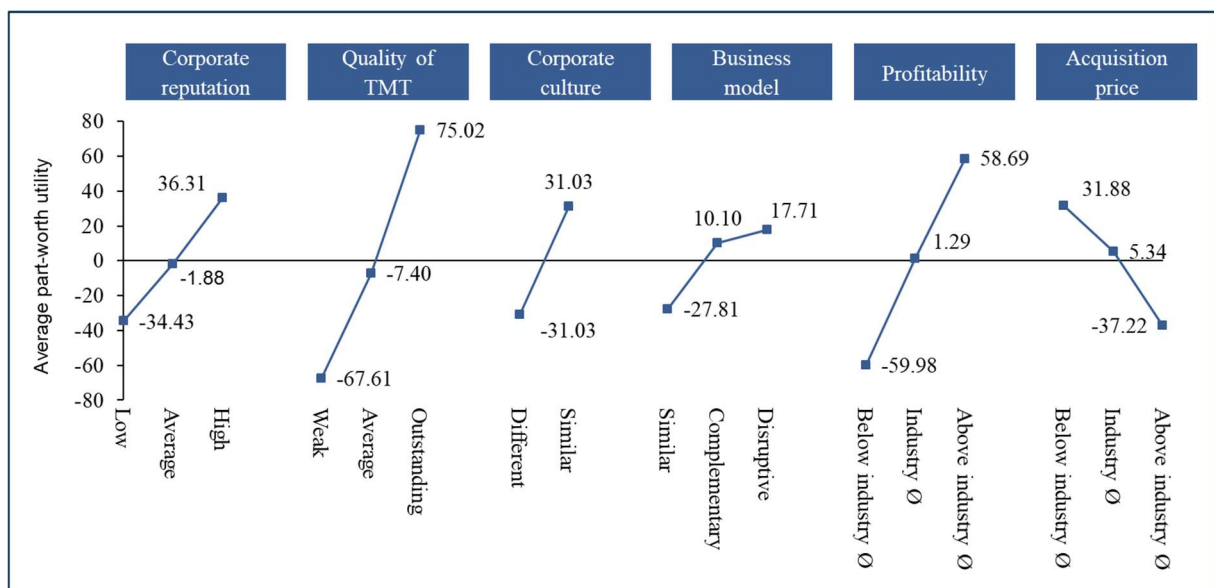
¹³³ The HB regression model was calculated using Sawtooth Inc.'s Lighthouse Studio software (version 9).

¹³⁴ For more details on utility estimation and interpretation, see:

https://www.sawtoothsoftware.com/help/lighthouse-studio/manual/estimating_utilities_with_logi.html (accessed 1 April 2019).

therefore important to bear in mind that it is not possible to directly compare the utility values of attribute levels across different attributes, given that they are interval data scaled to an arbitrary constant (Orme, 2002b, 2010a). In general, the higher a utility value, the more desirable a specific attribute level is for a respondent. More specifically, attribute levels with a high utility value potentially have a large positive impact on influencing respondents to choose an alternative (Orme, 2002b, 2010a). As average utilities are scaled to sum to zero within each attribute, an attribute level that receives a negative utility value does not mean that this level is generally unattractive to decision-makers (Orme, 2002b). A negative utility only denotes that other levels within a given attribute are preferred more.

Figure 5-3: Average utilities (part-worth) per attribute level



Notes: N = 7,904 decisions from 304 decision-makers. The average utilities per attribute level are based on an HB regression model, and are effects-coded zero-centred differentials that sum up to zero within each attribute.

Figure 5-3 shows that there is a *linear relationship* between attribute levels and average utilities for all investigated ordinal decision attributes. In particular, target companies with a high *corporate reputation* (36.31) appear to be more desirable relative to targets with an average (-1.88) or low (-34.43) reputation. Hence, target companies with a *high corporate reputation* are considered better than those with lower average utility values. Within the decision attribute *quality of top management team*, utility values are highest for acquisition targets that have an *outstanding top management team* (75.02) and negative for average (-7.40) or weak (-67.61) quality levels. Target companies perceived to have a *different corporate culture* (-31.03) are less desirable alternatives than those with a *similar corporate culture* (31.03). Moreover, targets with a *profitability above the industry average* (58.69) are more desirable options than those

with an *average* (1.29) or *below-average* (−59.98) *profitability*. For the criterion *expected acquisition price*, the average utility is positive for target companies that sell *below the industry average* (31.88) and negative for those that are expected to sell *above the industry average* (−37.22). In addition, a *non-linear relationship* can be observed for the nominal decision criterion *business model*. The part-worth utility for the attribute levels of the nominal decision criterion *business model* is negative for *similar* (−27.81), positive for *complementary* (10.10) and highest for *disruptive* (17.71) *business models*.

Interactions between attribute levels:

The average utilities for each attribute estimated with an HB regression model are measured independently of all other attributes. It has been suggested that these main effects, which capture the independent effect of each attribute, account for the vast majority of variance in the collected conjoint data (Sawtooth, 2017).¹³⁵ However, compensatory effects may exist between attributes and their levels. One advantage of the CBC analysis conducted in Chapter 4 is that it allows for the analysis of these contingent relationships between decision criteria (Chrzan and Orme, 2000; Sawtooth, 2017). Compensatory effects (i.e. interactions) are present when the combined effect of two attributes is different from the sum of their two main effect utilities (Chrzan and Orme, 2000). In other words, an interaction exists when the net utility of an attribute level (say, *similar corporate culture*) is decreased or increased by a higher or lower value of another attribute (say, *outstanding top management team*).

To explore whether contingent relationships between attribute levels exist, I estimated various multilevel logit models including all interaction terms between attribute levels. As a multilevel logit estimation is a non-linear model, marginal effects rather than coefficients should be used for interpretation (Hoetker, 2007; Norton et al., 2004; Wiersema and Bowen, 2009), especially when the analysis of interactions is of interest (Ai and Norton, 2003). In order to account for the particularities of data interpretation in non-linear models that include interaction terms, the marginal effects of attribute interactions are presented in graphical form in Figure A5-2 (Appendix, p. 300). A small compensatory effect was only found for the attribute interaction between the criteria *quality of TMT* and *business model*. If target companies have a

¹³⁵ For information on interactions in conjoint analysis, see also:
https://www.sawtoothsoftware.com/help/lighthouse-studio/manual/hid_web_cbc_designs_3.html
(accessed 17 January 2019).

weak TMT, acquirers prefer companies with a *complementary business model*, and for *average* and *outstanding TMT quality* they prefer companies with a *disruptive business model*. The graphical interpretation of these attribute interactions suggests that contingent relationships between decision criteria included in the conjoint analysis are only of minor concern for the purposes of the present study.

Relative importance of attribute measures:

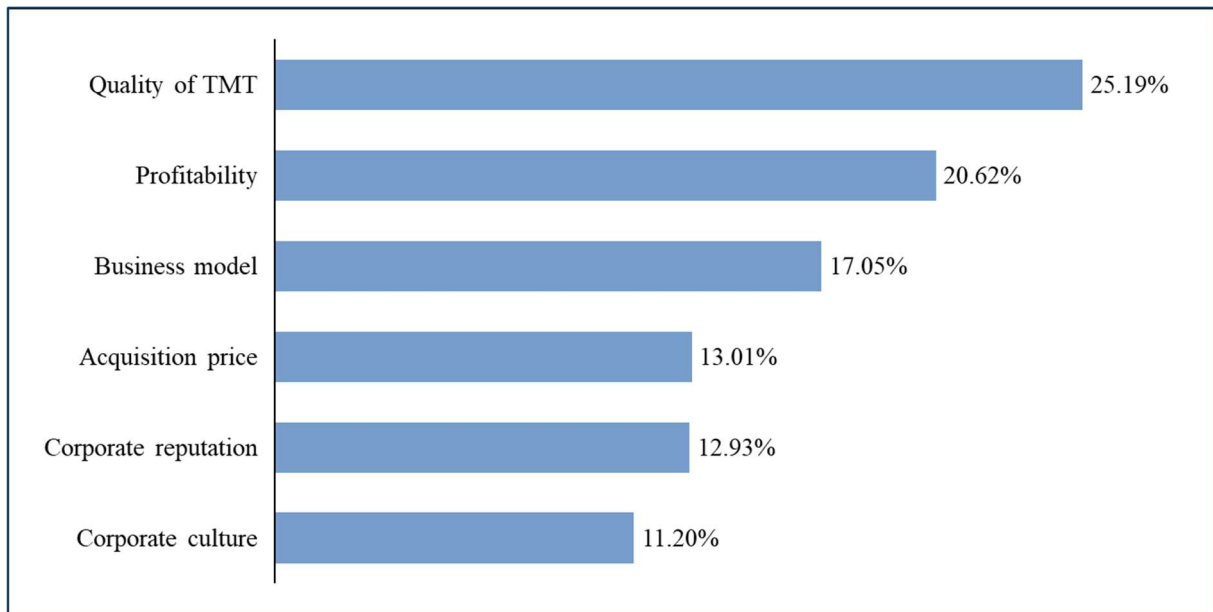
Finally, to answer the first research question, I estimated the relative importance of each decision criterion in the process of target screening (Figure 5-4). This was done with the following three steps. First, a HB regression model was used to determine zero-centred average utility values for each attribute level and each decision-maker in the sample (see above) (Lenk et al., 1996; Orme, 2000). In a second step, for each attribute the range between the level with the lowest and the highest average utility value was calculated (Orme, 2002b). This range captures how strongly a change in an attribute's level impacts on the total utility of a proposed hypothetical acquisition target. Finally, to determine the relative attribute importance measures, this range was divided by the sum of all ranges for each individual decision-maker (Orme, 2002b).

Figure 5-4 displays the mean percentage values of attribute importance of all 304 respondents in the sample in the form of a bar chart. As conjoint importance measures are ratio-scaled and relative measures, a comparison between attributes in terms of relative importance can be made (Orme, 2010b). Relative attribute importance reflects how much difference each decision criterion makes in the total utility of a decision-maker's target screening choices (Orme, 2010b). To aid understanding, let me give an example of how to interpret attribute importance measures. An attribute with an importance of 30 percent can be considered twice as important as an attribute with an importance of 15 percent. This means that the higher the relative attribute importance value of an attribute, the more strongly corporate M&A decision-makers will react to variations of this criterion.

To sum up, the findings of the relative attribute importance measures reveal that the *quality of the management team* (25.2%) is the most important decision criterion in the process of target screening, followed by *profitability* (20.6%), *business model* (17.1%), *expected acquisition price* (13.0%), *corporate reputation* (12.9%) and *corporate culture* (11.2%). The target's TMT quality accounts for around one quarter of the total utility of decision-makers and

is considered more than twice as important as other organizational decision criteria (“soft facts”) such as *company reputation* (12.9%) and *corporate culture* (11.2%). In addition, TMT quality is almost twice as relevant for acquirers as the *expected acquisition price* (13.0%) needed to pay for the asset.

Figure 5-4: Relative importance of attributes (zero-centred) in the overall sample



Notes: N = 7,904 decisions from 304 decision-makers. Attribute importance calculation based on an HB regression model. The values are normalized (zero-centred) so that the sum of all importance measures adds up to 100 percent.

5.1.3 Discussion of results

The investigation of the first research question on the relative importance of M&A decision criteria in target screening and selection led to some interesting findings and represents a valuable contribution to acquisition criteria research (Ahammad and Glaister, 2013; Bagchi and Rao, 1992; Capron and Shen, 2007; Chakrabarti and Mitchell, 2013; Hitt and Tyler, 1991; Mahajan et al., 1994; Pablo et al., 1996; Palepu, 1986; Rao et al., 1991; Saxton and Dollinger, 2004; Shen and Reuer, 2005; Stahl and Zimmerer, 1984).

The first finding that stands out is, that contrary to the predictions of some prior M&A research (Bauer and Matzler, 2014; Datta, 1991; Gomes et al., 2013; Jemison and Sitkin, 1986), strategic and financial decision criteria are not the most important decision criteria evaluated by acquirers when screening and selecting target companies. The observation that the quality of the top management team dominates acquirers’ target screening decisions may be

explained by the predictions of signalling theory¹³⁶ (Connelly et al., 2011; Spence, 2002, 1973) and the resource-based view of the firm (RBV) (Amit and Schoemaker, 1993; Barney, 1991).

Prior research based on signalling theory (Spence, 1973) suggests that investors take investment decisions based on information (i.e. signals) about firm attributes and outcomes (Connelly et al., 2010). Firm characteristics that have been proposed to act as signals for the quality of a firm during decision-making include interorganizational partnerships (Gulati and Higgins, 2003) and relationships (Reuer et al., 2012), a prestigious board of directors (Certo, 2003) and top managers (Lester et al., 2006), and the firm's corporate reputation (Deephouse, 2000; Vendelo, 1998). In essence, these firm attributes represent intangible resources. According to the RBV, intangible resources (e.g. managerial knowledge, reputation, brand, networks) are more likely than tangible ones (e.g. financial and physical assets) to produce a competitive advantage because they are more often unique, socially complex and difficult to imitate (Amit and Schoemaker, 1993; Barney, 1991; Peteraf, 1993). Relatedly, the success of a firm is often attributed to top managers' knowledge of and expertise in running the business (Cannella and Hambrick, 1993; Kiessling and Harvey, 2006). The target company's TMT possesses tacit knowledge regarding the firm's industry, corporate strategy, customer markets, strengths and weaknesses, technology, R&D and production processes (Kiessling et al., 2008). Such firm-specific tacit knowledge embedded in the professional skills and experience of the target's TMT may represent a valuable intangible resource for acquirers, especially in cases where the target is performing well or when strategic continuity after an acquisition is desired (Cannella and Hambrick, 1993; Hambrick and Cannella, 1993; Kiessling et al., 2008; Kiessling and Harvey, 2006, 2008; Krug et al., 2015). Hence, in line with the expectations of signalling theory (Connelly et al., 2011) and the RBV, firm attributes such as the perceived quality of the top management team with regards to the amount of "valuable" knowledge may therefore act as a strong signal for the overall viability of the transaction and replace more tangible criteria such as profitability and business model.

The second notable finding in relation to the first research question is that "soft facts" such as the target's corporate reputation and corporate culture are less important for acquirers in the process of screening and evaluation of acquisition targets than other factors. This result

¹³⁶ For a review of signalling theory and its application in strategic management research, see Connelly et al. (2011). For a discussion of signalling theory in the context of acquisition research, see Wu et al. (2013).

is surprising as both existing empirical M&A studies and M&A practice highlight that these issues are important considerations in acquisition decision-making.¹³⁷

In line with the predictions of the RBV and signalling theory mentioned above, prior literature suggests that a firm's corporate reputation¹³⁸ is a reflection and signal of the quality of its assets and capabilities (Dollinger et al., 1997) and may even convey information about its future performance (Vendelo, 1998). Acquiring a target company that is perceived as having a strong reputation may reduce the uncertainty for the acquirer, especially as a strong reputation has been positively associated with desirable acquisition outcomes (Saxton and Dollinger, 2004). In contrast, however, a poor or declining corporate reputation on the part of the target represents an intangible liability (Kiessling and Harvey, 2008) that may be harmful for the overall performance of the combined firm.

The recent controversial M&A deal between the German Bayer AG and the US-based Monsanto provides fresh evidence of the relevance of considering reputational issues during the pre-acquisition screening, evaluation and selection of target companies. The case shows how vulnerable an acquirer's performance can become after an acquisition if the target's reputation represents an intangible liability. Since the closure of the deal in June 2018, Bayer AG has been facing high-stake lawsuits in the US that have resulted in a substantial drop in its share price and earnings.¹³⁹ Only a year after deal completion, Bayer AG is now confronted with the need to undertake a major restructuring of the company and has consequently also announced plans to engage in large-scale job cuts.¹⁴⁰ With respect to Bayer's product portfolio and the potential gain in global market power, the acquisition of Monsanto certainly made strategic sense. However, it appears that the reputational risks of the deal were underestimated by Bayer's key corporate M&A decision-makers as strategic considerations predominated the decision-making process. This becomes evident in an interview in *Die Welt*¹⁴¹ with Werner Baumann, CEO of Bayer AG, where he said:

¹³⁷ See summary of literature on organizational decision criteria in Section 3.3.2 (p. 52 et seq.) and findings of qualitative interviews in Section 4.2.2 (p. 66 et seq.).

¹³⁸ For a review of literature on corporate reputation, see Chun (2005); Dolphin (2004); Lange et al. (2010); Sageder et al. (2018).

¹³⁹ See <https://www.manager-magazin.de/unternehmen/artikel/bayer-jahresgewinn-bricht-ein-monsanto-kostet-viel-geld-a-1255299.html> (accessed 20 March 2019).

¹⁴⁰ See <https://www.bloomberg.com/news/articles/2018-11-29/bayer-cuts-12-000-jobs-plans-to-exit-animal-health-business> (accessed 19 January 2019).

¹⁴¹ See <https://www.welt.de/wirtschaft/article162940329/Fehler-sind-gemacht-und-die-kleben-am-Image.html> (accessed 8 September 2018).

“With the acquisition of Monsanto, we want to create a growth company. (...) Of course, we will do our best to extend the positive reputation of Bayer in the future too. We are building on a strong basis, because Bayer has an outstanding global reputation. And as far as Monsanto is concerned, it’s a matter of bringing the facts to the centre of the discussion. (...) We looked at Monsanto very intensively and came to the conclusion that it is an attractive and well-run technology company. Of course, there are a few issues for which the company has been criticized, especially in Germany and France, for instance its use of genetic engineering. In other countries this is rarely regarded as a problem.”

With regards to the role of corporate culture in acquisition decisions, prior M&A research suggests that a “cultural fit” or “cultural compatibility” between the acquirer and the target is essential for successful transactions (Bauer and Matzler, 2014; Chatterjee et al., 1992; Stahl and Voigt, 2008). Despite this claim by scholars and practitioners,¹⁴² the findings of my dissertation suggest that in actual decision-making the perceived cultural fit between the acquirer and the target plays a subordinate role for decision-makers compared with other decision criteria that were tested. This result is in line with the observation of Jemison and Sitkin (1986), who argued that cultural issues are often “overlooked” by decision-makers during the actual M&A decision-making process. As cultural incompatibility or misfit between an acquirer and target is often given as a reason for low M&A success rates, as in the failed mergers between BMW and Rover (1994–2000)¹⁴³ and between Daimler and Chrysler (1998–2007),¹⁴⁴ acquirers should dedicate as much time and effort to issues of cultural fit as they do to issues of strategic fit (Chatterjee et al., 1992).

¹⁴² The majority of the M&A experts interviewed during the course of my dissertation mentioned that a cultural fit is very important for them in the target screening and evaluation process (see Section 4.2.2, p. 69 et seq.).

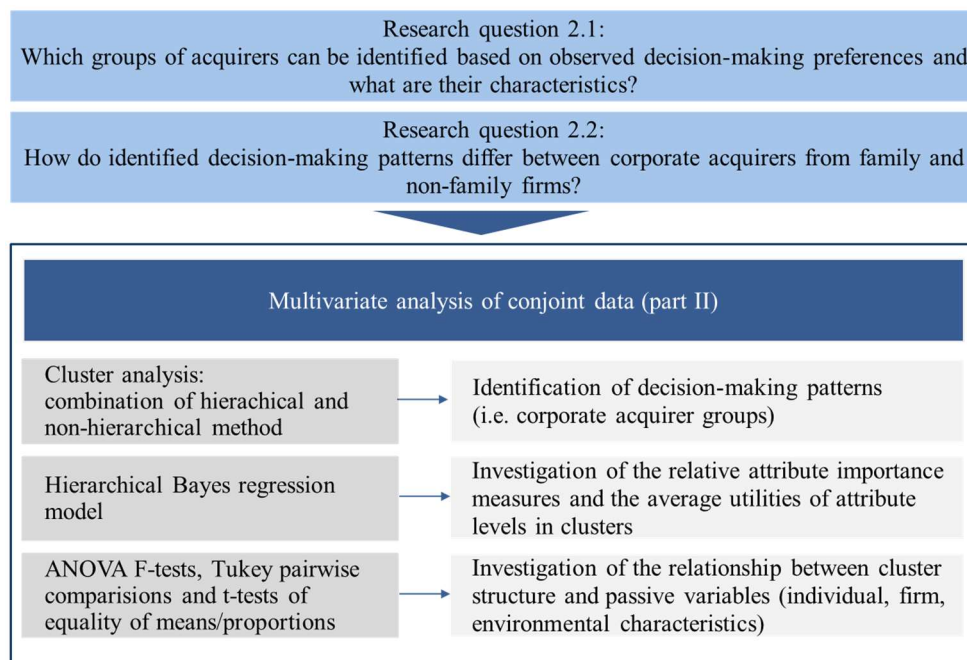
¹⁴³ See for instance Donnelly et al. (2003) for details on the failed transaction between BMW and Rover.

¹⁴⁴ See for instance Badrtalei and Bates (2007) for details on the failed transaction between Daimler and Chrysler.

5.2 Decision-making patterns in acquisition target screening

My second research question is exploratory and considers whether there are distinct decision-making patterns in acquisition target screening (RQ2.1). Furthermore, I analyse whether the identified decision-making patterns are different between corporate acquirers from family and non-family firms (RQ2.2). Hence, the aim of this section is to develop an empirical taxonomy of M&A decision-making patterns among corporate decision-makers. To answer these research questions, I use cluster analysis as a multivariate data aggregation method to identify distinct corporate acquirer groups. In a second step, the identified decision-making patterns are explored in detail by investigating the relationship between cluster structure and shared individual, firm and environmental characteristics (see Figure 5-5).

Figure 5-5: Approach to address the second research questions



The chapter proceeds as follows: in Section 5.2.1 the cluster analysis methodology and the clustering variables are introduced. In addition, the procedure for arriving at a final cluster solution is explained. Section 5.2.2 presents the findings of the cluster analysis, and explores the validity of the cluster structure through a statistical analysis of the relationship between observed choice patterns and sample characteristics. Section 5.2.3 summarizes the results and discusses some theoretical and practical implications.

5.2.1 Description of cluster analysis method and data

Description of cluster analysis method and procedure:

A cluster analysis was performed to identify mutually exclusive segments of corporate M&A decision-makers with comparable decision-making preferences. Cluster analysis is an explorative and multivariate method that aims to classify observations into groups based on a set of active cluster variables so that both within-cluster homogeneity and heterogeneity between clusters are maximized (Everitt et al., 2011; Hair et al., 2010). The method is commonly used for data reduction as it organizes observations (in the present study, observations about the strategic decision-making preferences of corporate M&A decision-makers) into cluster profiles that can be objectively compared (Hair et al., 2010). Thus, cluster analysis represents a suitable approach for the research objective of developing an empirical taxonomy of the M&A decision-making patterns of corporate acquirers (Hambrick, 1983; Rajalahti and Kvalheim, 2011; Sabherwal and King, 1995).

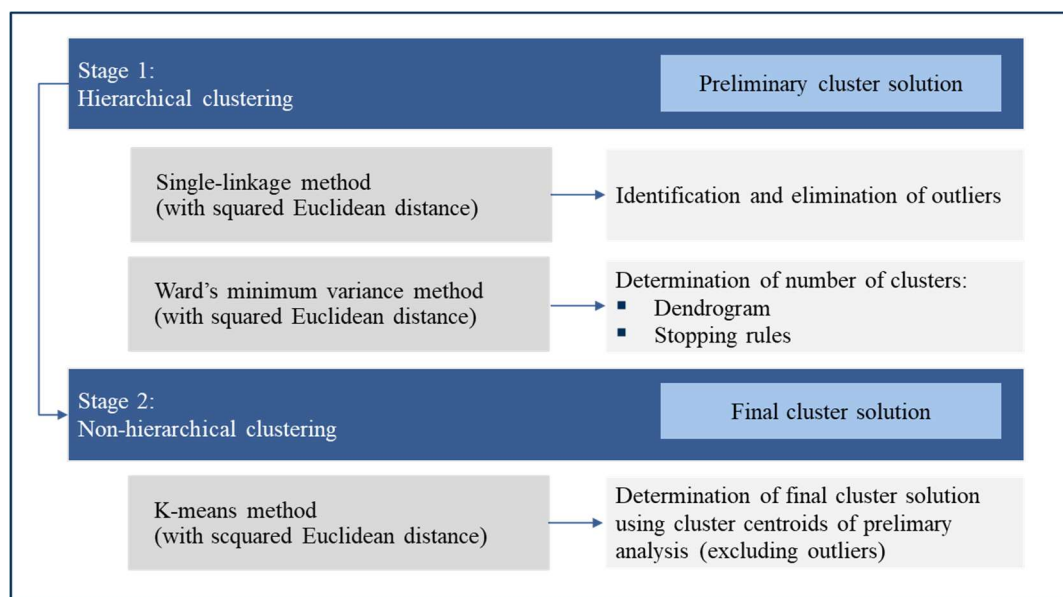
In line with the recommendations of the scholarly literature a two-stage clustering process that combines a hierarchical and a non-hierarchical clustering method was chosen to arrive at a suitable cluster solution (Hair et al., 2010; Ketchen and Shook, 1996; Milligan and Cooper, 1985; Punj and Stewart, 1983; Rajalahti and Kvalheim, 2011). Specifically, the single-linkage and Ward's minimum variance methods (hierarchical clustering algorithms¹⁴⁵) and the K-means method (non-hierarchical clustering algorithm¹⁴⁶) were combined (see Figure 5-6). The squared Euclidean distance was chosen as the main similarity measure for all clustering algorithms, since all active clustering variables are metric (Rajalahti and Kvalheim, 2011). Moreover, the squared Euclidean distance is the recommended and most commonly used distance measure for the Ward's minimum variance and K-means clustering methods (Rajalahti and Kvalheim, 2011). The main advantage of this dual approach is that it increases the validity of the cluster solutions (Milligan, 1980; Punj and Stewart, 1983), since it offsets the individual methods' limitations and biases in cluster formation (Everitt et al., 2011).

¹⁴⁵ Agglomerative hierarchical clustering is a bottom-up and stepwise algorithmic procedure that forms clusters by first combining observations into a single cluster. In each successive iteration pairs of existing clusters with the lowest distance from each other are then merged until all data is reduced to a single cluster of observations (Hair et al. 2010; Everitt et al., 2011).

¹⁴⁶ K-means clustering belongs to the group of non-hierarchical clustering algorithms that work by partitioning observations into a predetermined number of clusters. Observations are then, in an iterative process, reassigned into clusters with the nearest centroids, based on the squared Euclidean distance, until no observations change clusters (Anderberg, 1973; Hair et al., 2010; Ketchen and Shook, 1996).

A two-stage clustering has at least two advantages. First, Ward's method tends to produce results that are heavily distorted by outliers (i.e. observations with extreme values) (Milligan, 1980). The K-means clustering can compensate for this limitation, as it is less sensitive to outliers in the data, the distance measure used for the analysis and the inclusion of unsuitable active cluster variables (Rajalahti and Kvalheim, 2011). Second, Ward's method tends to find similar-sized segments, meaning that clusters representing smaller proportions of the sample might not be identified¹⁴⁷ (Everitt et al., 2011; Rajalahti and Kvalheim, 2011). This may lead to "artificial" results as (due to the stepwise agglomerative procedure) an undesirable early cluster formation may persist throughout the whole analysis (Rajalahti and Kvalheim, 2011). In order to offset this shortcoming of the hierarchical clustering, a non-hierarchical clustering with the K-means method is additionally used to determine the final cluster solution. In non-hierarchical methods observations are allowed to switch cluster memberships, leading to a cluster solution that optimizes both within-cluster homogeneity and between-cluster heterogeneity (Everitt et al., 2011; Ketchen and Shook, 1996; Rajalahti and Kvalheim, 2011).

Figure 5-6: Two-stage clustering procedure



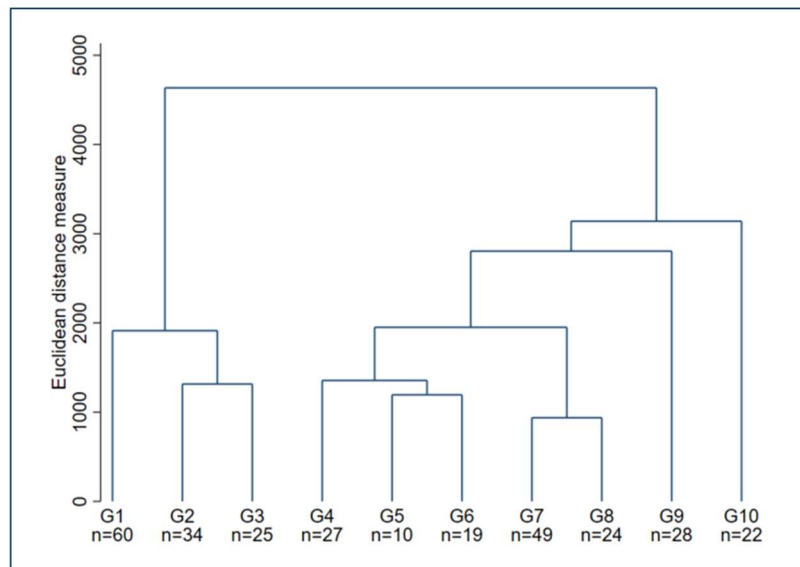
Notes: Two-stage clustering procedure based on recommendations of Punji and Steward (1983).

¹⁴⁷ A characteristic of hierarchical clustering is that once objects have been joined in a cluster they will not then be reassigned to another cluster (Rajalahti and Kvalheim, 2011).

Preliminary and final cluster solution:

In a first step, outliers in the data were identified ($N = 6$) with the single-linkage algorithm¹⁴⁸ and eliminated from the dataset.¹⁴⁹ Then Ward's minimum variance method was used to determine a preliminary cluster solution that serves as a starting point for the non-hierarchical clustering with the K-means method (Everitt et al., 2011; Punj and Stewart, 1983; Rajalahti and Kvalheim, 2011). The classifications produced by the hierarchical clustering with Ward's method are represented by the dendrogram (see Figure 5-7), which is a two-dimensional diagram that illustrates the clustering procedure in graphical form (Everitt et al., 2011). The *nodes* of the dendrogram illustrate different clusters and the *heights* of the vertical lines represent the distances at which the clusters are formed (i.e. the strength of the clustering). For interpretational clarity this means that the longer the vertical lines are the more distinct the separation between the identified subgroups is (Everitt et al., 2011). This visual inspection of the dendrogram gives an initial idea about the number of clusters and indicates to a three or four cluster solution.

Figure 5-7: Dendrogram (Ward's minimum variance method)



Source: Dendrogram estimated using Stata/IC 15.

¹⁴⁸ The single-linkage algorithm is an agglomerative hierarchical clustering algorithm (also called nearest-neighbour method) that defines the similarity between clusters as the minimum distance from any object in one cluster to any object in another cluster (Everitt et al., 2011; Rajalahti and Kvalheim, 2011). The method tends to create unbalanced, non-compact cluster solutions due to the issue of “chaining” (Everitt et al., 2011) but is ideal for identifying potential outliers in the data (Kruppa and Jung, 2017; Milligan, 1980).

¹⁴⁹ Ward's method is very sensitive to outliers (Everitt et al., 2011; Rajalahti and Kvalheim, 2011). Outliers were therefore determined using the single-linkage algorithm prior to running the cluster analysis with Ward's method.

After this first, indicative visual interpretation of the dendrogram, I analysed the *stopping rules*, which represent a more formal approach to determining the optimal number of clusters (Everitt et al., 2011; Hair et al., 2010). Specifically, I used the Calinski and Harabasz pseudo-F index (Caliński and Harabasz, 1974) and the Duda and Hart index (Duda, Hart and Stork, 1995; Duda and Hart, 1973) since these have been found to be some of the best-performing stopping rules (Everitt et al., 2011; Milligan and Cooper, 1985). As shown in Figure 5-8, both the highest Calinski–Harabasz pseudo-F value (53.69) and the Duda–Hart index, where a high $Je(2)/Je(1)$ value (0.8349) corresponds to a low pseudo-T-squared (25.11), indicate that a four-cluster solution produces the most distinct clustering. Hence, both stopping rules unambiguously suggested a four-cluster solution in the overall sample.¹⁵⁰

Figure 5-8: Calinski–Harabasz and Duda–Hart indices

Number of clusters	Calinski/ Harabasz pseudo-F	Duda/Hart	
		$Je(2)/Je(1)$	pseudo T-squared
2	47.79	0.8610	47.79
3	51.30	0.8192	39.07
4	53.69	0.8010	38.50
5	50.27	0.8349	25.11
6	48.27	0.7753	33.91
7	46.87	0.7619	16.87
8	45.00	0.6724	27.78
9	45.21	0.5607	21.15
10	43.50	0.8062	17.07
11	41.76	0.7240	17.91
12	41.28		
13	39.62		
14	38.59		
15	37.83		

Source: Stopping rules estimated using Stata/IC 15.

On the basis of visual inspection of the dendrogram and the analysis of two stopping rules a preliminary four-cluster solution was finally chosen according to face validity and theoretical foundation¹⁵¹ (Rajalahti and Kvalheim, 2011). Finally, based on the preliminary four-cluster solution, a non-hierarchical clustering was carried out using the K-means method. This last step

¹⁵⁰ A distinct clustering is characterized by a large Calinski–Harabasz pseudo-F value or a large Duda–Hart $Je(2)/Je(1)$ value with a corresponding low Duda–Hart pseudo-T-squared value (Everitt et al., 2011).

¹⁵¹ The profiling of the clustering variables using one-way ANOVAs and t-tests of equality of means showed that there are significant differences between clusters on all active clustering variables. The examination and interpretation of the mean values of active cluster variables also provided evidence that clusters are distinct. This statistical profiling procedure (Rajalahti and Kvalheim, 2011) supported the choice of a four-cluster solution.

then yielded the final cluster solution with four distinct corporate acquirer groups. This solution was validated by several means. First, a file that lists all decision-makers and firms and their assigned clusters was generated. For all well-known firms in the sample, it was verified that they were assigned to plausible-seeming clusters (Milligan, 1996). Moreover, in line with the recommendation of Ketchen and Shook (1996) the four identified acquirer groups were additionally verified by seeking expert opinion from three anonymous executives with relevant experience in the field of M&A. Their perception of different acquirer groups corresponded to the solution found in the analysis.

Data and clustering variables:

The conjoint data from the CBC analysis in Chapter 4 serves as the main data basis for the cluster analysis. In particular, the average utilities at the individual level for all attribute levels are used as *active clustering variables*,¹⁵² and the individual, firm and environmental-level variables that were collected serve as the *passive clustering variables*. Cluster analysis derives the most internally consistent clusters across all active clustering variables, meaning that the cluster solution may provide a distorted picture if irrelevant variables are selected (Punj and Stewart, 1983). To increase the external validity of the cluster solution, the selection of active clustering variables, along which to group observations in the cluster analysis, needs to follow a theory-based approach (Ketchen et al., 1993). In addition, the sample needs to be sufficiently large, and active clustering variables should not be affected by multicollinearity.¹⁵³ To account for these requirements, the choice of decision attributes and levels for the conjoint experiment was guided by a diligent selection process (Hair et al., 2010, p. 499).¹⁵⁴ All six decision attributes and levels tested in the conjoint experiment are grounded in theory, and their relevance was confirmed by researchers and M&A experts in an in-depth pilot study.¹⁵⁵ In addition, compared with other studies the study's sample size is fairly high, indicating that the sample is representative.¹⁵⁶ Multicollinearity was addressed by including clustering variables that are not highly correlated with each other.¹⁵⁷

¹⁵² HB regressions were used to estimate average utilities at the individual level.

¹⁵³ Multicollinearity describes an interrelationship between two variables and expresses the extent to which a certain variable can be explained by another variable in the sample (Hair et al., 2010, p. 3).

¹⁵⁴ For details on the selection of attributes and levels for the conjoint experiment, see Section 4.2 (p. 61 et seq.).

¹⁵⁵ For details on the pilot study for the survey instrument, see Section 4.5.2 (p. 83).

¹⁵⁶ For details on the sampling, see Section 4.4 (p. 76 et seq.).

¹⁵⁷ The correlation matrix of active clustering variables is outlined in Table A5-2 (Appendix, p. 301).

5.2.2 Cluster analysis results

A combined hierarchical and non-hierarchical cluster analysis was carried out to classify respondents into groups with similar preference structures. In the cluster analysis all attribute levels served as active cluster variables, and the squared Euclidean distance was used as the main similarity measure for all clustering algorithms.¹⁵⁸ The final sample for the cluster analysis consisted of 298 corporate decision-makers.¹⁵⁹ The four-cluster solution produced the best results in terms of minimizing the ratio of within-group variance to between-group variance. ANOVA F-statistics confirmed that all decision attributes demonstrated significant ($p < 0.001$) differences across the four clusters. The results of the cluster analysis are summarized in Table 5-3, which shows the relative attribute importance measures by cluster. A graphical visualization of the four-cluster solution in the form of bar charts is provided in Figure 5-9.¹⁶⁰

Table 5-3: Cluster analysis results (K-means with squared Euclidean distance)

Decision criteria	Cluster 1: Finance- focused acquirer	Cluster 2: Conservative acquirer	Cluster 3: BM-focused acquirer	Cluster 4: TMT- focused acquirer	One-way Anova F-test ¹
Corporate reputation	12.09	15.14	10.57	13.91	8.1 ***
Quality of TMT	15.31	18.48	23.27	39.63	137.5***
Corporate culture	13.54	12.60	8.55	10.16	6.6***
Business model	12.36	21.47	31.21	9.31	114.5***
Profitability	29.93	21.52	14.47	15.88	66.5***
Acquisition price	16.78	10.78	11.93	11.12	11.7***
N=298	90	47	66	95	
Percentage of sample	30.2%	15.8%	22.1%	31.9%	

Notes: The figures shown in the table are the relative attribute importance measures, which are based on the average utility estimates derived from an HB regression model. ¹A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters (***) $p < 0.001$.

¹⁵⁸ To test the reliability and robustness of the clusters, multiple cluster solutions were generated using different distance measures. The city-block (Manhattan) distance and maximum-value distance (Linfinity) measures resulted in consistent cluster solutions, affirming the reliability of the findings (Hair et al., 1992).

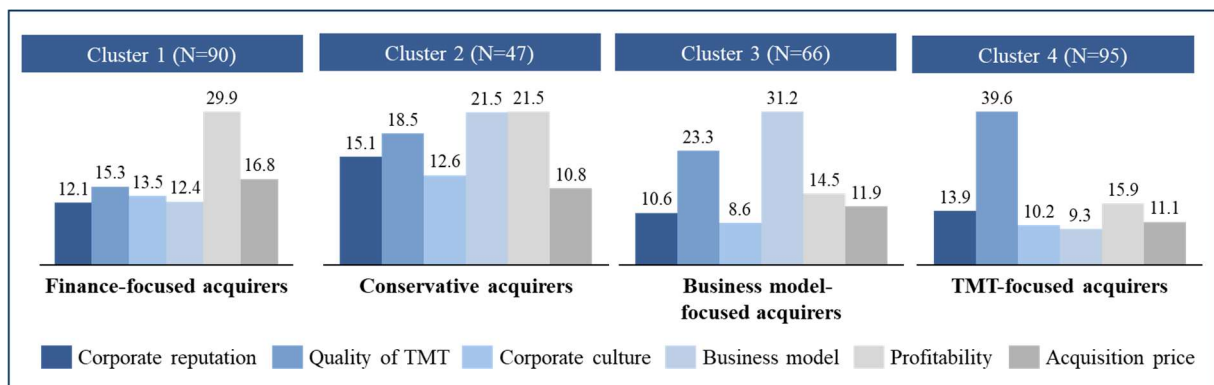
¹⁵⁹ Six observations were identified as outliers and eliminated from the cluster analysis sample.

¹⁶⁰ The cluster analysis was re-estimated by only considering the family firm (*family firm 1*) sample in order to see how robust the cluster structure is. The cluster solution for the family firm subsample showed a similar pattern, suggesting that the cluster structure is stable.

Description of clusters:

To investigate the relationship between cluster structure and individual, firm and environmental-level passive variables, a one-way analysis of variance (ANOVA) was carried out (Shepherd and Zacharakis, 2018).¹⁶¹ In addition, t-tests for equality of means (for ratio-scaled variables) and equality of proportions (for non-ratio-scaled variables) were used to get a complete picture of the composition of the identified acquirer groups. The results of the cluster comparison with ANOVA F-statistics and t-tests are summarized in Table 5-4 (individual characteristics), in Table 5-5 (firm and environment characteristics) and in Table 5-6 (family firm characteristics).¹⁶² For passive variables where the ANOVA F-test revealed significant differences between clusters ($p < 0.10$), I additionally performed a Tukey's post-hoc comparison test.¹⁶³ The results of these post-hoc tests are summarized in Table A5-3, (individual characteristics), in Table A5-4 (firm and environment characteristics) and in Table A5-5 (family firm characteristics) in the Appendix (p. 305 et seq.).

Figure 5-9: Visualization of four-cluster solution



Notes: The figures displayed in the bar charts are the relative attribute importance measures (in percent) based on the average utility estimates derived from an HB regression model.

¹⁶¹ ANOVA is used to determine whether there are any statistically significant differences between the means of the four identified clusters. As the ANOVA test cannot tell which specific groups are statistically different from each other, post-hoc comparisons of clusters were additionally carried out using Tukey's range test.

¹⁶² In the interpretation of cluster results, it has to be noted that acquisition decisions are highly complex and involve a great number of influencing factors. Hence, the cause-and-effect relationships are not always unambiguous.

¹⁶³ Tukey's range test (Tukey, 1949) is a statistical test that is frequently used in conjunction with an ANOVA. The method is based on a studentized range distribution (q) that is similar to the distribution of t in the t-test of equality of means. The Tukey test is a more conservative test as some differences judged statistically significant when using the independent sample t-test would not be considered significant using the Tukey method.

The four identified clusters described below are similar with regards to several firm characteristics. First of all, firms in the four segments have on average between 1,000 and 3,000 employees and generated total sales between 251 and 500 million euros in the financial year 2016. In addition, firms in the segments have on average undertaken one to five acquisitions in the past five years and around 15 percent of firms in each group can be classified as serial acquirers that completed more than ten acquisitions in this time frame. The cluster comparison also suggests that the relative firm performance index is similar across acquirer groups. With regards to family firm characteristics, all four clusters are comprised of a similar proportion of family firms that intend to pass the business on to the next generation.

Cluster 1 (finance-focused acquirers): The finance-focused cluster is the second-largest segment, including 90 corporate M&A decision-makers (see Figure 5-9). Acquirers in this cluster select target companies primarily on the basis of monetary decision criteria such as profitability (29.9%) and acquisition price (16.8%). Finance-focused acquirers are very sensitive to changes in the target's profitability (Appendix, Figure A5-7, p. 304) and are furthermore characterized by extremely high price sensitivity (Appendix, Figure A5-8, p. 304).

Individual characteristics: The finance-focused cluster is comprised of relatively young acquirers with an average age of 35–44 years, and has the highest share of female decision-makers (14%, $p = 0.027$) and entrepreneurs (14%, $p = 0.113$). With regards to experience measures, two findings stand out. First, acquirers in this segment have significantly fewer external board seats ($M = 1.74$, $p = 0.073$) than executives in other groups. Second, finance-focused acquirers have the lowest acquisition process experience index across all acquirer segments ($M = 3.49$, $p = 0.007$). In particular, they rank significantly lower in terms of M&A task-related experience in strategy formulation ($M = 3.41$, $p = 0.010$), due diligence and target valuation ($M = 3.68$, $p = 0.024$), deal negotiation ($M = 3.42$, $p = 0.004$) and integration ($M = 3.36$, $p = 0.012$). Finally, the analysis of personality traits indicates that finance-focused acquirers tend to rank higher in openness to new experience ($M = 5.74$, $p = 0.152$) and lower in emotional stability ($M = 5.79$, $p = 3.74$) than those in other segments.

Firm and environmental characteristics: The financed-focused cluster has both the highest share of stock-listed corporations (37%, $p = 0.036$) and the largest percentage of firms with external blockholder ownership (26%, $p = 0.080$) (e.g. institutional investors, banks, private equity funds). The cluster comparison also indicates that firms in this segment tend to pursue short-term financial goals ($M = 1.82$, $p = 0.121$) rather than long-term strategic objectives. Furthermore, firms in this segment are characterized by significantly lower scores

for entrepreneurial orientation ($M = 3.14$, $p = 0.011$) and regarding the risk-taking index ($M = 2.69$, $p = 0.001$). This manifests in a higher preference for low-risk projects with certain rates of returns ($M = 2.66$, $p = 0.011$) and a tendency to explore the environment in cautious, incremental manner ($M = 2.79$, $p < 0.001$). With regards to acquisition motives, finance-focused acquirers tend to engage in efficiency-enhancing acquisitions as their primary M&A objectives are to realize synergies ($M = 3.92$, $p = 0.021$) in terms of scale and scope economies ($M = 3.63$, $p = 0.021$).

With regards to family firm characteristics, the cluster comparison indicates that the share of family firms (*family firm1*) in the finance-focused cluster is lower (56% , $p = 0.106$)¹⁶⁴ than in the other three segments. Family firms in this cluster are on average in an earlier generational stage ($M = 2.60$, $p = 0.075$) than those in the conservative acquirer clusters.¹⁶⁵ Finally, firms in the finance-focused cluster exhibit a significantly lower firm performance in terms of sales growth ($M = 3.46$, $p = 0.035$) than other segments, and tend to operate in a moderately dynamic ($M = 3.78$, $p = 0.868$) and competitive ($M = 4.31$, $p = 0.848$) market environment.

Cluster 2 (conservative acquirers): The conservative acquirer cluster is the smallest segment, with 47 corporate M&A decision-makers (see Figure 5-9, p. 150). Decision-makers in this cluster select potential acquisition candidates primarily on the basis of the decision criteria *business model* (21.5%) and *profitability* (21.5%). In addition, conservative acquirers are the only segment with a preference for *similar and complementary* business models (Appendix, Figure A5-6, p. 303) and the one most sensitive to changes in the *target's corporate reputation* (Appendix, Figure A5-3, p. 302).

Individual characteristics: The conservative acquirer cluster is the segment with the highest share of male decision-makers (98%, $p = 0.077$) and the lowest proportion of supervisory board members (2%, $p = 0.068$). Decision-makers in this cluster have higher functional experience in accounting ($M = 3.74$, $p = 0.109$) and lower functional experience in marketing ($M = 3.23$, $p = 0.063$) than acquirers in other clusters. In addition, the analysis of cluster structure indicates that conservative acquirers have relatively high individual acquisition

¹⁶⁴ The *family firm2* definition also indicates a lower share of family firms in the finance-focused cluster ($M = 0.60$, $p = 0.05$). A contrasting finding results if *family firm3*, the subjective family firm definition, is used. In this case, t-test statistics find that the share of family firms is significantly higher ($M = 0.46$, $p = 0.06$) in cluster 1 than in the other three clusters. This robustness test suggests that the family firm definition used matters in the interpretation of statistical results.

¹⁶⁵ For the interpretation of family firm variables such as generational stage and transgenerational intent the *family firm1* definition is used.

process experience in due diligence and target valuation ($M = 4.00$, $p = 0.452$) and relatively low external board experience ($M = 1.79$, $p = 0.340$). With regards to decision-makers' personality traits, the cluster is comprised of acquirers who rank highest in emotional stability ($M = 6.07$, $p = 0.056$) and conscientiousness ($M = 6.33$, $p = 0.083$).

Firm and environmental characteristics: The conservative acquirer cluster has a relatively high share of firms with external blockholder ownership (21%, $p = 0.735$). The cluster comparison also reveals that firms in this segment tend to pursue short-term financial goals ($M = 1.83$, $p = 0.284$) rather than long-term strategic objectives. Furthermore, firms in this segment are characterized by a significantly lower innovativeness score ($M = 3.33$, $p = 0.022$) relative to BM-focused acquirers. In particular, conservative acquirers have marketed fewer new product lines in the past five years ($M = 3.79$, $p = 0.076$). The lower innovativeness also manifests in a significantly higher emphasis on the marketing of "tried-and-true" products and services ($M = 2.94$, $p = 0.009$) than in other acquirer groups. With regards to acquisition motives, the cluster comparison indicates that conservative acquirers prefer efficiency-enhancing acquisitions, since they rank significantly lower than other acquirer segments on resource-enhancing motives such as gaining access to (1) managerial or technical talent ($M = 2.87$, $p = 0.008$), (2) new technologies and R&D ($M = 3.51$, $p = 0.015$) and (3) innovative or disruptive business models ($M = 3.26$, $p = 0.015$).

With regards to family firm characteristics, the segment is comprised of the highest share of family-managed firms (45%, $p = 0.112$) and family firms with the highest ownership concentration (4.94, $p = 0.011$) across all acquirer groups. In addition, family firms in the conservative acquirer group are also in a later generational stage ($M = 3.16$, $p = 0.027$) than those in the finance-focused cluster. Finally, the market environment in which firms in this cluster operate is characterized by a relatively low environmental dynamism index ($M = 3.41$, $p = 0.001$).

Cluster 3 (business model-focused acquirers): The business model-focused cluster is the third-largest segment, with 66 corporate M&A decision-makers (see Figure 5-9, p. 150). Acquirers in this segment choose potential acquisition candidates primarily on the basis of the decision criteria *business model* (31.2%) and *quality of top management team* (23.3%). The analysis of average utilities at the attribute level further reveals that BM-focused acquirers have an extremely pronounced preference for disruptive business models (Appendix, Figure A5-6, p. 303). In addition, BM-focused acquirers react least sensitive to changes in the corporate

culture (Appendix, Figure A5-4, p. 302) and the profitability of the target company (Appendix, Figure A5-7, p. 304).

Individual characteristics: BM-focused acquirers (disruptors) predominantly have a functional background in operations ($M = 3.68$, $p = 0.036$) and are also relatively experienced in general management ($M = 4.39$, $p = 0.160$). The BM-focused cluster represents the segment with the highest share of decision-makers with an educational background in engineering ($M = 29\%$, $p = 0.183$). These decision-makers also have more board experience ($M = 2.21$, $p = 0.109$) than executives in other clusters. The cluster comparison furthermore reveals that decision-makers in this cluster have relatively high acquisition process experience in acquisition integration ($M = 3.85$, $p = 0.031$). Being more experienced in integrating targets might make BM-focused acquirers more confident in handling the challenges associated with disruptive business models. With regards to personality traits, BM-focused acquirers rank highest in extraversion ($M = 5.40$, $p = 0.064$) and have the lowest scores for agreeableness ($M = 4.61$, $p = 0.105$) compared with other clusters.

Firm and environmental characteristics: Firms in the BM-focused cluster are driven by a long-term strategic orientation ($M = 1.41$, $p = 0.024$) rather than a short-term financial orientation. In addition, firms in this segment are characterized by a significantly higher level of entrepreneurial orientation ($M = 3.49$, $p = 0.006$) compared with finance-focused acquirers. In particular, firms in the BM-focused segment are more proactive ($M = 3.61$, $p = 0.065$), have a higher willingness to take risks ($M = 3.18$, $p = 0.016$) and rank higher in innovativeness ($M = 3.85$, $p = 0.015$). This manifests, for instance, in a significantly higher focus among these firms on technological leadership ($M = 3.73$, $p = 0.025$), a stronger proclivity for high-risk projects with a possibility of high return ($M = 3.18$, $p = 0.004$) and a stronger preference for bold acts to achieve firm objectives ($M = 3.38$, $p = 0.013$). The cluster comparison further shows that BM-focused acquirers have a strong tendency to engage in resource-enhancing acquisitions. Their primary objectives for undertaking acquisitions are to extend into new products or markets ($M = 4.56$, $p = 0.012$) and to gain access to new technologies and R&D ($M = 4.11$, $p = 0.026$) and to innovative or disruptive business models ($M = 4.05$, $p < 0.001$). In contrast, acquisition motives such as synergy realization ($M = 3.44$, $p = 0.011$) and scale and scope economies ($M = 3.11$, $p = 0.005$) are significantly less relevant for BM-focused acquirers.

With regards to family firm characteristics, the cluster comparison reveals that when using the broad family firm definition (*family firm2*), then the share of family firms in the BM-focused cluster is significantly higher than in the other clusters (77%, $p = 0.071$). No difference

was found with respect to other family firm variables included in the analysis. Finally, the market environment in which firms in the BM-focused cluster operate tends to be more dynamic ($M = 3.94$, $p = 0.127$) than those of the other acquirer segments.

Cluster 4 (TMT-focused acquirers): The TMT-focused cluster is the largest segment, with 95 corporate M&A decision-makers (see Figure 5-9, p. 150). Acquirers in this segment select potential acquisition candidates primarily on the basis of the decision criterion *quality of top management team* (39.6%). The analysis of average utilities at the attribute level further reveals that TMT-focused acquirers have an extremely pronounced preference for targets that have a high-quality top management team (Appendix, Figure A5-5, p. 303).

Individual characteristics: The TMT-focused cluster is the segment with the highest share of supervisory board members (14%, $p = 0.074$). The decision-makers in this group are, with an average age of between 45 and 54 ($p = 0.030$) significantly older than those in the finance-focused segment. In addition, the analysis of cluster structure indicates that TMT-focused acquirers have a comparably high individual acquisition process experience in target screening ($M = 3.78$, $p = 0.286$), due diligence and target valuation ($M = 4.02$, $p = 0.156$) and deal negotiation ($M = 3.87$, $p = 0.136$), and a fairly high external board experience ($M = 2.09$, $p = 0.285$). With regards to decision-makers' personality traits, the cluster is comprised of acquirers who rank highest in agreeableness ($M = 4.92$, $p = 0.072$) and lowest in extraversion ($M = 4.91$, $p = 0.028$) relative to other acquirer groups.

Firm and environmental characteristics: Firms in this segment tend to pursue long-term strategic goals ($M = 1.68$, $p = 0.915$) rather than short-term financial objectives. In addition, the cluster comparison indicates that firms in the TMT-focused cluster rank relatively high in entrepreneurial orientation ($M = 3.32$, $p = 0.544$). With regards to acquisition motives, the cluster comparison indicates that TMT-focused acquirers prefer resource-enhancing acquisitions, since their primary objective for engaging in transactions is to gain access to managerial or technical talent ($M = 3.61$, $p < 0.001$). With regards to family firm characteristics in the TMT-focused cluster, one finding stands out. The Tukey pairwise comparison (see Table A5-5, p. 308) suggests that family firms in the TMT-focused segment are characterized by a significantly ($p < 0.10$) lower level of ownership concentration ($M = 4.50$) than those in the conservative acquirer cluster ($M = 4.94$). Finally, the market environment in which firms in this TMT-focused cluster operate is comparably dynamic, as evidenced by a relatively high dynamism index ($M = 3.88$, $p = 0.259$) and competitiveness index ($M = 4.33$, $p = 0.585$).

Table 5-4: Cluster comparison in terms of individual-level passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One- way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
Demographics:									
Male (in %)	0.86	p = 0.027	0.98	p = 0.077	0.95	p = 0.163	0.91	p = 0.808	2.63**
Age (in 5 categories)	2.69	p = 0.002	3.11	p = 0.316	2.97	p = 0.982	3.16	p = 0.030	3.63***
Position (in 4 categories)	2.59	p = 0.061	2.53	p = 0.4615	2.44	p = 0.932	2.29	p = 0.036	2.03
Member of the advisory or supervisory board (in %)	0.06	p = 0.154	0.02	p = 0.068	0.11	p = 0.659	0.14	p = 0.074	2.33*
Member of the management board (in %)	0.49	p = 0.535	0.57	p = 0.389	0.53	p = 0.800	0.52	p = 0.988	0.31
Head of specialized department (in %)	0.27	p = 0.542	0.26	p = 0.837	0.18	p = 0.189	0.26	p = 0.590	0.61
Member of specialized department (in %)	0.19	p = 0.195	0.15	p = 0.985	0.18	p = 0.384	0.08	p = 0.035	1.63
Member of family firm (in %)	0.34	p = 0.657	0.31	p = 0.910	0.30	p = 0.782	0.32	p = 0.985	0.05
Entrepreneur (in %)	0.14	p = 0.113	0.09	p = 0.679	0.05	p = 0.087	0.12	p = 0.593	1.44
General experience:									
Organizational tenure (in 7 categories)	3.93	p = 0.280	4.26	p = 0.598	4.15	p = 0.875	4.22	p = 0.533	0.44
Board experience (in 7 categories)	1.74	p = 0.073	1.79	p = 0.340	2.21	p = 0.109	2.09	p = 0.285	1.95

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters.

T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4).

Statistically significant levels: *p ≤ 0.10 **p ≤ 0.05 ***p ≤ 0.01.

Table 5-4 (continued): Cluster comparison in terms of individual-level passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One- way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
<i>Functional experience:</i>									
Accounting ¹	3.46	p = 0.219	3.74	p = 0.109	3.53	p = 0.819	3.54	p = 0.836	1.08
Finance ¹	3.90	p = 0.517	3.94	p = 0.903	3.86	p = 0.366	4.03	p = 0.282	0.56
General management ¹	4.20	p = 0.262	4.15	p = 0.217	4.39	p = 0.160	4.32	p = 0.547	1.33
Legal ¹	3.34	p = 0.388	3.53	p = 0.340	3.42	p = 0.922	3.41	p = 0.960	0.43
Marketing ¹	3.48	p = 0.930	3.23	p = 0.063	3.59	p = 0.243	3.46	p = 0.929	1.34
Operations ¹	3.44	p = 0.786	3.45	p = 0.873	3.68	p = 0.036	3.37	p = 0.219	1.53
<i>Acquisition process experience:</i>									
Strategy formulation ¹	3.41	p = 0.010	3.72	p = 0.613	3.77	p = 0.294	3.73	p = 0.407	2.05
Target screening ¹	3.57	p = 0.261	3.64	p = 0.793	3.67	p = 0.928	3.78	p = 0.286	0.57
Due diligence and target valuation ¹	3.68	p = 0.024	4.00	p = 0.452	3.83	p = 0.620	4.02	p = 0.156	1.85
Deal negotiation ¹	3.42	p = 0.004	3.68	p = 0.787	3.88	p = 0.229	3.87	p = 0.136	2.89**
Integration ¹	3.36	p = 0.012	3.49	p = 0.464	3.85	p = 0.031	3.68	p = 0.333	3.14**
Acquisition process experience index ²	3.49	p = 0.007	3.71	p = 0.990	3.80	p = 0.361	3.82	p = 0.167	2.39*

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters.

T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4).

Statistically significant levels: *p ≤ 0.10 **p ≤ 0.05 ***p ≤ 0.01.

¹ Likert item measured on a 5-point Likert-type scale. ² Index measured on a 5-point Likert-type scale.

Table 5-4 (continued): Cluster comparison in terms of individual-level passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One- way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
Education background:									
BA or economics (in %)	0.84	p = 0.150	0.79	p = 0.919	0.73	p = 0.139	0.79	p = 0.924	1.06
Engineering (in %)	0.21	p = 0.670	0.19	p = 0.529	0.29	p = 0.183	0.22	p = 0.869	0.62
Humanities (in %)	0.01	p = 0.887	0.00	p = 0.458	0.03	p = 0.058	0.00	p = 0.242	1.39
Law (in %)	0.12	p = 0.185	0.04	p = 0.227	0.08	p = 0.675	0.09	p = 0.808	0.86
Mathematics (in %)	0.02	p = 0.773	0.04	p = 0.451	0.03	p = 0.820	0.01	p = 0.248	0.52
Natural science (in %)	0.04	p = 0.799	0.09	p = 0.220	0.03	p = 0.421	0.05	p = 0.859	0.60
Social sciences (in %)	0.01	p = 0.284	0.06	p = 0.081	0.02	p = 0.524	0.02	p = 0.700	1.39
Other (in %)	0.01	p = 0.168	0.06	p = 0.197	0.06	p = 0.155	0.02	p = 0.437	1.56
Formal education level (in 5 categories)	5.12	p = 0.931	5.17	p = 0.692	5.20	p = 0.424	5.06	p = 0.332	0.43
Personality traits:									
Emotional stability ¹	5.79	p = 0.374	6.07	p = 0.056	5.85	p = 0.898	5.82	p = 0.583	1.31
Agreeableness ¹	4.74	p = 0.721	4.82	p = 0.729	4.61	p = 0.105	4.92	p = 0.072	1.49
Openness to new experience ¹	5.74	p = 0.152	5.56	p = 0.567	5.61	p = 0.862	5.57	p = 0.401	0.75
Conscientiousness ¹	6.12	p = 0.570	6.33	p = 0.083	6.06	p = 0.253	6.17	p = 0.830	1.29
Extraversion ¹	5.16	p = 0.896	5.22	p = 0.651	5.40	p = 0.064	4.91	p = 0.028	2.06

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters. T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4).

Statistically significant levels: *p ≤ 0.10 **p ≤ 0.05 ***p ≤ 0.01. ¹ Measured on a 7-point Likert-type scale.

Table 5-5: Cluster comparison in terms of firm and environmental-level passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One- way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
General firm characteristics:									
Firm size 1: total sales (in 8 categories)	5.58	p = 0.590	5.64	p = 0.908	5.82	p = 0.465	5.69	p = 0.867	0.22
Firm size 2: employees (in 8 categories)	5.63	p = 0.907	5.53	p = 0.656	5.88	p = 0.316	5.58	p = 0.665	0.37
Firm age (in years)	94.87	p = 0.346	92.41	p = 0.746	85.23	p = 0.503	86.81	p = 0.582	0.42
Firm orientation ¹	1.82	p = 0.121	1.83	p = 0.284	1.41	p = 0.024	1.68	p = 0.915	2.21*
Listed firm (in %)	0.37	p = 0.036	0.21	p = 0.247	0.24	p = 0.411	0.25	p = 0.431	1.75
External blockholder (in %)	0.26	p = 0.080	0.21	p = 0.735	0.14	p = 0.198	0.17	p = 0.436	1.31
Relative firm performance:									
Sales growth ¹	3.46	p = 0.035	3.68	p = 0.455	3.65	p = 0.563	3.67	p = 0.284	1.45
Profitability ¹	3.63	p = 0.767	3.64	p = 0.810	3.58	p = 0.686	3.59	p = 0.748	0.10
Relative firm performance index ²	3.54	p = 0.301	3.66	p = 0.565	3.61	p = 0.928	3.63	p = 0.671	0.39
Entrepreneurial orientation:									
Entrepreneurial orientation index ²	3.14	p = 0.011	3.22	p = 0.407	3.49	p = 0.006	3.32	p = 0.544	3.81***
Innovativeness index ²	3.54	p = 0.382	3.33	p = 0.022	3.85	p = 0.015	3.64	p = 0.752	3.28**
Proactiveness index ²	3.32	p = 0.176	3.41	p = 0.637	3.61	p = 0.065	3.41	p = 0.829	1.33
Risk-taking index ²	2.69	p = 0.001	3.05	p = 0.386	3.18	p = 0.016	3.00	p = 0.516	4.65***

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters.

T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4).

Statistically significant levels: *p ≤ 10 **p ≤ 0.05 ***p ≤ 0.01. ¹ Likert item measured on a 5-point Likert-type scale. ² Index measured on a 5-point Likert-type scale.

Table 5-5 (continued): Cluster comparison in terms of firm and environmental-level passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One-way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
EO1: Emphasis on the marketing of tried-and-tested products vs emphasis on R&D, technological leadership and innovation ¹	3.36	p = 0.699	2.94	p = 0.009	3.73	p = 0.025	3.42	p = 0.862	3.33**
EO2: No new lines vs many new lines of products/services were marketed ¹	3.99	p = 0.697	3.79	p = 0.076	4.24	p = 0.041	4.01	p = 0.882	2.04
EO3: Changes in product/service lines were mostly minor in nature vs drastic changes ¹	3.28	p = 0.161	3.28	p = 0.352	3.58	p = 0.142	3.47	p = 0.462	1.39
EO4: Respond to actions that competitors initiate vs initiate actions to which competitors react ¹	3.26	p = 0.229	3.32	p = 0.751	3.52	p = 0.159	3.39	p = 0.746	0.91
EO5: Very seldom the first business to introduce new products vs very often the first business ¹	3.38	p = 0.251	3.51	p = 0.910	3.71	p = 0.078	3.43	p = 0.524	1.21
EO6: Avoid competitive clashes vs very competitive ¹	2.94	p = 0.147	2.96	p = 0.390	3.09	p = 0.865	3.20	p = 0.132	1.23
EO7: Strong proclivity for low-risk projects (certain return) vs for high-risk projects (high return) ¹	2.66	p = 0.011	2.92	p = 0.761	3.18	p = 0.004	2.85	p = 0.788	3.88***
EO8: Explore the environment gradually vs bold, wide-ranging acts to achieve firm's objectives ¹	2.79	p < 0.001	3.19	p = 0.495	3.38	p = 0.013	3.14	p = 0.643	4.46***
EO9: In uncertain situations, company adopts a cautious stance vs adopts a bold, aggressive stance ¹	2.62	p = 0.009	3.04	p = 0.258	2.97	p = 0.432	3.00	p = 0.1836	2.52*

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters. T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4). Statistically significant levels: *p ≤ 0.10 **p ≤ 0.05 ***p ≤ 0.01. ¹ Likert item measured on a 5-point Likert-type scale.

Table 5-5 (continued): Cluster comparison in terms of firm and environmental-level passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One-way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
Organizational acquisition experience (in 5 categories)	2.94	p = 0.491	2.74	p = 0.118	3.17	p = 0.338	3.13	p = 0.382	1.22
Acquisition intensity (in 5 categories)	2.40	p = 0.939	2.34	p = 0.667	2.45	p = 0.715	2.37	p = 0.692	0.11
Serial acquirer (in %)	0.17	p = 0.787	0.15	p = 0.855	0.15	p = 0.873	0.15	p = 0.873	0.05
Acquisition motives:									
Realize synergies ¹	3.92	p = 0.021	3.77	p = 0.718	3.44	p = 0.011	3.65	p = 0.451	3.13**
Achieve greater scale, lower operating costs ¹	3.63	p = 0.021	3.60	p = 0.211	3.11	p = 0.005	3.32	p = 0.235	4.14***
Meet growth objectives ¹	4.04	p = 0.560	4.13	p = 0.808	4.02	p = 0.456	4.18	p = 0.320	0.46
Extend into new products/markets ¹	4.29	p = 0.488	4.21	p = 0.248	4.56	p = 0.012	4.32	p = 0.740	2.20*
Diversify risk ¹	2.89	p = 0.164	3.09	p = 0.671	3.21	p = 0.111	2.99	p = 0.718	1.21
Access to managerial/technical talent ¹	3.08	p = 0.064	2.87	p = 0.008	3.27	p = 0.892	3.61	p < 0.001	6.39***
Access to new technologies/R&D ¹	3.76	p = 0.300	3.51	p = 0.015	4.11	p = 0.026	3.92	p = 0.476	3.35**
Access to innovative/disruptive business models ¹	3.52	p = 0.344	3.26	p = 0.015	4.05	p < 0.001	3.57	p = 0.621	5.47***
Environmental characteristics:									
Environmental dynamism index ²	3.78	p = 0.868	3.41	p = 0.001	3.94	p = 0.127	3.88	p = 0.259	4.04***
Environmental competitiveness index ²	4.31	p = 0.848	4.20	p = 0.296	4.27	p = 0.725	4.33	p = 0.585	0.4

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters. T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4).

Statistically significant levels: *p ≤ 0.10 **p ≤ 0.05 ***p ≤ 0.01.¹ Likert item measured on a 5-point Likert-type scale. ² Index measured on a 5-point Likert-type scale

Table 5-6: Cluster comparison in terms of family firm-specific passive variables

Variable	Cluster 1: Finance-focused acquirers (N = 90)		Cluster 2: Conservative acquirers (N = 47)		Cluster 3: BM-focused acquirers (N = 66)		Cluster 4: TMT-focused acquirers (N = 95)		One-way ANOVA F-test
	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	Mean	Test for equality of means/ proportions	
Family firm1: narrow definition (in %)	0.56	p = 0.106	0.68	p = 0.391	0.70	p = 0.173	0.62	p = 0.924	1.31
Family firm2: broad definition (in %)	0.60	p = 0.049	0.68	p = 0.999	0.77	p = 0.071	0.69	p = 0.729	1.79
Family firm3: subjective definition (in %)	0.46	p = 0.060	0.34	p = 0.596	0.32	p = 0.283	0.36	p = 0.679	1.25
Family management ¹ (in %)	0.28	p = 0.109	0.45	p = 0.112	0.35	p = 0.952	0.29	p = 0.758	0.77
Concentration of family ownership (in 5 categories)	4.46	p = 0.200	4.94	p = 0.011	4.67	p = 0.452	4.50	p = 0.297	2.72**
Generational stage ¹ (in 4 categories)	2.60	p = 0.075	3.16	p = 0.027	2.67	p = 0.200	3.00	p = 0.244	2.93**
Transgenerational intention ¹ (in %)	0.67	p = 0.145	0.77	p = 0.779	0.80	p = 0.515	0.76	p = 0.861	0.80
Transgenerational intention ² (in 4 categories)	2.93	p = 0.284	3.10	p = 0.934	3.17	p = 0.633	3.13	p = 0.796	0.38

Notes: N = 298. A one-way ANOVA F-test was performed that shows whether statistically significant differences exist between the means of the four clusters.

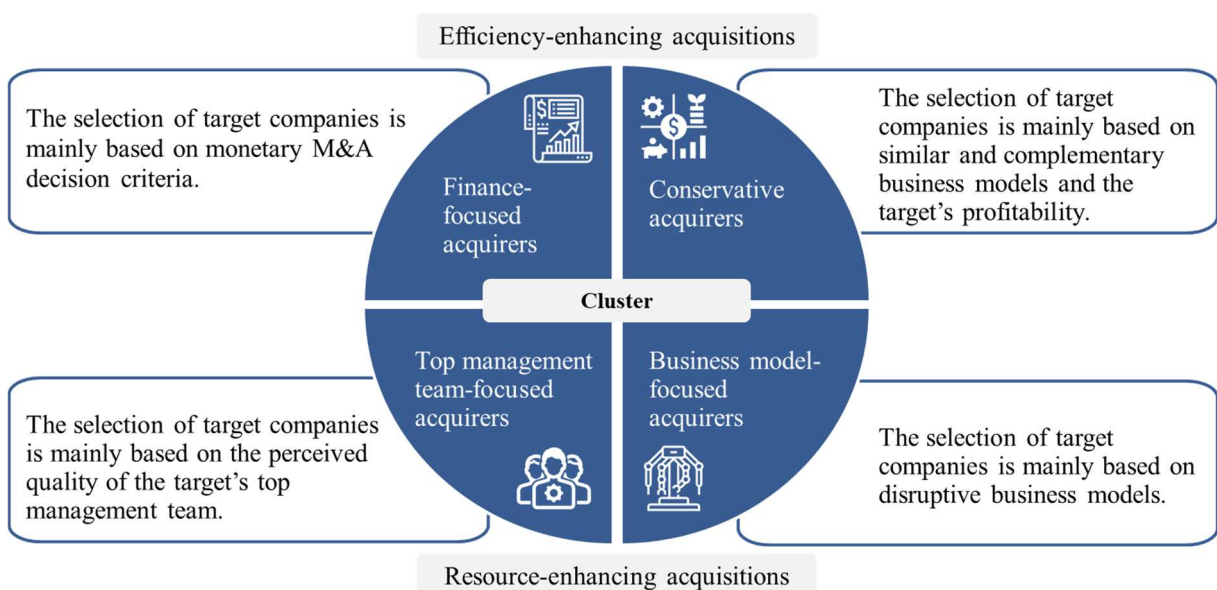
T-tests of equality of means or proportions are used to compare differences across clusters (e.g. cluster 1 vs clusters 2, 3 and 4).

Statistically significant levels: *p ≤ 10 **p ≤ 0.05 ***p ≤ 0.01. ¹ Calculation based on narrow family firm definition.

5.2.3 Discussion of results

The aim of this chapter has been to develop an empirical taxonomy of strategic decision-making behaviour in family and non-family firms. The results relating to the second research question (RQ2.1) show that acquirers' decision-making preferences are not homogeneous and that there exist different decision-making patterns in acquisition target screening. In particular, the two-step cluster analysis identified four distinct M&A decision-making patterns among acquirers (see Figure 5-10): finance-focused acquirers, conservative acquirers, TMT-focused acquirers and business model-focused acquirers (RQ1). These four acquirer segments differ according to the importance attached to different M&A decision criteria in acquisition target screening. Table 5-7 (p. 166 et seq.) summarizes the results of the cluster comparison.

Figure 5-10: Summary of identified clusters (types of acquirers)



In relation to the second exploratory research question, I also assessed whether the identified decision-making patterns differ between family and non-family firms (RQ2.2). Prior research has produced a large variety of evidence that family firms differ from non-family firms in their strategic decision-making. Many scholars link differences in strategic conduct between family and non-family firms to the existence of non-economic goals or socioemotional wealth among family business owners (Gómez-Mejía et al., 2014). The results of the cluster analysis suggest that the identified acquirer segments do not fundamentally differ across family and non-

family firms. The ownership structure of the firm and the channels of family influence were found to be weak predictors of the cluster structure. However, there seems to be a relationship between cluster formation and the generational stage and ownership concentration of family firms.

Similarities across clusters: The four identified clusters are similar with regards to several firm-level variables. The cluster comparison showed that the average firm size in terms of total annual sales ranges between 251 and 500 million euros across all clusters. Furthermore, firms in each segment employ on average between 1,001 and 3,000 employees. Even though the analysis showed that the average age of firms in the finance-focused (94.87) and conservative acquirer (92.41) clusters are higher than in the BM-focused (85.23) and TMT-focused (86.81) clusters, these differences were not found to be statistically significant. No significant differences across the four clusters were found with regards to relative firm performance either. In addition, all acquirer groups have a similar level of organizational acquisition experience. Firms have completed on average between one and five transactions in the past five years and the proportion of serial acquirers ranges between 15 and 17 percent across all identified clusters. Hence, firm characteristics such as size, age, relative performance and organizational acquisition experience do not explain cluster formation.

The analysis shows that the governance structure partly helps to explain the cluster structure. While the proportion of listed firms in the conservative acquirer (21%), BM-focused (24%) and TMT-focused (25%) clusters are quite balanced, the finance-focused cluster (37%) has a significantly higher share of listed firms. A similar result was found with regards to the share of firms with external blockholder ownership, which is only significantly higher in the finance-focused cluster (26%). Strategic firm orientation (i.e. either long-term strategic or short-term financial orientation) and the nature of the environment in which the firm operates were also found to be relatively weak predictors of cluster structure.

Differences across clusters: The comprehensive analysis of passive variables using ANOVA F-tests, Tukey pairwise comparisons and t-tests for equality of means or proportions reveals that the cluster structure is strongly influenced by certain individual and firm characteristics. At the level of the individual decision-maker, human capital characteristics such as the age, gender, position, individual acquisition process experience (i.e. task-specific experience) and personality traits of the individual corporate M&A decision-maker were found to be the main predictors of cluster formation. This is in line with upper echelons theory

(Hambrick, 2007; Hambrick and Mason, 1984), which posits that executives' observable demographic characteristics, experience and personality traits are crucial indicators of their cognitions and values and, consequently, strong predictors of variations in their strategic decision-making behaviour.

At the firm level, the entrepreneurial orientation and acquisition motives of firms are the main predictors of cluster membership. In line with this, two results stand out. A critical assessment of the entrepreneurial orientation and acquisition motives across clusters shows that finance-focused and conservative acquirers are characterized by a relatively low entrepreneurial orientation and are driven by operational synergy motives when engaging in acquisitions (i.e. efficiency-enhancing acquisitions). In contrast, BM-focused and TMT-focused acquirers are characterized by relatively high levels of entrepreneurial orientation and engage in acquisitions to access valuable resources (i.e. resource-enhancing acquisitions). Hence, the identified acquirer patterns fall into two distinct categories: efficiency-enhancing acquisitions and resource-enhancing acquisitions. This is in line with prior M&A literature that suggests that two distinct sources of value generation from acquisitions exist. On the one hand, corporate acquisitions can represent a strategic decision aimed at leveraging a firm's existing resources and capabilities (Capron, 1999; Capron et al., 1998; Kaul, 2012; Kaul and Wu, 2015). Value creation stems in this case from improving the performance of the target. On the other hand, corporate acquisitions can be seen as a strategic choice aimed at acquiring new capabilities and resources (Ahuja and Katila, 2001; Graebner, 2004; Karim and Mitchell, 2000).

Table 5-7: Summary of cluster comparison

	Cluster 1 (N = 90): Finance-focused acquirers	Cluster 2 (N = 47): Conservative acquirers	Cluster 3 (N = 66): Business model-focused acquirers	Cluster 4 (N = 95): TMT-focused acquirers
Decision-making pattern	The selection of target companies is mainly based on monetary M&A decision criteria: target profitability (29.9%) and expected acquisition price (16.8%).	The selection of target companies is mainly based on similar or complementary business models (21.5%) and the target's profitability (21.5%).	The selection of target companies is mainly based on disruptive business models (31.2%) and on the perceived quality of the top management team (23.3%).	The selection of target companies is mainly based on the perceived quality of the target's top management team (39.6%).
Individual-level characteristics:				
General	<ul style="list-style-type: none"> ▪ Younger acquirers (on average between 35 and 44 years old) ▪ Lowest share of male decision-makers (86%) ▪ Highest share of entrepreneurs (14%) 	<ul style="list-style-type: none"> ▪ Highest share of male decision-makers (98%) ▪ Lowest share of supervisory board members (2%) 	<ul style="list-style-type: none"> ▪ Lowest share of entrepreneurs (5%) 	<ul style="list-style-type: none"> ▪ Older acquirers (on average between 45 and 54 years old) ▪ Highest share of supervisory board members (14%)
Experience	<ul style="list-style-type: none"> ▪ Highest share with education background in BA/economics (84%)* ▪ Lowest acquisition process experience index (M = 3.49): <ul style="list-style-type: none"> - strategy formulation (M = 3.41) - target screening (M = 3.57)* - due diligence and target valuation (M = 3.68) - deal negotiation (M = 3.42) - integration (M = 3.36) ▪ Decision-makers hold the lowest average number of external board seats (M = 1.74) 	<ul style="list-style-type: none"> ▪ Highest share with education background in social sciences (6%) ▪ Highest functional experience in accounting (M = 3.74)* ▪ Lowest functional experience in marketing (M = 3.23) ▪ Relatively high acquisition process experience in due diligence and target valuation (M = 4.00)* 	<ul style="list-style-type: none"> ▪ Highest share with education background in engineering (29%)* ▪ High functional experience in operations (M = 3.68) ▪ High acquisition process experience index (M = 3.80)* ▪ Relatively high acquisition process experience in deal negotiation (M = 3.88)* ▪ Highest acquisition process experience in integration (M = 3.85) ▪ Decision-makers hold the highest average number of external board seats (M = 2.21)* 	<ul style="list-style-type: none"> ▪ Highest acquisition process experience index (M = 3.82)* <ul style="list-style-type: none"> - target screening (M = 3.78)* - due diligence and target valuation (M = 4.02)* - deal negotiation (M = 3.87)* - integration (M = 3.68)* ▪ Decision-makers hold a relatively high number of external board seats (M = 2.09)*
Personality traits	Decision-makers rank: <ul style="list-style-type: none"> ▪ highest in openness to new experience (M = 5.74)* ▪ lowest in emotional stability (M = 5.79)* 	Decision-makers rank: <ul style="list-style-type: none"> ▪ highest in emotional stability (M = 6.07) ▪ highest in conscientiousness (M = 6.33) 	Decision-makers rank: <ul style="list-style-type: none"> ▪ highest in extraversion (M = 5.40) ▪ lowest in agreeableness (M = 4.61)* 	Decision-makers rank: <ul style="list-style-type: none"> ▪ highest in agreeableness (M = 4.92) ▪ lowest in extraversion (M = 4.91)

Notes: *No statistically significant difference was found between clusters ($p > 0.10$).

Table 5-7 (continued): Summary of cluster comparison

	Cluster 1 (N = 90): Finance-focused acquirers	Cluster 2 (N = 47): Conservative acquirers	Cluster 3 (N = 66): Business model-focused acquirers	Cluster 4 (N = 95): TMT-focused acquirers
<i>Firm-level characteristics:</i>				
Firm orientation	▪ Firms tend to pursue short-term financial goals (M = 1.82)*	▪ Firms tend to pursue short-term financial goals (M = 1.83)*	▪ Firms tend to pursue long-term strategic goals (M = 1.41)	▪ Firms tend to pursue long-term strategic goals (M = 1.68)*
Firm size*	▪ Average size in terms of total sales: 251–500 million euros ▪ Average size in terms of number of employees: 1,001–3,000	▪ Average size in terms of total sales: 251–500 million euros ▪ Average size in terms of number of employees: 1,001–3,000	▪ Average size in terms of total sales: 251–500 million euros ▪ Average size in terms of number of employees: 1,001–3,000	▪ Average size in terms of total sales: 251–500 million euros ▪ Average size in terms of number of employees: 1,001–3,000
Relative firm performance*	▪ Lowest relative performance index (M = 3.54)* ▪ Lowest relative firm performance in terms of sales growth (3.46)	▪ Average relative performance index (M = 3.66)*	▪ Average relative performance index (M = 3.61)*	▪ Average relative performance index (M = 3.63)*
Governance	▪ Highest share of listed firms (37%) ▪ Highest share of firms with ext. blockholder ownership (26%)	▪ Relatively high share of firms with external blockholder ownership (21%)*	▪ Lowest share of firms with external blockholder ownership (14%)*	▪ Relatively low share of firms with external blockholder ownership (17%)*
Family firm characteristics	▪ Lowest share of family firms: <i>family firm1</i> (56%)*; <i>family firm2</i> (60%) ▪ Lowest generational stage (M = 2.60)	▪ Highest share of family-managed firms (45%)* ▪ Highest concentration of family ownership (M = 4.94) ▪ Highest generational stage (M = 3.16)	▪ Highest share of family firms: <i>family firm2</i> (77%) ▪ Relatively low generational stage (M = 2.67)*	▪ Relatively low concentration of family ownership (M = 4.50)* ▪ Relatively high generational stage (M = 3.00)*
Organizational acquisition experience*	▪ Average acquisition intensity in past five years: 1–5 deals ▪ 17% serial acquirers	▪ Average acquisition intensity in past five years: 1–5 deals ▪ 15% serial acquirers	▪ Average acquisition intensity in past five years: 1–5 deals ▪ 15% serial acquirers	▪ Average acquisition intensity in past five years: 1–5 deals ▪ 15% serial acquirers
Acquisition motives	Efficiency-enhancing acquisitions: ▪ Realization of synergies (M = 3.92) ▪ Achieving scale and scope economies (M = 3.63)	Efficiency-enhancing acquisitions: ▪ Ranks significantly lowest on all resource-enhancing motives ▪ Achieving scale and scope economies (M = 3.60)*	Resource-enhancing acquisitions: ▪ Extend into new markets (M = 4.56) ▪ Access to new technologies/R&D (M = 4.11); innovative/disruptive BMs (M = 4.05)	Resource-enhancing acquisitions: ▪ Access to managerial or technical talent (M = 3.61)

Notes: *No statistically significant difference was found between clusters ($p > 0.10$).

Table 5-7 (continued): Summary of cluster comparison

	Cluster 1 (N = 90): Finance-focused acquirers	Cluster 2 (N = 47): Conservative acquirers	Cluster 3 (N = 66): Business model-focused acquirers	Cluster 4 (N = 95): TMT-focused acquirers
<i>Firm-level characteristics:</i>				
Entrepreneurial orientation (EO)	<ul style="list-style-type: none"> ▪ Lowest level of EO (EO index: M = 3.14) ▪ Lowest risk-taking index (M = 2.69) - Relatively strong proclivity for low-risk projects with normal and certain rates of return (EO7, M = 2.66) - These firms tend to explore the environment gradually via cautious and incremental behaviour (EO8, M = 2.79) 	<ul style="list-style-type: none"> ▪ Relatively low level of EO (EO index: M = 3.22)* ▪ Lowest innovativeness index (M = 3.33) - Relatively high emphasis on the marketing of tried-and-tested products and services (EO1, M = 2.94) - These firms have not marketed many new lines of products/services in the past five years (EO2, M = 3.79) 	<ul style="list-style-type: none"> ▪ Highest level of EO (EO index: M = 3.49) ▪ Highest innovativeness (M = 3.85), proactiveness (M = 3.61) and risk-taking (M = 3.18) indices - Strongest focus on technological leadership and innovation (EO1, M = 3.73) - These firms have marketed many new lines of products/services in the past five years (EO2, M = 4.24) - Very often the first to introduce new products/services, operating technologies, etc. (EO5, M = 3.71) - Relatively strong proclivity for high-risk projects with chances of very high returns (EO7, M = 3.18) - Tendency to prefer bold acts to achieve firm's objectives (EO8, M = 3.38) 	<ul style="list-style-type: none"> ▪ Relatively high level of EO* (EO index: M = 3.32)* ▪ These firms have a tendency to adopt a very competitive behaviour (EO6, M = 3.20)*
<i>Environmental-level characteristics:</i>				
Environmental dynamism and competitiveness*	<ul style="list-style-type: none"> ▪ Relatively stable market environment: - Relatively low environmental dynamism index (M = 3.78)* - Average environmental competitiveness index (M = 4.31)* 	<ul style="list-style-type: none"> ▪ Relatively stable market environment: - Lowest environmental dynamism index (M = 3.41) - Average environmental competitiveness index (M = 4.20)* 	<ul style="list-style-type: none"> ▪ Relative dynamic market environment: - Highest environmental dynamism index (M = 3.94)* - Average environmental competitiveness index (M = 4.27)* 	<ul style="list-style-type: none"> ▪ Relative dynamic market environment: - High environmental dynamism index (M = 3.88)* - Average environmental competitiveness index (M = 4.33)*

Notes: *No statistically significant difference was found between clusters ($p > 0.10$).

6 Weighting of M&A decision criteria in family and non-family firms

Corporate acquisitions represent a popular way for firms to grow, expand and complement their existing resources and to tap into new markets and business fields (Feito-Ruiz and Menéndez-Requejo, 2009; Worek, 2017). However, they are also high-risk decisions due to their often considerable performance implications and the uncertainty concerning positive acquisition outcomes (Pablo, 2013). For family firms, corporate acquisitions may be particularly risky activities as a failed transaction may not only jeopardize the owner's financial wealth position but also their socioemotional wealth due to potential damage to the family's reputation (Dehlen, 2013, p. 78).¹⁶⁶ Despite the fact that the topic of M&A has received a lot of attention in strategic management literature in the past decades, it is still the case that little is known about family firms' acquisition decisions.¹⁶⁷

The scarce family business literature in the context of M&A suggests that the decision-making behaviour of family firms in corporate transactions differs from that of firms with a different ownership structure (e.g. Le Breton-Miller et al., 2011; Caprio et al., 2011; Feito-Ruiz and Menéndez-Requejo, 2009). The distinctiveness of family firm M&A decisions is explained by issues such as the unique governance structure (Carney, 2005), different acquisition goals and motives (Worek et al., 2018) and growth preferences (Caprio et al., 2011), diverging financial preferences and reference points in decision-making (Gómez-Mejía et al., 2007, 2018) and the existence of family-centred non-economic goals (Miller et al., 2010) such as the desire to retain control over the firm or transgenerational value creation (Berrone et al., 2012). The findings of this M&A-related family business research suggest that family firms are generally more reluctant to undertake acquisitions than non-family firms (Caprio et al., 2011; Requejo et al., 2018; Shim and Okamuro, 2011), especially when the transactions are cross-border (Chen et al., 2009), unrelated (Gómez-Mejía et al., 2018) or diversifying (Anderson and Reeb, 2003a; Gómez-Mejía et al., 2010). This strand of research has so far been largely silent about the antecedents of acquisition target selection as only little is known about the investment preferences of family firm decision-makers during pre-acquisition target screening. This gap in the literature has given rise to a call for more research in this area (Henn et al., 2018). Hence,

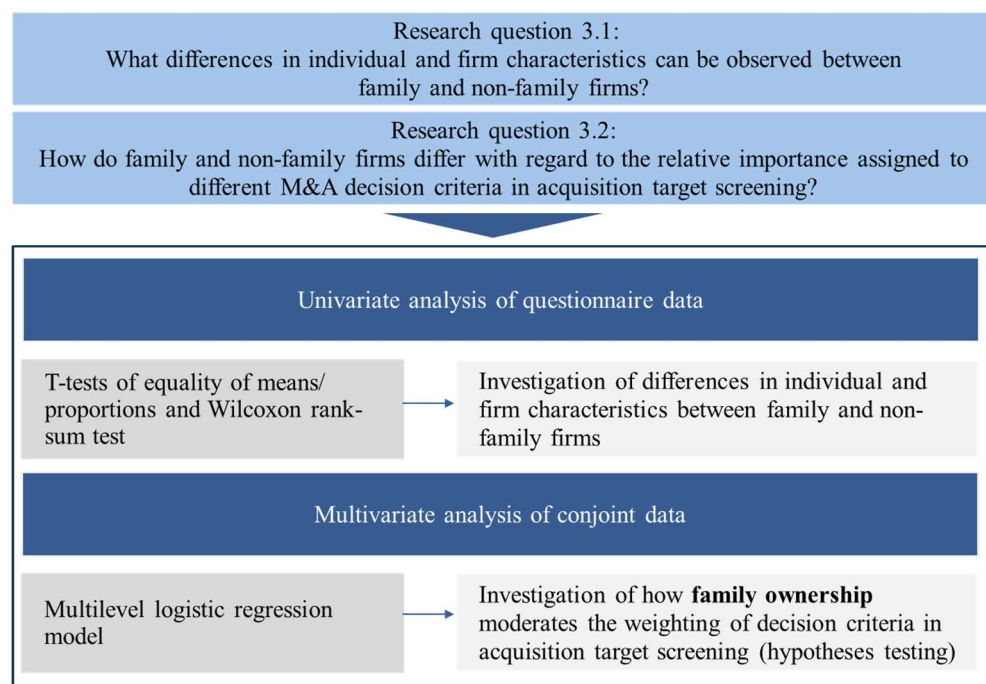
¹⁶⁶ For a description of the concept of socioemotional wealth, see Section 2.4.3 (p. 38 et seq.).

¹⁶⁷ For an overview of family business literature focusing on M&A transactions, see the recent literature review by Worek (2017).

in this chapter, I delve deeper into the investment preferences of family-owned and non-family firms, and investigate the weighting of strategic, financial and organizational decision criteria by corporate acquirers at these firms in acquisition target screening.

The main aim of this chapter is to address the third and the fourth research questions (RQ3.1/RQ3.2 and RQ4). Specifically, in the exploratory subquestion of the third research question, I analyse what differences in individual and firm characteristics can be observed between family and non-family firms by using univariate statistics (RQ3.1). In addition, the theory-driven subquestion of the third research question investigates how family and non-family firms differ with regards to the relative importance assigned to different M&A decision criteria in acquisition target screening (RQ3.2). To address RQ3.2, I use multivariate analysis to investigate how *family ownership* moderates the weighting of M&A decision criteria in acquisition target screening. The approach to answering the third research questions is summarized in Figure 6-1.

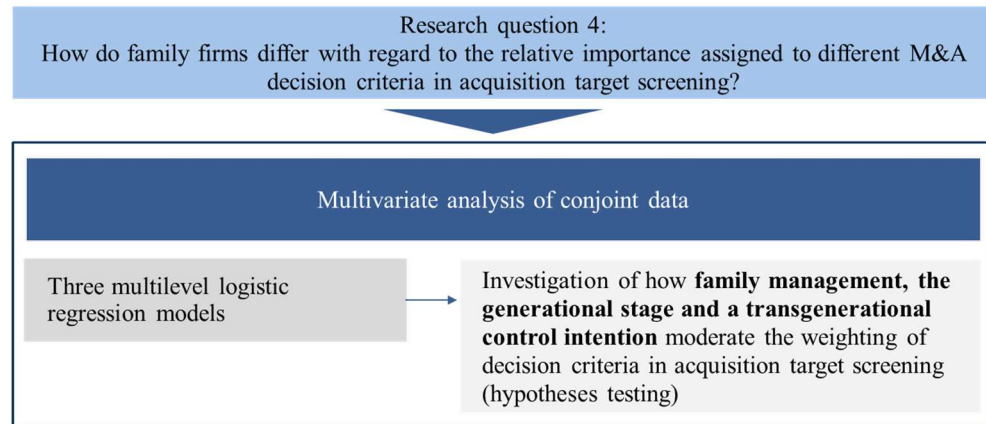
Figure 6-1: Approach to address the third research questions



The fourth research question looks at family firm heterogeneity and asks how the group of family firms differs with regards to the relative importance attributed to different M&A decision criteria in acquisition target screening (RQ4). To address this research question, I develop hypotheses on how family management, the generational stage of the firm and family-specific non-economic goals such as transgenerational control intention (i.e. long-term

orientation)¹⁶⁸ influence the weighting placed on different M&A decision criteria (see Section 6.2). The approach to answering the fourth research question is shown in Figure 6-2.

Figure 6-2: Approach to address the fourth research question



To answer the theory-driven third and fourth research questions, I draw on arguments embedded in different theoretical frameworks that are commonly used in family business research, such as the SEW concept, which is an extension of the behavioural agency model,¹⁶⁹ social identity theory (Ashforth and Mael, 1989; Tajfel and Turner, 1986) and stewardship theory¹⁷⁰ (Davis et al., 1997; Donaldson and Davis, 1991).

6.1 Weighting of M&A decision criteria in family versus non-family firms

The existing family business literature provides conceptual reasons for why the decision-making preferences and the weighting of decision criteria in family firms' acquisition target screening may differ from those of non-family firms.¹⁷¹ Scholars suggest that specific characteristics that distinguish family from non-family firms may have an influence on goals, preferences, risk aversion and time horizon in strategic decision-making (Duran et al., 2015; Miller et al., 2010; Volk, 2013, p. 70; Worek et al., 2018). Aspects of family firms mentioned

¹⁶⁸ The variable *transgenerational intention1* is used here as a proxy for long-term orientation.

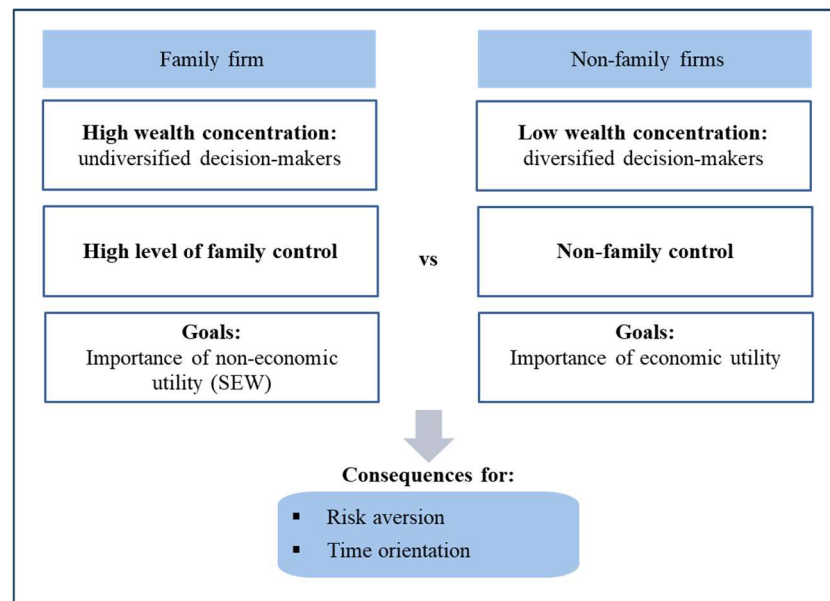
¹⁶⁹ For an overview of different theoretical models used in family business literature to explain strategic decision-making, see Section 2.2.6 (p. 21 et seq.). In addition, the BAM and the related SEW concept are explained in Section 2.4.3 (p. 38 et seq.).

¹⁷⁰ Stewardship theory is explained in detail in Block (2009, p. 36 et seq.).

¹⁷¹ For a summary of literature on differences between family and non-family firms, see Gómez-Mejía et al. (2011).

in the literature that may lead to distinct decision-making behaviour include the high wealth concentration and high levels of family control among family firms (Anderson and Reeb, 2003a) and the importance attributed to family-centred, non-economic goals in decision-making (Chrisman et al., 2012; Zellweger et al., 2013; Zellweger, Kellermanns, Chrisman, et al., 2012) (see Figure 6-3).

Figure 6-3: Conceptual differences between family and non-family firms



Source: Based on Volk (2013, p. 77) and Worek et al. (2018).

More specifically, the higher wealth concentration and the importance attached to non-economic reference points in decision-making in family firms may result in higher risk aversion (Anderson and Reeb, 2003b; Gómez-Mejía et al., 2007, 2010, 2018; Schulze et al., 2003a) and a higher sensitivity to uncertainty in investment decisions (Bianco et al., 2013) relative to non-family firms. In addition, scholars suggest that non-economic goals which reflect the perceptions, values, attitudes and intentions of the business-owning family play a very important role in family firms' strategic decision-making process. Many of the non-economic goals that family firms often pursue (e.g. maintaining family control, transgenerational wealth transfer) do not exist in non-family firms because they do not have a controlling family as main shareholder (Chrisman et al., 2012; Zellweger, Kellermanns, Chrisman, et al., 2012). In line with this, scholars argue that certain family-centred non-economic goals such as the desire to preserve family control or transgenerational wealth generation (Gu et al., 2016; Kammerlander and Ganter, 2015) may be reflected in a preference for longer time horizons in investment decisions (Chrisman and Patel, 2012; James, 1999; Zellweger, 2007) and in a willingness on

the part of family owners to provide patient capital (Sirmon and Hitt, 2003). From this it follows that family firms are often associated with being more long-term-oriented than non-family firms (Anderson and Reeb, 2003b; Gómez-Mejía et al., 2007; James, 1999; Kellermanns et al., 2008; Miller and Le Breton-Miller, 2005). Given these characteristics that distinguish family from non-family firms, it is reasonable to assume that there are differences in how acquirers in family firms weight the criteria for screening and evaluating an acquisition target compared with non-family firms.

This chapter proceeds as follows. In Section 6.1.1, existing theory is used to develop hypotheses concerning the differences between family-owned and non-family-owned firms with respect to the relative importance attached to different M&A screening criteria. In Section 6.1.2 the results of the univariate and multivariate empirical analysis are presented and discussed. With the univariate analysis in Section 6.1.2.1 (p. 178 et seq.), I address the exploratory research question (RQ3.1), which investigates differences in individual-level and firm-specific characteristics. With the multivariate analysis in Section 6.1.2.2 (p. 184 et seq.), I address the theory-driven research question (RQ3.2), which explores how family ownership impacts on the weighting of M&A screening criteria in acquisition target screening.

6.1.1 Theory and hypotheses

To address the third research question, I investigate how family-owned and non-family firms differ with regards to the relative importance assigned to different M&A decision criteria. Hence, in this section, I develop hypotheses on the distinctiveness of family firms relative to non-family firms with respect to preferences in acquisition target screening and selection. All hypotheses developed will be tested against empirical data collected in the online survey presented in Chapter 4.

6.1.1.1 Family ownership and the weighting of the target's corporate reputation

Prior strategic management literature suggests that a positive corporate reputation increases the desirability of a potential acquisition target (Dollinger et al., 1997). A favourable reputation not only provides a firm with a competitive advantage (Barney, 1991; Hall, 1992, 1993) but might also lead to persistent profitability and better financial performance (Fombrun and Shanley, 1990; Rindova et al., 2005; Roberts and Dowling, 2002). Corporate reputation captures multiple dimensions of a firm's activity (Fombrun et al., 2015). As such, a positive

reputation may act as a signal for the value of the target's capabilities and resources, and may also convey information about its future performance (Vendelo, 1998). Hence, a strong corporate reputation on the part of the acquisition target may reduce the transaction costs of a deal (Dollinger et al., 1997) and the perceived uncertainty for acquirers when evaluating a potential acquisition target (Saxton and Dollinger, 2004; Weigelt and Camerer, 1988).

In the context of acquisition target screening, family firms are expected to attribute higher importance to the target's corporate reputation than non-family firms for two reasons. First, family business owners are usually "emotionally invested" in their firm (Astrachan and Jaskiewicz, 2008) and identify with their business more strongly than non-family owners. This higher identification and emotional attachment may lead to an increased desire on the part of family firms to pursue a favourable reputation (Deephouse and Jaskiewicz, 2013). Scholars argue that this high concern for reputational issues in family firms may also become stronger if the corporate name also bears the family name (Block, 2009, p. 138; Deephouse and Jaskiewicz, 2013), as any activity that may endanger the reputation of their firm may also reflect poorly on the business-owning family (Binz et al., 2013). Indeed, past family business research has revealed that family firms tend to engage in activities that contribute to a positive reputation (e.g. Binz et al., 2013; Block and Wagner, 2014; Cennamo et al., 2012; Kammerlander and Ganter, 2015) and avoid those that may jeopardize their corporate reputation among stakeholders (Block, 2010; Dyer and Whetten, 2006).

Moreover, scholars suggest that family firms tend to be more sensitive to uncertainty when engaging in investment decisions than non-family firms (Bianco et al., 2013). This higher risk aversion in family firms stems from the need to preserve the family's socioemotional wealth when engaging in strategic decisions (Gómez-Mejía et al., 2007). Hence, family firm decision-makers are expected to react more strongly to reputational issues in acquisition target screening than non-family firms, as an acquisition of a target with a weak corporate reputation may not only pose a risk for the financial performance of the family firm, but also for the family's SEW endowment. From these arguments it can be assumed that family firms attribute more weight to a favourable target reputation than non-family firms because it has the potential to provide them with socioemotional value, which is an important non-economic goal for family shareholders (Berrone et al., 2010; Deephouse and Jaskiewicz, 2013; Dyer and Whetten, 2006; Zellweger et al., 2013). Accordingly, I hypothesize that:

Hypothesis 1: *Family firms assign more importance in acquisition target screening to the target's corporate reputation than non-family firms do.*

6.1.1.2 Family ownership and the weighting of the target's business model

Strategic management scholars argue that business model diversification may create value for firms if the business model and the underlying shared resources and capabilities are related (Casadesus-Masanell and Tarziján, 2012; Sohl and Vroom, 2014). Firms that diversify into related business models (i.e. the target's business model is similar to their own) may therefore be in a position to leverage their strategic resource base. In contrast, diversification into unrelated business models (i.e. ones with a dissimilar alignment of value proposition, profit formula, key resources and processes) may be associated with higher coordination and control efforts and costs due to the complexity involved in understanding and managing the new business model (Sohl and Vroom, 2014). Hence, the more unrelated the target's business model is the more uncertainty may be involved for the corporate acquirer in realizing acquisition gains. However, unrelated or disruptive business models (i.e. ones with the potential to renew an existing industry logic) represent a lucrative source of unexpected growth and profit margins that is likely to generate wealth for shareholders in the future (Christensen et al., 2011).

A characteristic that distinguishes family from non-family firms is that family shareholders often invest a large proportion of the family wealth in the family firm, which substantially increases the financial risk profile (Anderson and Reeb, 2003a; Kormann, 2018, p. 196). Unlike non-family shareholders, who frequently hold more diversified portfolios, family shareholders are often not in a position to diversify their personal investment portfolio without sacrificing their control over the firm and the socioemotional wealth that the business-owning family derives from the ownership and its influence (Gómez-Mejía et al., 2007). One way that family owners may decrease overall portfolio risks without losing control of their family firm is to engage in corporate diversification strategies that involve investments in activities that are completely unconnected to the core activities of the firm (Kormann, 2018, p. 197; Miller et al., 2010). As with diversifying acquisitions outside the core industry (Miller et al., 2010), an investment in a target that operates with an unrelated business model (i.e. a disruptive business model) may also represent a strategy to reduce portfolio risks.¹⁷² Diversification in new and unrelated activities is, however, risky and often entails high learning costs and potential start-up losses. And even if such activities are successful in the end, they

¹⁷² The management literature stresses that the concept of industry is distinct from the concept of business model (Sohl and Vroom, 2014; Zott, Amit and Massa, 2011). Scholars argue that firms can target similar product markets in a related industry (i.e. the what) and can do so by using dissimilar business models (i.e. the how), and vice versa (Markides and Charitou, 2004; Teece, 2010; Zott and Amit, 2008).

may yield lower returns on capital than the core business for a long time (Kormann, 2018, p. 197). As these diversifying acquisitions require a long-term perspective in decision-making, an investment in a target company that has a disruptive business model may be particularly appealing for family firms, given that they are often more long-term-oriented than non-family firms. In existing family business literature, family ownership is often regarded as a key driver of long-term orientation, which might result in preferences for longer investment horizons (e.g. Anderson and Reeb, 2003a; James, 1999). Such long-term orientation may enable family firms to pursue entrepreneurial opportunities that more short-term-oriented competitors that are bound to quarterly profitability goals would reject (Zellweger, 2007; Zhang and Gimeno, 2016).

In addition, a target company that has an unrelated or disruptive business model is very likely to perform well as a stand-alone company after the acquisition, meaning that there is no need for acquirers to fully integrate the firm in the core company. Scholars suggest that leaving a target autonomous is beneficial for ensuring the success of unrelated acquisitions (Datta and Grant, 1990) and if the main motive for the acquisition is to reinvent business models (Christensen et al., 2011). The option to leave the target autonomous brings about fewer barriers after the acquisition as it leads to less conflict in decision-making if the acquirer does not fully understand the target's business, corporate culture and core competencies. Hence, a target with an unrelated business model that can function independently may be especially beneficial for family firms given that those are less likely to disrupt their long-standing corporate culture and strategic focus, which are major concerns for many family firms (Miller et al., 2010; Miller and Le Breton-Miller, 2005). If these considerations predominate then the following hypothesis is proposed:

Hypothesis 2a: *Family firms assign more importance in acquisition target screening to targets that have a disruptive business model than non-family firms do.*

However, this hypothesis may be regarded with reservations as there are also other arguments that run in the opposite direction, which suggest that family firms may have a higher preference for similar business models than non-family firms. Prior family business research has found that executives in family firms frequently have much longer tenures than those in non-family firms (Le Breton-Miller and Miller, 2006; James, 1999). This higher firm experience among executives in the group of family firms can also be observed in the sample

of my dissertation.¹⁷³ Strategic management literature suggests that greater firm experience is often associated with higher risk aversion (Finkelstein and Hambrick, 1990; Herrmann and Datta, 2006; Wiersema and Bantel, 1992) and with cognitive rigidity on the part of decision-makers that leads to a tendency to preserve the status quo (Hambrick, Geletkanycz and Fredrickson, 1993), sometimes at the expense of innovation and corporate transformation (Hambrick and Fukutomi, 1991).

In the context of acquisition target screening, the observed longer firm tenure of decision-makers in family firms may lead to a preference for targets with a similar business model rather than an unrelated one for several reasons. First, investments in targets with similar business models may be perceived to be less risky than acquisitions of those with disruptive business models, as they require less coordination and involve fewer barriers to resource sharing (Sohl and Vroom, 2014, 2017). In addition, familiarity reduces the perceived uncertainty for acquirers and fosters comfort and trust in transactions (Uzzi, 1996). Hence, risk-averse corporate acquirers may feel more confident in selecting a target with a related business model as the logic of how the target's business is organized and creates value (Casadesus-Masanell and Ricart, 2010) is similar to that of their own company. Hence, as longer tenures are associated with conservative and strategic persistence, it is assumed that family firms will exhibit a higher preference for targets with a similar business model than non-family firms, since these acquisitions reduce the perceived uncertainty of a deal and are more likely to leave the status quo unchanged. Following these arguments, it is hypothesized that:

Hypothesis 2b: *Family firms assign more importance in acquisition target screening to targets that have a similar business model than non-family firms do.*

6.1.2 Results

To examine how family and non-family firms differ with regards to the weighting of different M&A screening criteria in family and non-family firms, I used the overall sample collected in Chapter 4, which encompasses 304 corporate M&A decision-makers from 264 different firms, predominantly from Germany, Austria and Switzerland (DACH region).¹⁷⁴ The overall sample, including both family and non-family firms, led to the simulation of 7,904

¹⁷³ See univariate analysis in Section 6.1.2.1 (p. 178 et seq.).

¹⁷⁴ See descriptive statistics in Section 4.8 (p. 114 et seq.).

hypothetical target screening decisions. The univariate and multivariate findings are presented in the next sections.

6.1.2.1 Univariate analysis

Empirical research comparing family and non-family firms often finds similarities and differences between the two groups (Anderson and Reeb, 2003a; Block, 2009, 2012; Villalonga and Amit, 2006). Table 6-1 (p. 181) compares family and non-family firms with respect to individual characteristics, and Table 6-2 (p. 183) with respect to firm characteristics. The tables present means, standard deviations and the results of the test for equality of means or proportions. As some distributions are skewed, I also used a Wilcoxon rank-sum test to compare family and non-family firms. A number of differences can be observed between the group of family-owned and non-family firms.¹⁷⁵ These are outlined below.

Differences in individual characteristics:

The univariate analysis of individual-level variables in Table 6-1 shows that corporate acquirers within the group of family firms are on average older (mean 45–54 yrs vs 35–44 yrs, $p = 0.02$) and have a significantly longer firm tenure (mean 6–10 yrs vs 4–5 yrs, $p < 0.01$) than respondents from non-family firms.¹⁷⁶ The finding that family firm executives tend to have longer firm experience than decision-makers in non-family firms is in line with prior family business research (Le Breton-Miller and Miller, 2006; Gersick et al., 1997; Zellweger, 2007).¹⁷⁷ The higher age and longer organizational tenures in the group of family firms are also reflected in the seniority of positions held among respondents. Compared with non-family firms, the family firm sample has a higher share of supervisory board members (mean 12% vs 5%, $p < 0.10$) and respondents with a top management position (mean 60% vs 38%, $p < 0.01$), and a lower share of heads (mean 18% vs 34%, $p < 0.01$) and members (mean 10% vs 23%, $p < 0.01$) of specialized departments. With regards to the functional experience of respondents, decision-makers in family firms have higher functional experience in operations (mean 3.55 vs 3.32, $p < 0.05$) and marketing (mean 3.59 vs 3.26, $p < 0.01$) and less experience in finance

¹⁷⁵ The family firm definition *family firm1* is used to determine the group of family firms.

¹⁷⁶ See cross table of firm tenure and ownership type (Appendix, Table A6-1, p. 308).

¹⁷⁷ According to prior literature, on average CEO tenure in family firms ranges between 15 and 25 years, whereas in public non-family firms, CEOs stay in office for only three to four years (Le Breton-Miller et al., 2004; Le Breton-Miller and Miller, 2006).

(mean 3.86 vs 4.11, $p < 0.05$) than those in non-family firms. In addition, the univariate analysis shows that respondents from family firms rank significantly lower in acquisition process experience (mean 3.63 vs 3.83, $p < 0.10$). In particular, family firm decision-makers reported having less experience in due diligence and target valuation (mean 3.76 vs 4.11, $p < 0.01$) and in deal negotiation (mean 3.63 vs 3.88, $p < 0.10$).

Summarizing the univariate analysis of individual-level characteristics, the following interesting finding stands out. As described before almost 50 percent of non-family firm respondents work in a department specializing in M&A, corporate development or strategy. A hygiene requirement for executives in these departments is that they must have a solid understanding of financial matters, business valuation and the management of M&A processes. The non-family firm sample represents a group of decision-makers who are very specialized in these fields. Conversely, the family firm sample largely comprises senior decision-makers who hold top management positions and possess long firm experience and greater experience in general management. These differences between the two groups at the level of decision-makers might give rise to distinct preferences when it comes to the screening and selection of targets.

Differences in firm characteristics:

With regards to firm characteristics (see Table 6-2) decisive differences between the two groups emerge with respect to the following variables. Family firms are significantly smaller than non-family firms, as evidenced by total sales (mean 251–500 m € vs 501–1,000 m €, $p < 0.01$) and number of employees (mean 1,001–3,000 vs 3,001–5,000, $p < 0.01$). Furthermore, family firms are considerably older than non-family firms (median 86 yrs vs 68 yrs, $p < 0.05$) and operate in a less competitive environment (mean 4.24 vs 4.39, $p < 0.10$). In addition, the group of family firms has a much lower share of stock-listed firms¹⁷⁸ (mean 16% vs 49%, $p < 0.01$) and of firms with external blockholder ownership (mean 4% vs 45%, $p < 0.01$) than the group of non-family firms. With regards to strategic firm orientation, family firms tend to pursue long-term strategic goals, while their non-family counterparts are instead guided by a short-term financial motivation (mean 1.42 vs 2.10, $p < 0.01$). The univariate analysis further reveals that the group of family firms is characterized by a significantly higher level of entrepreneurial orientation than the group of non-family firms (mean 3.36 vs 3.17, $p < 0.05$). If

¹⁷⁸ See cross table of type of ownership and firm category (Appendix, Table A6-2, p. 308).

entrepreneurial orientation is looked at as a multidimensional construct, then family firms are characterized by significantly higher proactiveness (mean 3.54 vs 3.24, $p < 0.01$), higher innovativeness (mean 3.69 vs 3.48, $p = 0.05$) and higher willingness to take risks (mean 3.03 vs 2.82, $p < 0.05$) than non-family firms.

Another univariate result that stands out is that family firms have significantly lower organizational acquisition experience than non-family firms. More specifically, family firms have been involved in fewer acquisition projects and have also completed fewer transactions in a five-year time frame (mean 1–5 vs 6–10 acquisitions, $p < 0.01$) than non-family firms. The lower acquisition intensity in family firms is also reflected in a significantly lower proportion of serial acquirers in the family firm sample (mean 12% vs 22%, $p < 0.05$). The finding is consistent with prior research that argues that family firms are generally more reluctant to engage in corporate acquisition decisions (e.g. Gómez-Mejía et al., 2015; Miller et al., 2010).

Moreover, in line with recent family business literature (Worek et al., 2018), the univariate statistics further suggest that family firms have different goals than non-family firms when acquiring an acquisition target. The following interesting patterns emerge. Family firms tend to engage in *resource-enhancing* acquisitions, which is reflected in a higher focus on motives such as risk diversification (mean 3.16 vs 2.79, $p < 0.01$), extension into new products/markets (mean 4.44 vs 4.18, $p < 0.01$) and access to managerial and technical talent (mean 3.35 vs 3.11, $p < 0.10$) and to new or innovative business models (mean 3.72 vs 3.45, $p < 0.05$). In contrast, non-family firms are more driven by *efficiency-related* acquisition objectives, such as achieving greater scale and lower operating costs (mean 3.32 vs 3.60, $p < 0.05$), synergies (mean 3.57 vs 3.96, $p < 0.01$) or growth (mean 3.97 vs 4.30, $p < 0.01$). These differences between the two groups might give rise to distinct preferences when it comes to the screening and selection of potential decision targets.

The univariate statistics identified no large differences between family-owned and non-family firms ($p < 0.10$) in terms of the following firm and individual characteristics: relative firm performance, gender, formal education level, education background, number of board seats held in other companies, functional experience in accounting, general management and legal issues. In addition, no statistically significant differences were found between the characteristics of decision-makers in family and non-family firms in terms of the Big Five personality traits.

Table 6-1: Characteristics of family and non-family firms (individual level)

Variable	Family firms (N = 190)		Non-family firms (N = 114)		Test for equality of means/ proportions	Wilcoxon rank-sum test ^a
	Mean	Std. dev.	Mean	Std. dev.		
Demographics:						
Male (in %)	0.91		0.91		p = 0.959	p = 0.959
Age (in 5 categories)	3.07	1.07	2.79	0.95	p = 0.020	p = 0.024
Position (in 4 categories)	2.27	0.06	2.75	0.08	p = 0.000	p = 0.000
Member of the advisory or supervisory board (in %)	0.12		0.05		p = 0.066	p = 0.066
Member of the management board (in %)	0.60		0.38		p = 0.000	p = 0.000
Head of specialized department (in %)	0.18		0.34		p = 0.002	p = 0.002
Member of specialized department (in %)	0.10		0.23		p = 0.002	p = 0.002
Entrepreneur (in %)	0.11		0.09		p = 0.526	p = 0.525
Education background:						
Business administration or economics (in %)	0.81		0.76		p = 0.326	p = 0.325
Engineering (in %)	0.25		0.18		p = 0.169	p = 0.169
Humanities (in %)	0.02		0.00		p = 0.179	p = 0.178
Law (in %)	0.08		0.10		p = 0.717	p = 0.716
Mathematics (in %)	0.03		0.03		p = 1.000	p = 1.000
Natural science (in %)	0.04		0.06		p = 0.454	p = 0.453
Social sciences (in %)	0.02		0.04		p = 0.461	p = 0.453
Formal education level (in 5 categories)	5.13	0.85	5.12	0.68	p = 0.925	p = 0.424
General experience:						
Organizational tenure (in 7 categories)	4.47	1.94	3.54	1.79	p = 0.000	p = 0.000
Board seats (in 7 categories)	2.05	1.47	1.83	1.28	p = 0.198	p = 0.237
Functional experience:						
Accounting ¹	3.52	0.89	3.61	0.89	p = 0.427	p = 0.312
Finance ¹	3.86	0.83	4.11	0.95	p = 0.018	p = 0.004
General management ¹	4.33	0.74	4.19	0.81	p = 0.143	p = 0.171
Legal ¹	3.42	0.92	3.41	0.92	p = 0.974	p = 0.987
Marketing ¹	3.59	0.95	3.26	0.91	p = 0.003	p = 0.002
Operations ¹	3.55	0.91	3.32	0.98	p = 0.041	p = 0.025

Notes: N = 304 corporate M&A decision-makers. The definition *family firm* was used to differentiate between the family and non-family firm groups. ^a The Wilcoxon rank-sum test analyses whether the two samples (sample 1: family firms; sample 2: non-family firms) are from different distributions.

¹ Likert item measured on a 5-point Likert-type scale.

Table 6-1 (continued): Characteristics of family and non-family firms (individual level)

Variable	Family firms (N = 190)		Non-family firms (N = 114)		Test for equality of means/ proportions	Wilcoxon rank-sum test ^a
	Mean	Std. dev.	Mean	Std. dev.		
<i>Acquisition process experience:</i>						
Strategy formulation ¹	3.61	1.09	3.72	1.02	p = 0.388	p = 0.419
Target screening ¹	3.62	1.14	3.77	1.07	p = 0.254	p = 0.311
Due diligence and target valuation ¹	3.76	1.05	4.11	1.09	p = 0.007	p = 0.001
Deal negotiation ¹	3.63	1.18	3.88	1.18	p = 0.079	p = 0.052
Integration ¹	3.54	1.09	3.68	1.04	p = 0.266	p = 0.312
Acquisition process experience index ²	3.63	0.07	3.83	0.08	p = 0.070	p = 0.050
<i>Personality traits:</i>						
Emotional stability ³	5.82	0.84	5.93	0.83	p = 0.292	p = 0.267
Agreeableness ³	4.81	0.97	4.71	0.93	p = 0.365	p = 0.362
Openness to new experience ³	5.68	0.84	5.54	0.89	p = 0.156	p = 0.228
Conscientiousness ³	6.18	0.85	6.11	0.69	p = 0.422	p = 0.799
Extraversion ³	5.15	1.27	5.14	1.26	p = 0.986	p = 0.974

Notes: N = 304 corporate M&A decision-makers. The definition *family firm* was used to differentiate between the family and non-family firm groups. ^a The Wilcoxon rank-sum test analyses whether the two samples (sample 1: family firms; sample 2: non-family firms) are from different distributions.

¹ Likert item measured on a 5-point Likert-type scale. ² Index measured on a 5-point Likert-type scale.

³ Index measured on a 7-point Likert-type scale.

Table 6-2: Characteristics of family and non-family firms (firm level)

Variable	Family firms (N = 190)		Non-family firms (N = 114)		Test for equality of means/ proportions	Wilcoxon rank-sum test ^a
	Mean	Std. dev.	Mean	Std. dev.		
General firm characteristics:						
Firm size 1: total sales (in 8 categories)	5.38	1.75	6.14	0.13	p = 0.001	p = 0.000
Firm size 2: employees (in 8 categories)	5.31	1.96	6.23	2.07	p = 0.000	p = 0.000
Firm age (in years)	96.13	63.21	78.87	56.84	p = 0.018	p = 0.017
Listed firm (in %)	0.16		0.49		p = 0.000	p = 0.000
External blockholder (in %)	0.04		0.45		p = 0.000	p = 0.000
Firm orientation ¹	1.42	0.86	2.10	1.27	p = 0.000	p = 0.000
Relative firm performance:						
Profitability ¹	3.60	0.82	3.63	0.81	p = 0.745	p = 0.540
Sales growth ¹	3.61	0.79	3.59	0.77	p = 0.807	p = 0.847
Relative firm performance index ²	3.61	0.69	3.61	0.67	p = 0.957	p = 0.756
Entrepreneurial orientation:						
Entrepreneurial orientation index ²	3.36	0.05	3.17	0.07	p = 0.014	p = 0.036
Innovativeness index ²	3.69	0.81	3.48	1.03	p = 0.050	p = 0.190
Proactiveness index ²	3.54	0.91	3.24	0.93	p = 0.005	p = 0.006
Risk-taking index ²	3.03	0.82	2.82	0.94	p = 0.043	p = 0.068
Acquisition experience:						
Organizational acquisition experience (in 5 categories)	2.79	1.43	3.41	1.23	p = 0.000	p = 0.000
Acquisition intensity in past five years (in 5 categories)	2.27	1.08	2.64	1.28	p = 0.007	p = 0.008
Serial acquirer (in %)	0.12		0.22		p = 0.023	p = 0.023
Acquisition motives:						
Realize synergies ¹	3.57	1.05	3.96	0.88	p = 0.001	p = 0.002
Achieve greater scale, lower operating costs ¹	3.32	1.08	3.60	0.95	p = 0.023	p = 0.035
Meet growth objectives ¹	3.97	1.1	4.30	0.73	p = 0.005	p = 0.040
Extend into new products/markets ¹	4.44	0.77	4.18	0.86	p = 0.006	p = 0.004
Diversify risk ¹	3.16	1.09	2.79	1.05	p = 0.004	p = 0.005
Access to managerial/technical talent ¹	3.35	1.08	3.11	1.10	p = 0.061	p = 0.088
Access to new technologies/R&D ¹	3.91	1.01	3.75	1.11	p = 0.210	p = 0.317
Access to innovative/disruptive business models ¹	3.72	1.05	3.45	1.18	p = 0.041	p = 0.055
Environmental characteristics:						
Environmental dynamism index ²	3.76	0.84	3.85	0.90	p = 0.392	p = 0.270
Environmental competitiveness index ²	4.24	0.70	4.39	0.67	p = 0.063	p = 0.041

Notes: N = 304 corporate M&A decision-makers. The definition *family firm* was used to differentiate between the family and non-family firm groups. ^a The Wilcoxon rank-sum test analyses whether the two samples (sample 1: family firms; sample 2: non-family firms) are from different distributions.

¹ Likert item measured on a 5-point Likert-type scale. ² Index measured on a 5-point Likert-type scale.

6.1.2.2 Multivariate analysis

How do family and non-family firms differ in the weighting of M&A screening criteria in the process of acquisition target screening? To examine this research question (RQ3.2), a multilevel logistic regression model was estimated, in which the decision of the respondent serves as the binary dependent variable (1 = target chosen; 0 = target not chosen), while the different attribute levels are used as independent variables. Table 6-3 presents the findings and outlines the estimated log odds, the robust standard errors, the levels of significance for attribute levels (main effects) and the interaction model for all hypothesized interaction terms.¹⁷⁹ As mentioned in Section 5.1.2 (p. 137), in logistic regression models the interpretation of regression coefficients is not trivial since there is a non-linear relationship between the independent variables and the predicted probabilities (Backhaus et al., 2016; Balderjahn et al., 2009; Jaccard, 2001). Hence, scholars recommend that an interpretation of the significance and direction of interaction effects in non-linear regression models should be accompanied by a graphical investigation (Ai and Norton, 2003). Hence, Figure 6-4 additionally displays the marginal effects of all hypothesized interactions for different levels of independent variable.

Discussion of results:

The results of the main effects model of the multilevel logistic regression analysis presented in Table 6-3 (p. 186) suggest that all attribute levels of the investigated decision criteria have a significant impact on acquirers' target screening decision ($p < 0.001$). In addition, the interaction effects model finds that the interaction term for *corporate reputation* \times *family firm1* is statistically significant for a high level of corporate reputation ($p = 0.069$). This finding indicates that family firms attach more importance to targets with a high corporate reputation than non-family firms do. Hence, when using the baseline definition *family firm1* then the regression analysis supports hypothesis 1. This result is also confirmed by the graphical representation of the marginal effects in Figure 6-4 (p. 187) and underlines the argument from family business literature that reputational issues are very relevant non-economic goals of decision-makers in family firms.

Hypothesis 2a states that family firms attribute higher importance to acquisition targets with a disruptive (unrelated) business than non-family firms do. Hypothesis 2b asserts the

¹⁷⁹ A multilevel logistic regression analysis is recommended by the literature if the observations in the sample are nested (i.e. the data has a hierarchical structure) and if effects across levels are being evaluated at the same time (Aguinis et al., 2013). For details on the main effects model, see Section 5.1.2.1 (p. 130 et seq.).

opposite and predicts a higher preference for similar (related) business models among family firms than for non-family firms. The results of the multilevel logistic regression model in Table 6-3 reveal that neither of the two competing hypotheses are supported. The statistical outcome that both interaction terms for the variable business model were not found to be statistically significant ($p > 0.10$) indicates that family and non-family firms do not have distinct preferences with regards to the target company's business model type. This can also be seen in Figure 6-4, where the graphical representation of the estimated marginal effects is very similar for all attribute levels of the nominal decision criterion *business model*. Overall, the findings from the hypothesis testing indicate that no substantial differences between family and non-family firms seem to exist in the weighting of all investigated decision criteria in the acquisition target screening.

Robustness of findings:

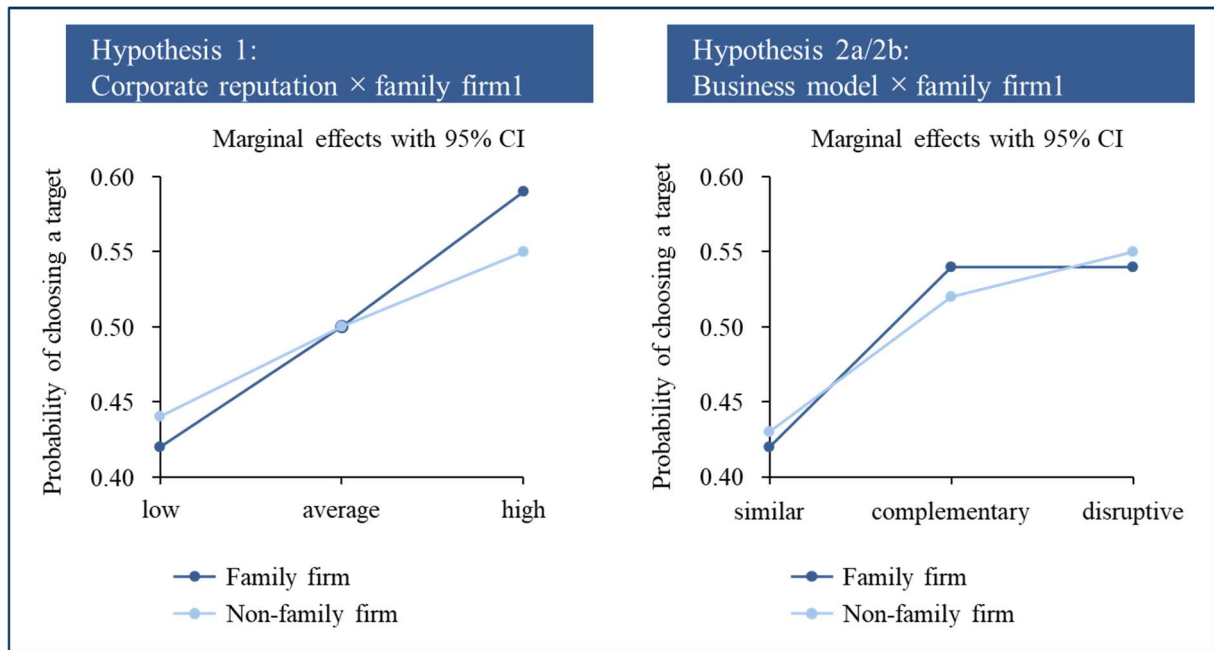
To establish the robustness of the findings, several measures were employed. First, the multilevel logistic regression model from Table 6-3 (p. 186) was re-estimated by employing a standard logistic regression analysis. This model was applied with clustered standard errors at the individual level in order to account for the hierarchical nature of the data. In addition, I replaced the family firm definition¹⁸⁰ and calculated models with *family firm2* and *family firm3* too. The robustness test outlined in Table A6-3 (Appendix, p. 309) shows that the magnitude and direction of some coefficients change when using different family firm definitions. Furthermore, the robustness test reveals that some of the findings established in the primary analysis change when using a different statistical method and remain largely stable when using different family firm definitions. More specifically, whereas the findings from the primary analysis regarding H1 found a significant interaction for *reputation* \times *family ownership*, the robustness check with the standard logit model did not find statistical significance ($p > 0.10$). Hence, if the method is changed, H1 would be rejected. Taking the robustness test into account this dissertation, therefore, finds that family and non-family firms do not significantly differ in the importance attached to corporate reputation as a decision criterion in acquisition target screening. This means that the statistical method and family firm definition used have an impact on the result of empirical studies and that robustness tests are necessary in order to make more precise conclusions about the findings.

¹⁸⁰ For a description of the different family firm definitions used in this dissertation, see Section 4.6.4 (p. 105).

Table 6-3: Main effects and interaction effects model (family vs non-family firms)

Attributes and levels	Hypotheses	Log odds (p-value)
Main effects model		
Corporate reputation: (<i>reference category: low</i>)		
high		0.760 (< 0.001)
average		0.358 (< 0.001)
Business model: (<i>reference category: complementary</i>)		
complementary		0.472 (< 0.001)
disruptive		0.540 (< 0.001)
Corporate culture: (<i>reference category: different</i>)		
similar		0.894 (< 0.001)
Quality of TMT: (<i>reference category: weak</i>)		
outstanding		1.628 (< 0.001)
average		0.768 (< 0.001)
Profitability: (<i>reference category: below industry average</i>)		
above industry average		1.352 (< 0.001)
average		0.696 (< 0.001)
Acquisition price: (<i>reference category: above industry average</i>)		
below industry average		0.794 (< 0.001)
industry average		0.463 (< 0.001)
Interaction effects model		
Corporate reputation: high × family firm1	H1	0.295 (0.069)
Corporate reputation: average × family firm1 (<i>reference category: low</i>)		0.111 (0.492)
Business model: complementary × family firm1	H2a/b	0.191 (0.283)
Business model: disruptive × family firm1 (<i>reference category: similar</i>)		-0.003 (0.989)
Corporate culture: similar × family firm1 (<i>reference category: different</i>)	-	0.085 (0.632)
Quality of TMT: outstanding × family firm1	-	0.245 (0.245)
Quality of TMT: average × family firm1 (<i>reference category: weak</i>)		0.010 (0.951)
Profitability: above industry average × family firm1	-	-0.014 (0.944)
Profitability: industry average × family firm1 (<i>reference category: below industry average</i>)		0.045 (0.787)
Acquisition price: below industry average × family firm1	-	-0.056 (0.759)
Acquisition price: industry average × family firm1 (<i>reference category: above industry average</i>)		0.148 (0.341)
N (decisions)		7,904
N (decision-makers)		304

Notes: Regression type: multilevel logistic regression with random intercepts and random slopes, estimated with robust standard errors. Dependent variable: preference of decision-maker.

Figure 6-4: Marginal effects – family vs non-family firms

Notes: N = 304 (190 family firms and 114 non-family firms). The figures show the estimated marginal effects on the probability of choosing a target (y-axis) for different values of the decision criteria (x-axis) and the interaction variables (see legend). The marginal effects are derived from the multilevel logistic regression in Table 6-3.

6.2 Weighting of M&A decision criteria within the group of family firms

In the process of acquisition target screening,¹⁸¹ evaluating the strategic fit in terms of business model relatedness and organizational issues such as human factors and the reputational and cultural consequences of a transaction for the post-acquisition integration are common tasks that acquirers face. In addition, assessing the financial situation of the target company is also of high relevance as acquiring a distressed or low-performing firm may require major restructuring, which poses a threat not only to the family's financial wealth but also its SEW endowment. While an assessment of these issues is relevant for all acquiring family firms, it is reasonable to assume that not all family firms are alike when screening and evaluating acquisition targets and that distinct decision-making preferences exist.

In this section, I address the fourth research question of my dissertation, which asks how family firms differ in the weighting of strategic, financial and organizational decision criteria

¹⁸¹ See summary of literature on M&A decision criteria in Section 3.3 (p. 49 et seq.).

in acquisition target screening. In my answer to this research question, I acknowledge that family firms constitute a heterogeneous group (Block et al., 2013; Kammerlander and Ganter, 2015; Schmid et al., 2015). I shall proceed as follows. In Section 6.2.1, existing theory is used to develop hypotheses concerning the differences among the group of family firms with respect to the relative importance assigned to different M&A screening criteria. In Section 6.2.2, the results of the multivariate analysis are introduced and discussed.

6.2.1 Theory and hypotheses

Prior family business research points out that the strategic decisions of family firms are driven by family-centred non-economic goals rather than economic ones (Chrisman et al., 2012; Zellweger et al., 2013; Zellweger, Kellermanns, Chrisman, et al., 2012), due to families' desire to preserve and pursue SEW (Berrone et al., 2012; Gómez-Mejía et al., 2007).¹⁸² In line with this, scholars argue that family firms are heterogeneous with respect to the emphasis they attribute to non-economic and SEW goals (Block et al., 2013; Chrisman and Patel, 2012; Gu et al., 2016; Kammerlander and Ganter, 2015), which is an insight that helps to explain variance in strategic decision-making behaviour within family firms.

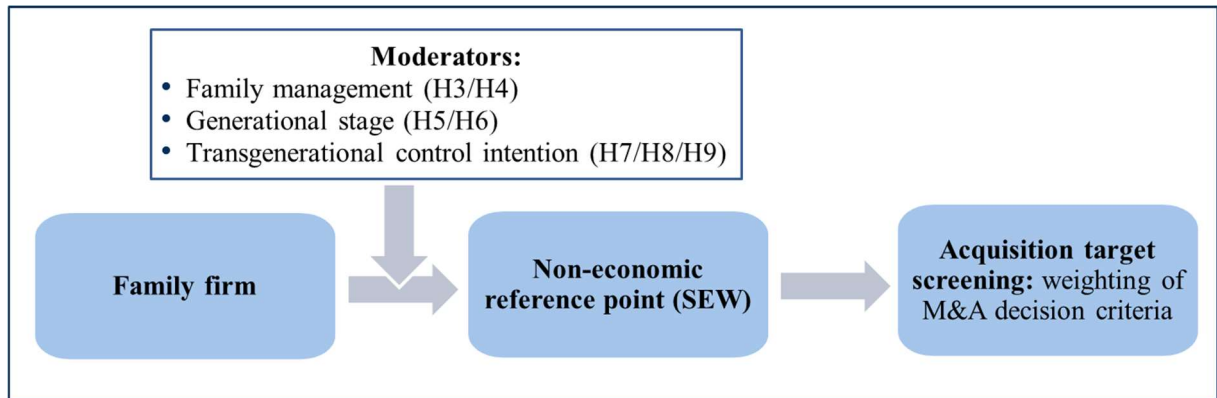
To address the fourth research question, I develop and test hypotheses on the influence of certain family firm characteristics (i.e. contingency variables) on the relative importance attached to different M&A decision criteria in acquisition target screening. In particular, it is assumed that the importance attributed to different M&A decision criteria in family firms is contingent upon factors such as family involvement in management (Block et al., 2013), the generational stage of the family firm (Gómez-Mejía et al., 2011; Gómez-Mejía et al., 2007) and the importance attached to family-specific non-economic goals such as transgenerational control intentions (Chrisman and Patel, 2012; Gu et al., 2016; Kammerlander and Ganter, 2015; Zellweger, Kellermanns, Chrisman, et al., 2012).¹⁸³

¹⁸² See summary of literature on strategic decision-making in family firms in Section 2.3 (p. 25 et seq.).

¹⁸³ A condition for a family to obtain socioemotional wealth from a family firm is that it has sufficient family ownership control, giving it the legitimacy and power to pursue such goals (Gómez-Mejía et al., 2007, 2010; Zellweger, Kellermanns, Chrisman, et al., 2012). To define the subsample of family firms in this chapter, I used the definition *family firm I* (see description in Section 4.6.4, p. 106). This definitional approach uses an ownership threshold to define the group of family firms, in line with other studies focusing on a German research context: an ownership threshold of at least 25% for listed firms, and at least 50% family ownership for non-listed firms (Schmid et al., 2015; Volk, 2013).

In the development of the hypotheses, I assume that these three contingency variables moderate the emphasis put on SEW as the main frame of reference in the acquisition target screening process (see Figure 6-5).

Figure 6-5: Hypothesized moderators of family firm decision-making



6.2.1.1 Family management and the weighting of decision criteria

The business-owning family often holds the majority of the firm's equity, which gives it the power and the discretion to influence the corporate strategy of their firm (Le Breton-Miller and Miller, 2006; Chrisman et al., 2012). Whereas all family firms are partly or fully owned by one or more families, not all of these firms are actually led and managed by a family member (Miller and Le Breton-Miller, 2006).

In family firms in which important top management positions are held by family members, the firm's corporate strategy and strategic decisions are likely to be a reflection of the attitudes, priorities and objectives of the business-owning family (Chrisman et al., 2012; Miller and Le Breton-Miller, 2006). Family business scholars have found that family owners are primarily concerned with preserving their SEW endowment and that they are often also reluctant to give up their discretionary power over the firm's strategic decisions (Gómez-Mejía et al., 2007). Prior literature further suggests that the desire to preserve SEW when engaging in strategic decisions is particularly high among those family firms that are family-managed (Block et al., 2013; Gómez-Mejía et al., 2011).

In this section, I develop hypotheses on the influence that family management¹⁸⁴ has on the weighting of the strategic decision criterion *business model* and the organizational decision criterion *quality of TMT* in acquisition target screening.

Family management and importance attached to the target's business model:

Previous strategic management research suggests that business model diversification may be beneficial for firms if the business model and the associated shared resources and capabilities are related (Casadesus-Masanell and Tarziján, 2012; Sohl and Vroom, 2014). If the business models of the acquirer and target are related (i.e. a similar alignment of value proposition, profit formula, key resources and processes), then the exchange and transfer of valuable resources may be easier, which potentially facilitates post-acquisition performance (Sohl and Vroom, 2017). Hence, if the logic of how the target's business is organized and creates value is similar, then the corporate acquirer may generally have a better understanding of how to manage the business model (Sohl and Vroom, 2014, 2017) and potentially feel more confident to invest in such a company because of the familiarity.

In the context of acquisition target screening, I assume that family-managed firms attach higher importance to acquisition targets that have a similar business model than other family firms for the following three reasons. First, family owner-managers often gain most of their professional experience within their own family business (Block, 2011), meaning that from a cognitive perspective they have a limited exposure to the external environment (Zona, 2016). Longer firm tenures are associated in the strategic management literature with cognitive rigidity, which limits the ability to recognize new business opportunities (such as disruptive business models that are difficult to identify) and encourages the preservation of the status quo (Hambrick and Fukutomi, 1991). This mental model rigidity is likely to increase with family involvement in the business (König et al., 2013). In addition, family managers who anticipate long tenures in their own company tend to avoid opportunistic, short-term and risky decisions such as acquisitions in areas that are unrelated to their core expertise (Amihud and Lev, 1999; Fox and Hamilton, 1994; Miller and Le Breton-Miller, 2006). Given this, it is reasonable to assume that family management is reflected in a preference for similar business models as these investments are more easily identifiable, involve fewer perceived risks and leave the business system unchanged.

¹⁸⁴ The variable family management is taken as a proxy for the importance attached to SEW goals in strategic decision-making.

Second, the family firm is usually strongly linked to the identity of the business-owning family and symbolizes tradition and heritage for family shareholders (Block, 2009, p. 98). Family business owners who hold a top management position are therefore often emotionally tied to their firm and the firm's assets and structures (König et al., 2013). In the context of strategic decision-making such attention to emotions and affects relating to the firm's legacy and tradition can result in a short-term planning horizon (Kammerlander and Ganter, 2015) and strategic inertia (König et al., 2013), which may further reinforce a stronger preference in family-managed firms for targets that operate with a related business model than in other family firms.

Third, business model diversification involves considerable complexities and uncertainties for corporate acquirers (Sohl and Vroom, 2014) as it may require the adoption of new routines which are most likely very different from the proven methods of their own firm (Eisenmann, 2002; Vermeulen and Barkema, 2001). A target that operates an unrelated business model may have a different organizational culture, meaning that internal conflicts and barriers may arise that hinder resource sharing in the post-acquisition phase (Sohl and Vroom, 2014). Moreover, diversification into an unrelated business model may create a dependency on outsiders' knowledge due to the acquirer's unfamiliarity with the new business model, and may force family managers to hire executives and managerial talent from outside the family firm. The involvement of external expertise may eventually erode the family's control over the decision-making process (Cruz et al., 2010; Gómez-Mejía et al., 2010; Schulze et al., 2003b) and result in a loss of SEW, which is something that family managers tend to avoid. Hence, if these arguments hold, then the following hypothesis is proposed:

Hypothesis 3a: *Family-managed firms assign more importance in acquisition target screening to targets that have a similar business model than other family firms do.*

There are, however, reasons why family management may result in a preference for diversification into unrelated business models. Contrary to the argument raised in H3a, long family manager tenures may also foster stewardship behaviour that leads to farsighted, long-term investment decisions among family owner-managers (Miller and Le Breton-Miller, 2006). Family firm executives who exhibit stewardship behaviour are more likely to forego short-term gains for the long-term well-being of the firm, which according to prior research may motivate entrepreneurial activities such as the pursuit of new markets (Miller and Le Breton-Miller, 2005). Accordingly, such stewardship behaviour might also be reflected in an interest and

subsequent investment in targets with disruptive business models. In addition, through their long-term involvement in their own family firm, family managers are likely to have accumulated high firm-specific knowledge that helps them to identify and select difficult-to-evaluate targets (André et al., 2014), such as those with a disruptive business model. If these factors predominate, then the following hypothesis (contrary to H3a) will hold:

Hypothesis 3b: *Family-managed firms assign more importance in acquisition target screening to targets that have a disruptive business model than other family firms do.*

Family management and importance attached to the target's quality of the TMT:

Strategic management scholars suggest that the quality of a firm's top management team (TMT) represents an important criterion in investment decisions (Mizruchi, 1996) and that it serves as a representation of a firm's overall value system (Chatterjee et al., 1992). The quality of the TMT may manifest in different observable human capital characteristics such as education, industry experience (Lester et al., 2006) and track record (Block et al., 2019) as well as in factors such as TMT networks and dynamic capabilities (Kiessling and Harvey, 2008). In addition, the target's top managers possess tacit knowledge regarding the firm's industry, corporate strategy, customer markets, strengths and weaknesses, technology, R&D and production processes (Kiessling et al., 2008). Such knowledge is usually difficult to replace in the short term and may therefore be important for the continuation of the target's operations after the business is acquired (Cannella and Hambrick, 1993). As organizations are usually closely aligned with the executives who manage them (Cannella and Hambrick, 1993), acquirers may therefore draw conclusions about the risk profile and combination potential of a target by assessing the capabilities and quality of the TMT. As such, the characteristics of a firm's TMT serve as signs of overall firm quality (D'Aveni, 1990; Lester et al., 2006).

Acquiring a target with a high-quality TMT may reduce the perceived uncertainty for corporate acquirers when screening and evaluating potential acquisition targets as the leadership capabilities of executives may have important implications for the realization of expected synergies after the acquisition is completed (Kissin and Herrera, 1990; Marks and Mirvis, 2001). In contrast, acquiring a target with a weak TMT might have the consequence that the acquiring firm has to replace the management team after the acquisition, which may increase the level of disruption and uncertainty following the acquisition (Cannella and Hambrick, 1993; Hambrick and Cannella, 1993; Krishnan et al., 1997). Replacing the target's

TMT may furthermore be regarded with suspicion by the target's employees and external stakeholders (Cannella and Hambrick, 1993) and has the potential to jeopardize the acquirer's reputation.

Family business scholars argue that family managers tend to pursue more conservative and risk-averse strategic choices than non-family decision-makers in order to avoid the loss of SEW (Block et al., 2013; Gómez-Mejía et al., 2007; Miller and Le Breton-Miller, 2011). In acquisition decisions, higher risk aversion may therefore mean that family managers have a higher preference than non-family managers for lower-risk targets with a high-quality TMT because these companies are less likely to jeopardize the family's SEW endowment.

In addition, family members, especially when they are involved in running the business, are very likely to have strong psychological ties to their firm (Block, 2009, p. 41; Pierce et al., 2001). Through this feeling of ownership and actual control over the firm, family managers are very likely to establish a strong identification with their organization (Kormann, 2011, p. 38). This strong identification may intrinsically motivate family managers to invest time and energy to develop the family business in their own best interest (Pierce et al., 2001), which makes them more concerned about maintaining a favourable reputation among internal and external stakeholders when engaging in strategic decisions (Block, 2010; Cennamo et al., 2012; Deephouse and Jaskiewicz, 2013). As a failed acquisition may be detrimental for the reputation of the family firm and the business-owning family, family managers are likely to be more sensitive to managerial issues and to more thoroughly evaluate and scrutinize the target's TMT.

In conclusion: as family managers more strongly identify with their firm (Block 2010) and are more concerned with the preservation of SEW (Block et al. 2013), I expect that they will have a higher preference for target firms with an outstanding TMT than other family firms because these firms may be perceived to be safer and more credible investments and are less likely to be in conflict with the family's SEW goals. If these factors predominate, I hypothesize that:

Hypothesis 4a: *Family-managed firms assign more importance in acquisition target screening to the quality of a target's top management team than other family firms do.*

This hypothesis should, however, be regarded with reservations as there are reasons why family management may entail a less pronounced preference for targets with an outstanding TMT than is the case in other family firms. Acquisitions are very likely to pose a hazard to the

SEW endowment because the increased complexity of integrating an acquired target increases the dependency on external management (Gomez et al., 2010). Building up a management structure alongside that of the acquirer's own core company may disrupt the current decision-making process of the family firm because the decision-making power then has to be shared with the target's TMT. Giving up some control over the decision-making process may furthermore erode the authority of family members and their identification with the firm, and thus jeopardize their SEW endowment. In line with this, prior family business research suggests that family firms are often more reluctant to integrate non-family managers because the family wants to maintain strategic and operational control over the firm and avoid the loss of identity and goal conflict (Gersick et al., 1997; Gómez-Mejía et al., 2011; Jones, Makri and Gómez-Mejía, 2008). Although outstanding top managers at the target can contribute to ensuring the success of the acquisition, they may also threaten the non-economic goals of the family manager. If these arguments hold, the following hypothesis is proposed:

Hypothesis 4b: *Family-managed firms assign less importance in acquisition target screening to the quality of a target's top management team than other family firms do.*

6.2.1.2 Generational stage and the weighting of decision criteria

Past family business research suggests that the attitudes, objectives, governance needs and strategic behaviour of family firms may change across generations (Bammens et al., 2008; Chrisman and Patel, 2012; Cruz and Nordqvist, 2012; Sciascia et al., 2014; Vandemaele and Vancauteran, 2015). The founding generation tends to have a strong commitment to the firm due to the considerable start-up investments (Gersick et al., 1997) and is characterized by a strong need for achievement and a high level of entrepreneurial spirit (Partridge and Mintzberg, 2006). These traits might fade with subsequent generations, who may become more concerned with maintaining the family legacy and with wealth preservation (Shanker and Astrachan, 1996). With regards to priorities set in decision-making, family business scholars argue that non-financial goals predominate in early generational stages, and in later generational phases the frame of reference in decision-making shifts towards financial goals (Gómez-Mejía et al., 2011; Gómez-Mejía et al., 2007; Sciascia et al., 2014; Vandemaele and Vancauteran, 2015).

In this section, I develop hypotheses on the influence of a firm's generational stage¹⁸⁵ on the weighting of the financial decision criterion *profitability* and the organizational decision criterion *corporate reputation* in acquisition target screening.

Generational stage and importance attached to the target's profitability:

When faced with an investment decision such as a corporate acquisition, family business owners face a dilemma, since they have to assess the impact of investments in terms of gains or losses of socioemotional and financial wealth (Gómez-Mejía et al., 2018). Existing family business literature suggests that the strategic choices of family firms in earlier generational stages are more likely to be driven by socioemotional wealth concerns, while family firms in later generational stages place greater emphasis on economic considerations (Gómez-Mejía et al., 2001; Sciascia et al., 2014; Vandemaele and Vancauteran, 2015). This is explained by the fact that the influence and the personal investment, the degree of identification with and emotional attachment to the firm, and the sense of legacy are likely to decrease as the firm moves from the founding generation to later generations (Gersick et al., 1997; Gómez-Mejía et al., 2011). In addition, later-generation family firms are often characterized by a more professional management style (Coleman and Carsky, 1999), tend to use more formal and objective control systems (De Pontet et al., 2007) and invest more time in strategic planning than family firms in earlier generations (Kellermanns and Eddleston, 2006).

In the context of acquisition target screening, the target's profitability may therefore be a particularly important decision criterion for later-generation firms, as this KPI not only reflects the current financial performance but also allows more objective predictions to be made about the target's ability to generate profits in the future (Dreux, 1990; Marks and Mirvis, 2001). Since family firms in later generational stages are believed to prioritize financial goals when taking strategic decisions, they are expected to be more sensitive to the target's profitability than earlier-generation firms. Based on these considerations about the properties of family firms at different generational stages, the following hypothesis is proposed:

Hypothesis 5: *Family firms in an earlier generational stage assign less importance in acquisition target screening to the target's profitability than family firms in a later generational stage do.*

¹⁸⁵ The variable generational stage is taken as a proxy for the importance attached to SEW goals in strategic decision-making.

Generational stage and importance attached to the target's corporate reputation:

Family business literature focusing on a generational perspective suggests that family owners in earlier generations are more committed to and identify more strongly with their firm due to their considerable start-up investments than those in later generations (Gersick et al., 1997). This higher identification with and emotional attachment to the firm in early generations supposedly increases the desire of these family firms to protect and pursue a favourable reputation (Cennamo et al., 2012; Deephouse and Jaskiewicz, 2013; Vardaman and Gondo, 2014; Zellweger and Nason, 2008) when engaging in risky strategic decisions such as acquisitions. An acquisition expands existing products, brands and markets within a short period of time, which may water down the family firm's long-standing image and potentially also damage its reputation (Requejo et al., 2018). Corporate reputation is a fragile resource that needs time to build up (Mahon, 2002) and can easily be damaged (Petrick et al., 1999). As such, acquiring a target with a low corporate reputation may not only pose a hazard to the firm's financial wealth but also jeopardize the family owner's SEW endowment. Hence, in line with the prediction of the family business literature, family firms in earlier generations should be more sensitive to reputational issues when screening and selecting acquisition targets than later-generation firms, due to their greater emphasis on SEW when framing strategic decisions. Consequently, the following hypothesis is proposed:

Hypothesis 6: *Family firms in an earlier generational stage assign more importance in acquisition target screening to the target's corporate reputation than family firms in a later generational stage do.*

6.2.1.3 Transgenerational intention and the weighting of decision criteria

Family business literature provides evidence that the priorities of family business owners strongly influence acquisition and diversification decisions of firms (Anderson and Reeb, 2003a; Gómez-Mejía et al., 2010; Miller et al., 2010). One of the most important family-centred non-economic goals of family shareholders is the desire to retain control over the firm in order to transfer the business to future family generations (James, 1999).

Some family business scholars argue that affective family-specific needs such as the intention to preserve transgenerational control are the primary drivers of SEW creation and preservation in family firms and help to explain variations in family firm behaviour (Chrisman et al., 2012; Chrisman and Patel, 2012; Zellweger, Kellermanns, Eddleston, et al., 2012).

A transgenerational control intention can foster the pursuit of other SEW goals (Chrisman et al., 2012; Kellermanns et al., 2012) and may result in risk-averse behaviour among family firms, since SEW is the dominant reference point in decision-making (Gómez-Mejía et al., 2007). Hence, in the absence of transgenerational control intentions, family firms are assumed to be less prone to risk-averse decision-making (Hoffmann et al., 2017).

Other scholars theorize that a transgenerational control intention inspires family firms to adopt a long-term orientation in strategic decision-making, which motivates strategic investments requiring a long-term investment horizon (Miller and Le Breton-Miller, 2005; Sirmon and Hitt, 2003). Family firms with the goal of passing the business on to future generations are therefore likely to possess an extended temporal perspective in their decision-making, which may be reflected in longer time horizons in investment decisions (James, 1999; Zellweger, 2007) and in a willingness on the part of family business owners to provide patient capital (Sirmon and Hitt, 2003). As family firms are not homogeneous with respect to the pursuit of non-economic goals, I hypothesize in this section that the weighting of different M&A decision criteria (e.g. profitability, corporate culture and business model) is moderated by the family firm's emphasis on the non-economic goal of transgenerational control intention.¹⁸⁶

Transgenerational intention and importance attached to the target's profitability:

Scholars who regard transgenerational control intention as a central SEW goal (Berrone et al., 2012) suggest that the desire to transfer a business to the next generation of the family can result in more conservative strategies that protect SEW goals, but otherwise run counter to economic logic as they may, for instance, result in decisions that reduce growth (Gómez-Mejía et al., 2010) and increase general business risks (Gómez-Mejía et al., 2007). From this it follows that family firms without a transgenerational control intention may pursue financial goals in strategic decisions more rationally, as they face less pressure to pursue SEW goals than family firms with a transgenerational intention (Hoffmann et al., 2017). In the context of acquisition decisions, the absence of transgenerational control intentions in family firms may mean that acquirers focus more on the future financial success of the target, since their main reference

¹⁸⁶ In this dissertation, the measure "transgenerational intention" serves as a proxy for the importance attached to SEW goals and for a long-term orientation in decision-making. Assessing intertemporal choice aspects indirectly is in line with prior literature (Shi et al., 2012; Yu et al., 2012).

point in strategic decisions is financial considerations. By contrast, in line with the suggestions of prior family business research (Gómez-Mejía et al., 2018), it is assumed that as long as the target's financial situation does not pose a serious threat for the family's SEW endowment, family firms that prioritize SEW (i.e. those with a transgenerational control intention) will attach less importance to the target's profitability. Accordingly, I hypothesize that:

Hypothesis 7: *Family firms with a transgenerational intention assign less importance in acquisition target screening to the target's profitability than family firms without a transgenerational intention do.*

Transgenerational intention and importance attached to the target's corporate culture:

One important aspect of organizational screening is to evaluate and understand target companies' cultural issues and their implications for post-acquisition success (Appelbaum et al., 2000; Denison et al., 2011). Strategic management scholars argue that a cultural similarity between the acquirer and target may have a positive influence on acquisition performance, as post-acquisition integration costs can be considerably lower when similar corporate cultures are combined (Cloudt et al., 2006; Hagedoorn and Duysters, 2002; Larsson and Finkelstein, 1999). As the similarity between two companies is often regarded as an indicator of a transaction's synergy potential (Bauer and Matzler, 2014; Lubatkin et al., 1997; Meyer and Altenborg, 2008; Stahl and Voigt, 2008), corporate acquirers may generally attach less uncertainty to acquisitions of culturally related targets than to acquisitions of unrelated ones. In contrast, an acquisition of a target with a dissimilar corporate culture may involve considerable uncertainties and costs for acquirers, which may make such investments a less preferable alternative for more risk-averse family firms with a transgenerational intention, for the following two reasons.

First, with increasing cultural differences, the likelihood that organizational practices, values and management styles will be incompatible increases (Björkman et al., 2007). This in turn may lead to implementation problems and barriers in the integration phase (Vermeulen and Barkema, 2001) that inhibit the acquirer's ability to leverage the target's strategic resources (Stahl and Voigt, 2008) because resource sharing, the transfer of capabilities and learning become more difficult (Björkman et al., 2007). Cultural differences may therefore be perceived by corporate acquirers as a factor that increases the administration and consolidation costs (Datta and Puia, 1995) and the risk profile of a transaction.

Second, investing in a target with a different corporate culture might have the consequence that the acquirer has to adopt new routines that are most likely very different to

those the company is currently used to (Eisenmann, 2002; Vermeulen and Barkema, 2001). This might lead to a gradual dilution of the family firm's long-established implicit and explicit knowledge (Duran et al., 2015), which might pose a hazard for the affective need of family owners to preserve SEW and consequently also mean a risk to transgenerational wealth generation.

Family firms with the desire to pass the business on to future generations "are likely to be more mindful of the type of organization they leave behind and more likely to pursue policies that put the firm in an unviable strategic position" (Zellweger et al., 2012, p. 862). Hence, in the context of acquisition target screening, I assume that family firms with a transgenerational intention (i.e. more risk-averse firms with a higher emphasis on SEW) will have a higher preference for targets with a similar corporate culture than other family firms, since these investments involve less perceived uncertainty for acquirers. In addition, those transaction are also less likely to disrupt the existing organizational culture of the family firm due to synergies arising from similar decision-making processes and norms that govern behaviour (Datta, 1991). Based on these arguments the following hypothesis is proposed:

Hypothesis 8: *Family firms with a transgenerational intention assign more importance in acquisition target screening to targets with a similar corporate culture than family firms without a transgenerational intention do.*

Transgenerational intention and importance attached to the target's business model:

A disruptive business model represents a lucrative source of unexpected growth and profit margins that is likely to effectively raise the rate of value creation for shareholders in the future (Christensen et al., 2011). The potential of a disruptive business model, however, is often underestimated by decision-makers as it is on the one hand difficult to identify targets with such a business model and on the other hand challenging to project the future market development and actual value of such targets (Christensen et al., 2011). In the context of acquisition target screening, I assume that family firms with a transgenerational control intention attach more importance to acquisition targets that operate with a disruptive business model than other family firms, for the following reasons.

Family business scholars argue that the desire to transfer ownership to the next generation of the family can foster entrepreneurial activities and lead to early recognition of technological trends (Kammerlander and Ganter, 2015) and help family firms to exploit new opportunities (Block, 2012). In addition, family firms that aim to sustain the business for the long run and

across generations are more likely to pursue “a generational investment strategy that creates patient capital” (Sirmon and Hitt, 2003, p. 343), which is reflected in a long-term orientation in decision-making (Kammerlander and Ganter, 2015). Such long-term orientation among family firms with a transgenerational intention might result in a preference for investments whose real value is not visible now but will become apparent in the future. Prior research further suggests that in order to realize affective needs such as the preservation of transgenerational control, family firms are motivated to engage in strategic decisions that require a long-term investment horizon, such as R&D investments (Chrisman and Patel, 2012) or investments in discontinuous technologies (Kammerlander and Ganter, 2015; König et al., 2013). As affective SEW goals such as the desire for transgenerational value transfer can result in less conservative behaviour that may encourage long-term-oriented growth strategies (Gu et al., 2016), it is assumed that an investment in a disruptive business model is a particularly appealing alternative for family firms with a transgenerational intention. Hence, the following hypothesis is proposed:

Hypothesis 9: *Family firms with a transgenerational intention assign more importance in acquisition target screening to targets that have a disruptive business model than family firms without a transgenerational intention do.*

6.2.2 Multivariate results

How do family firms differ in the weighting of strategic, financial and organizational decision criteria in the process of acquisition target screening? In my investigation of this research question (RQ4), I assume that acquirers' weighting of different M&A decision criteria in the acquisition target screening process is moderated by family firm characteristics such as family management, generational stage and the importance attached to family-specific non-economic goals such as the desire to pass the business on to future family generations (i.e. transgenerational control intention). To assess these moderation effects and test the hypotheses 3–9, I estimated three multilevel logistic regression models and separately entered interaction terms between the moderators and the independent variables.¹⁸⁷ Table 6-4 presents the findings of these three interaction models for all hypothesized interaction terms.¹⁸⁸

In addition, Figure A6-1 (Appendix, p. 311) displays the estimated marginal effects of all hypothesized interactions for different levels of independent variables in order to support the interpretation with a graphical analysis.

Data and sample:

To explore the heterogeneity among family firms with regards to the weighting of different M&A screening criteria in acquisition target screening, I used a subsample consisting exclusively of the group of family firms.¹⁸⁹ The reduced family firm sample consists of 190 corporate M&A decision-makers, which results in 4,940 hypothetical target screening decisions. For the analysis of the moderating role of *transgenerational intention*, the sample was further reduced from 190 to 174 observations, since “Don't know” responses were not considered when estimating the multilevel logistic regression model. The remaining 174 observations resulted in 4,524 hypothetical target screening decisions.

¹⁸⁷ For more information on the multilevel logistic regression analysis used in this dissertation, see Section 5.1.2.1. (p. 130 et seq.)

¹⁸⁸ In each multilevel logistic regression model, moderators are interacted with all screening criteria. For reasons of brevity, however, these interactions and the corresponding main effect models are not reported here.

¹⁸⁹ To define the group of family firms, I used the definition *family firm 1*.

Table 6-4: Interaction effects models (heterogeneity within family firms)

	Hypotheses	Model 1 Log odds (p-value)	Model 2 Log odds (p-value)	Model 3 Log odds (p-value)
H3/4: Family management (Model 1)				
Business model: complementary × family management	H3a/b	-0.187 (0.434)	-	-
Business model: disruptive × family management (reference category: similar)		-0.733 (0.010)	-	-
Quality of TMT: outstanding × family management	H4a/b	0.194 (0.456)	-	-
Quality of TMT: average × family management (reference category: weak)		-0.279 (0.181)	-	-
H5/6: Generational stage (Model 2)				
Profitability: above industry average × generational stage	H5	-	-0.115 (0.337)	-
Profitability: industry average × generational stage (reference category: below industry average)		-	-0.260 (0.006)	-
Corporate reputation: high × generational stage	H6	-	0.124 (0.224)	-
Corporate reputation: average × generational stage (reference category: low)		-	0.261 (0.006)	-
H7-9: Transgenerational intention (Model 3)				
Profitability: above industry average × transgenerational intention1	H7	-	-	-0.661 (0.018)
Profitability: industry average × transgenerational intention1 (reference category: below industry average)		-	-	-0.175 (0.401)
Corporate culture: similar × transgenerational intention1 (reference category: different)	H8			0.339 (0.188)
Business model: complementary × transgenerational intention1	H9			-0.379 (0.175)
Business model: disruptive × transgenerational intention1 (reference category: similar)				-0.199 (0.592)
N (decisions)		4,940	4,940	4,524
N (decision-makers)		190	190	174

Notes: Regression type: multilevel logistic regression with random intercepts and random slopes, estimated with robust standard errors. Dependent variable: preference of decision-maker. The models include all variables from Table 4-6 (p. 74). Besides the interactions displayed, the models further include interactions with all screening criteria.

Discussion of results:

Hypothesis 3a states that family-managed firms attribute higher importance to targets with a similar (related) business model than non-family-managed firms do. Hypothesis 3b asserts the opposite and predicts that family-managed firms have a stronger preference for disruptive (unrelated) business models than other types of family firms. To test which of the two competing hypotheses better describe reality, I estimated a multilevel logistic regression model, which is described in Table 6-4.

The analysis showed that family-managed firms attribute significantly more weight to targets that operate with a similar business model than other family firms ($p < 0.01$), as illustrated also by the higher marginal effect for family-managed firms in Figure A6-1 (Appendix, p. 311). Hence, hypothesis 3a is supported. Family management thus seems to increase the likelihood of choosing related targets that operate with a similar business model. By contrast, hypothesis 3b is not supported, as it was found that family-managed firms are not more likely to choose an acquisition target with a disruptive business model than other family firms. Instead, the opposite holds true.

Hypothesis 4a assumes that family-managed firms attribute higher importance to the criterion of TMT quality than other family firms do. Hypothesis 4b asserts the opposite and predicts that family-managed firms assign less importance on the quality of a target's TMT in acquisition target screening than other types of family firms. The interaction model in Table 6-4 indicates that corporate acquirers in family-managed firms place more weight on the quality of the target's TMT than other family firms do. However, this effect was not found to be statistically significant ($p > 0.10$). Hence, family management does not seem to influence the importance attached to TMT quality as a decision criterion in acquisition target screening, and so the findings lend neither support to H4a nor to H4b.

Hypothesis 5 refers to the influence of a firm's generational stage on the importance attached to the target's profitability. I found support for H5, which assumes that family firms in an earlier generational stage will attach less importance to profitability than those in later stages. As shown in Table 6-4, I found a negative and significant association between the profitability criterion and a firm's generational stage ($p < 0.01$), indicating that the hypothesized relationship holds true. This can also be seen in the graphical representation of the marginal effects in Figure A6-1 (Appendix, p. 311).

Hypothesis 6 refers to the influence of a firm's generational stage on the importance attached to the target's corporate reputation. I did not find support for H6, which assumes that family firms in earlier generations place more weight on a target's reputation than those in later generations do. As shown in Table 6-4, I found a positive and significant association between a target's corporate reputation and a firm's generational stage ($p < 0.01$), indicating that the opposite to what was hypothesized holds. This can also be seen in the graphical representation of the marginal effects in Figure A6-1 (Appendix, p. 311). Hence, the results for H6 run counter to the predictions of prior family business literature, which found that family firms in earlier generational stages place more emphasis on SEW concerns in strategic decision-making, while strategic choices in later generations are more driven by economic considerations (Gómez-Mejía et al., 2011).

Finally, prior family business research argues that the heterogeneity among family firms can be explained by differences among family firms in the emphasis put on family-specific non-economic goals such as the desire to pass the business on to future family generations. The hypotheses 7 to 9 relate to the influence of a transgenerational control intention in family firms on the importance attached to a target's profitability, corporate culture and its business model. I found that family firms with a transgenerational control intention attribute significantly lower importance to a high profitability ($p < 0.05$). This is in line with H7 and supports the argument that family firms with a desire to transfer the business to future generations may have a longer-term investment horizon, which allows them to engage in projects that are currently not highly profitable but may be in future. The empirical results of the primary analysis do not lend support to Hypothesis 8 and Hypothesis 9, which state that the goal of transgenerational wealth transfer leads to a preference for targets with a similar corporate culture (H8) and a disruptive business model (H9). These results are also confirmed by the graphical representation of the marginal effects in Figure A6-1 (Appendix, p. 311).

Robustness of findings:

To establish the robustness of the main findings and to investigate these results further several measures were employed. First, all three statistical models from the primary analysis outlined in Table 6-4 were re-estimated by running a standard logistic regression model. To account for the multilevel structure of the data, this model was estimated with clustered standard errors at the individual level. The results of this robustness test are outlined in Table A6-4 (Appendix, p. 310) and show that the findings established in the primary analysis are largely stable across statistical methods. With regards to the hypotheses testing, the results indicate an

overall similar direction and magnitude of effects and even an increase in significance for several hypothesized relationships. However, the following different outcomes emerged. Whereas the findings of the primary analysis regarding H4 showed a non-significant interaction for *quality of TMT* × *family management*, the robustness check revealed statistical significance ($p < 0.10$) and indicates that family management is associated with a higher weighting of an outstanding TMT at a target firm. In addition, while the interaction term for *corporate culture* × *transgenerational intention1* was not statistically significant in the primary analysis (H8), the robustness test found that family firms with a transgenerational intention placed higher weight on a similar corporate culture than other family firms ($p < 0.10$). These results, established with the robustness test, are confirmed by the graphical representation of the marginal effects in Figure A6-1 (Appendix, p. 311).

Second, as expected, there is some correlation between the *generational stage* and *firm age* variables ($r = 0.54$, $p < 0.01$). That is why I re-estimated the logistic regression models using different specifications and evaluated how the results change accordingly. Specifically, in the interaction model for generational stage (Model 2), I additionally included the interaction terms for the variable firm age. Changing the specifications of the model did not result in a change in the findings established in the primary analysis. The only difference that emerged is that the interaction term for *corporate reputation* × *generational stage* was found to be statistically significant not only for average corporate reputation as in the primary analysis, but also for high levels of corporate reputation ($p < 0.05$).¹⁹⁰ This outcome further reinforces the results found in the primary analysis that family firms in earlier generations (which are also younger firms) place less weight on the corporate reputation of the target than those in later generations.

Finally, to ensure that the findings on transgenerational intention are not artefacts of the variables used in my study, I re-estimated the interaction model for transgenerational intention (Model 3) by exchanging the dummy variable (*transgenerational intention1*) with the categorical variable (*transgenerational intention2*). The results of the primary analysis were confirmed when I used the categorical measure of transgenerational intention, which underlines the robustness of findings.¹⁹¹

¹⁹⁰ The results of this robustness test are not reported in this dissertation. Interested readers may contact me to request the relevant regression tables.

¹⁹¹ The results of this robustness test are not reported in this dissertation. Interested readers may contact me to request the relevant regression tables.

7 Summary, implications and avenues for future research

7.1 Summary

M&A research and practice both highlight that a systematic screening and evaluation of acquisition targets is a cornerstone of successful acquisitions (Angwin et al., 2015; BCG, 2015; Bettinazzi et al., 2018; Calipha et al., 2010; Christensen et al., 2011; Claussen et al., 2018; Deloitte, 2018; Marks and Mirvis, 2001; Rao et al., 2016; Wu et al., 2013). With diligent target screening and evaluation, corporate acquirers can reduce information asymmetries and uncertainty in the M&A decision process as it helps to differentiate value-increasing from value-destroying deals (Ahammad and Glaister, 2013; Angwin et al., 2015; Harvey and Lusch, 1995). In M&A practice, a potential acquisition target rarely matches an ideal search profile, so that acquirers are obliged to make trade-offs concerning the weighting and relative importance attached to “hard” and “soft” factors when screening and evaluating potential acquisition candidates. These trade-offs concerning different decision criteria are often made unconsciously, since decision-makers often lack introspection into their own decision processes (Zacharakis and Meyer, 1998). Shepherd and Zacharakis (2018) highlight that a better understanding of individuals’ actual decision policies and decision criteria might lead to better-performing investment decisions and therefore may also result into better target selection decisions. Despite this acknowledgement, it remains the case that little is known about the weighting and relative importance of different M&A decision criteria in the pre-acquisition target screening process. Hence, the investigation carried out in this dissertation provides an important overview for practitioners and researchers, as the identification and selection of a suitable acquisition candidate sets the stage for value-increasing transactions.

My dissertation had two primary intentions. First, it aimed to generate insights into the weighting of strategic, organizational and financial M&A decision criteria and the decision-making patterns of corporate acquirers that emerge in the process of acquisition target screening (RQ1 and RQ2). Second, it aimed to look in more depth at the differences in investment preferences in acquisition target screening between family and non-family firms (RQ3) and to investigate the heterogeneity in decision-making behaviour within the group of family firms (RQ4). To answer these research questions, this dissertation used data collected in a large-scale quantitative experimental study.

Table 7-1 outlines the research questions described in Chapter 1.2 and summarizes the empirical findings for each question.

Table 7-1: Summary of dissertation findings

Research question	Findings
RQ1: What relative importance do corporate acquirers assign to different M&A decision criteria in acquisition target screening?	<ul style="list-style-type: none"> ▪ <i>Quality of TMT, profitability and business model</i> are the three most important decision criteria for corporate acquirers in acquisition target screening. ▪ The <i>acquisition price</i> and “soft facts” such as <i>corporate reputation</i> and <i>corporate culture</i> are given a lower weighting by corporate acquirers. ▪ No compensatory effects were found between different decision criteria, suggesting that the main effects are good representations of preferences.
RQ2.1: Which groups of acquirers can be identified based on observed decision-making preferences and what are their characteristics?	<p>Four distinct acquirer groups were identified based on observed preference structures:</p> <ul style="list-style-type: none"> ▪ Finance-focused, conservative, business model-focused and TMT-focused acquirers. ▪ The decision-making patterns of different acquirer segments were profiled in terms of individual- and firm-level characteristics to interpret the identified cluster structure.
RQ2.2: How do identified decision-making patterns differ between corporate acquirers from family and non-family firms.	<ul style="list-style-type: none"> ▪ The ownership structure of a firm is a weak predictor of the cluster structure; hence, it does not help to explain cluster formation. ▪ Family and non-family firms do not fall into distinct acquirer groups.
RQ3.1: What differences in individual and firm characteristics can be observed between family and non-family firms?	<p>Family and non-family firms in the sample differ strongly with regard to individual and firm characteristics:</p> <ul style="list-style-type: none"> ▪ Decision-makers in family firms are more senior and have considerably longer organizational tenures. ▪ Family firms are smaller, considerably older and have a lower level of acquisition experience. ▪ The group of family firms has a lower share of stock-listed firms and firms with external blockholder ownership. ▪ Family firms exhibit a higher level of entrepreneurial orientation (i.e. innovativeness, proactiveness, willingness to take risks). ▪ Family firms tend to pursue resource-enhancing acquisitions, while non-family firms tend to pursue efficiency-enhancing acquisitions.

Notes: Findings based on empirical analysis carried out in Chapter 5 and Chapter 6.

Table 7 1 (continued): Summary of dissertation findings

Research question	Findings
RQ3.2: How do family and non-family firms differ with regard to the relative importance assigned to different M&A decision criteria in acquisition target screening?	<p>Family firms have similar decision-making preferences to non-family firms in their screening and evaluation of targets:</p> <ul style="list-style-type: none"> ▪ Family firms assign higher importance to the <i>corporate reputation</i> of targets than non-family firms.¹ ▪ No statistically significant difference was found between family and non-family firms in the relative importance attributed to strategic, financial and other organizational decision criteria in acquisition target screening.
RQ4: How do family firms differ with regard to the relative importance assigned to different M&A decision criteria in acquisition target screening?	<p>Family firms are heterogeneous with regard to the importance assigned to different M&A decision criteria:</p> <ul style="list-style-type: none"> ▪ Family-managed firms assign higher importance to targets that operate with a <i>similar business model</i> and that have a <i>high-quality TMT</i>² compared to non-family-managed firms. ▪ Earlier-generation family firms assign lower importance to the <i>profitability</i> criterion and lower importance to the <i>corporate reputation</i> of targets than family firms in later generations. ▪ Family firms with a transgenerational intention assign lower importance to the <i>profitability</i> criterion and higher importance to targets with a <i>similar corporate culture</i>² than family firms that do not intend to pass the family business on to future generations. In addition, no difference was found between those family firms in the weighting of the strategic decision criterion <i>business model</i>.

Notes: Findings based on empirical analysis carried out in Chapter 5 and Chapter 6.

¹ Finding was only significant when estimating the model with a multilevel logistic regression and *family firm1*.

² Finding was only significant when estimating the model with a clustered logistic regression analysis.

This dissertation began by providing a systematic review of the literature on strategic decision-making in family firms (see Chapter 2). The descriptive findings were outlined and the content of the identified research was summarized along a framework of strategic decision-making. The descriptive insights generated in the literature review guided the research design of this dissertation. In particular, the main methodology chosen for the exploration of decision criteria and decision-making preferences in acquisition target screening was conjoint analysis (see Chapter 4), which is an experimental survey technique recommended for the investigation of managerial decision-making (Shepherd and Zacharakis, 2018).

Prior to the development of the discrete CBC experiment a preliminary study was conducted, which aimed to identify the most relevant decision criteria for corporate acquirers in the context of acquisition target screening and selection. This preliminary study consisted of two steps. First, the research context of acquisition target screening and evaluation was described and a literature review on M&A decision criteria used by corporate acquirers in the pre-acquisition screening and evaluation of targets was established (see Chapter 3). Second, 19 exploratory expert interviews with M&A professionals (e.g. investment bankers, M&A consultants) and corporate M&A decision-makers (e.g. CEOs, supervisory board members) from Germany were conducted (see Section 4.2, p. 61 et seq.). This exploratory preliminary study revealed that corporate acquirers use a combination of strategic, financial, organizational and environmental decision criteria when screening and evaluating potential acquisition targets. Based on these insights, six decision criteria were selected to create hypothetical target screening decisions for the conjoint analysis presented in Chapter 4: one strategic criterion (business model), two financial criteria (profitability and expected acquisition price) and three organizational criteria (quality of top management team, similarity of corporate culture and corporate reputation). Before data collection for the dissertation began, the survey instrument, consisting of the conjoint experiment and a post-hoc questionnaire, was pilot-tested with researchers and practitioners to ensure external validity. The final sample for the study consisted of 304 decision-makers from 264 private and public family and non-family firms, predominantly from Germany, Austria and Switzerland (DACH region), which led to the simulation of 7,904 hypothetical target screening decisions (see Section 4.8, p. 114 et seq.).

The univariate and multivariate results relating to the first exploratory research question (RQ1) showed that *top management team quality* is the most important decision criterion, while the *profitability* and the type of *business model* are the second and third most important decision criteria for corporate M&A decision-makers in the process of acquisition target screening. The results further revealed that corporate acquirers in the sample place comparably less weight on the expected *acquisition price* and “soft” decision criteria such as *corporate reputation* and *corporate culture* (see Section 5.1). Hence, in contrast to some prior M&A research (Bauer and Matzler, 2014; Datta, 1991; Gomes et al., 2013; Jemison and Sitkin, 1986), the findings for the first research question suggest that strategic and financial decision criteria are not the most important decision criteria evaluated by acquirers when screening targets.

Prior empirical studies posit that preference data collected in CBC experiments is frequently subject to considerable variance across individuals (Orme, 2000; Shepherd and Zacharakis, 2018), which stems from external factors (i.e. individual, firm and environmental characteristics) that influence decision-making behaviour. To deal with heterogeneous observations in the sample, the preference data generated with the conjoint analysis was used to segment respondents into distinct clusters based on their actual decision-making patterns (see Section 5.2, p. 143 et seq.). For the second, exploratory research question (RQ2), a cluster analysis revealed that four different acquirer groups exist: finance-focused acquirers, conservative acquirers, business model-focused acquirers (disruptors) and TMT-focused acquirers. These acquirer groups differ according to the importance attached to different M&A decision criteria in acquisition target screening. In addition, the results of the cluster comparison revealed that these acquirer segments depend on and can be profiled according to a range of individual-level, firm-level and environmental characteristics (see Table 5-7, p. 166 et seq.). An interesting finding that stands out is that firms in the finance-focused and conservative acquirer clusters rank comparably lower in EO (i.e. less innovative, less proactive, less willing to take strategic risks) and tend to prefer “efficiency-enhancing” acquisitions, focusing on scale and scope economies as their main acquisition motives. In contrast, BM-focused and TMT-focused acquirers have higher levels of EO, and their primary motive for engaging in acquisitions is to gain access to valuable resources (i.e. resource-enhancing acquisitions).

The univariate findings relating to the first, exploratory subquestion of the third research question (RQ3.1) revealed that family firms differ considerably across a range of individual and firm characteristics (see Section 6.1.2.1, p. 178 et seq.). In particular, the analysis showed that relative to the non-family firms in the sample (N = 114), family firms (N = 190) are smaller and have a higher EO and significantly lower organizational acquisition experience. Interestingly, family firms also seem to be driven by risk diversification and resource-enhancing acquisition motives rather than efficiency reasons in acquisition decisions. These differences made it plausible to expect that the weighting of M&A decision criteria would also vary between these two groups. The multivariate results relating to the second, theory-driven research subquestion (RQ3.2), however, showed that family and non-family firms do not have distinct preferences with regard to the weighting of strategic, financial and organizational decision criteria in acquisition target screening (see Section 6.1.2.2, p. 184 et seq.). The only difference that emerged in the primary analysis is that family firms attribute a higher importance to a target’s corporate reputation than corporate acquirers in non-family firms do. This finding, however, is

not robust if the regression model is re-estimated with another statistical method or if different family firm definitions are applied (*family firm2* and *family firm3*). In addition, no statistically significant difference was found between family and non-family firms for other decision criteria tested in this dissertation. This result suggests that the differences in decision-making preferences between family and non-family firms found in the M&A-related family business literature may dilute as a family firm grows in size and becomes increasingly professionalized.

Prior family business research posits that the strategic decision-making behaviour of family firms is contingent on a firm's generational stage, on the emphasis it places on non-economic goals such as transgenerational control intention and on governance issues such as whether the family holds a top management position in the firm. This dissertation accounted for family firm heterogeneity by analysing whether these family firm characteristics moderate the target screening choices of corporate acquirers in family firms. The results relating to the fourth, theory-driven research question (RQ4) found that family firms are heterogeneous with respect to the weighting of different M&A decision criteria in acquisition target screening (see Section 6.2, p. 187 et seq.). In particular, the analysis revealed that family firms in later generational stages attribute significantly more importance to a target's corporate reputation and less to the profitability criterion than family firms in earlier generations. In addition, the quantitative analysis showed that family firms with a transgenerational intention attribute higher importance to the similarity of a target's corporate culture and lower importance to the profitability criterion than other family firms. Finally, the results found that family-managed firms attribute significantly less weight on targets with a disruptive business models than other types of family firms do. This suggests that family management is associated with a preference for business model similarity when screening and evaluating potential acquisition candidates.

7.2 Implications

7.2.1 Theoretical implications

This dissertation contributes to strategic management research, more specifically the M&A literature, and to family business research.

M&A literature: Within the M&A literature, this dissertation contributes to decision criteria research and to the strand of research on the M&A target selection process. The contribution to *decision criteria research* is twofold. First, the strategic management and

acquisition criteria literature has discussed a large number of decision criteria that are relevant in acquisition target screening and selection (see Chapter 3). This research on decision criteria is highly fragmented as separate literature streams have emerged in the strategic management and M&A literature (Bauer and Matzler, 2014). With the summary and overview of M&A decision criteria in Chapter 3, this dissertation laid the foundation for further decision criteria research in the context of corporate acquisition decisions. Second, the existing literature on M&A decision criteria is mainly based on archival data or post-hoc methodologies. In addition, conclusions about the importance of particular M&A decision criteria are often made only indirectly as scholars focus on how individual characteristics of targets (e.g. strategic relatedness, cultural fit) affect firms' acquisition decisions. Hence, the second contribution to the *decision criteria research* is that an experimental conjoint analysis was used as the main methodology, which allows to overcome shortcomings of archival data analysis and post-hoc methods, as decisions can be studied at the time when they are made. The conjoint method also makes it possible to assess the relative importance of organizational decision criteria ("soft facts"), such as cultural fit, corporate reputation and the quality of the top management team, which are difficult to operationalize with archival data.

In addition, this dissertation advances the understanding of antecedents of acquisition target selection, which is a largely unexplored field of inquiry (e.g. Bettinazzi et al., 2018; Capron and Shen, 2007; Chakrabarti and Mitchell, 2013; Claussen et al., 2018; Henn et al., 2018; Kaul and Wu, 2015; Rao et al., 2016; Reuer et al., 2012; Wu et al., 2013; Yu and Rao, 2009). The contribution to the scarce research on *M&A target selection* is twofold. Prior M&A research on target selection has primarily focused on the information challenges associated with identifying and evaluating targets (e.g. Bae et al., 2013; Baum et al., 2000; Chakrabarti and Mitchell, 2013; Shen and Reuer, 2005; Wu et al., 2013), or on how targets' individual characteristics impact on acquisition decisions (e.g. Bettinazzi et al., 2018; Claussen et al., 2018; Saxton and Dollinger, 2004). This dissertation is one of the first studies that explores the relative importance attached to different M&A decision criteria in acquisition target screening and selection and generates insights into trade-offs in weighting "hard facts" and "soft facts" in acquisition decisions. The second contribution to *M&A target selection* research is that the dissertation accounts for variations in decision-making preferences among individual decision-makers by exploring their distinct decision-making patterns with a cluster analysis methodology. Prior research has primarily taken an organizational-level perspective without considering the characteristics of decision-makers, firms and the environment simultaneously.

The results of my dissertation suggest that a holistic perspective is necessary as the identified decision-making patterns strongly depend on various types of characteristics that help to explain the importance attached to different decision criteria in acquisition target screening.

Family business literature: This dissertation also contributes to family business literature in several ways. First, it extends the scarce family business research dealing with strategic decision-making in the context of acquisition decisions (André et al., 2014; Caprio et al., 2011; Defrancq et al., 2016; Feito-Ruiz and Menéndez-Requejo, 2009; Gómez-Mejía et al., 2018; Henn et al., 2018; Miller et al., 2010; Requejo et al., 2018; Shim and Okamuro, 2011). Prior family business research has focused on how factors such as industry relatedness (e.g. Defrancq et al., 2016; Miller et al., 2010) impact on family firms' acquisition decisions. The empirical research in this dissertation extends existing family business literature by analysing the differences between family and non-family firms in terms of the weighting of strategic, organizational and financial decision criteria in acquisition target screening. By using conjoint analysis as the main research methodology, this dissertation also responds to the call for more family business research to use conjoint analysis in order to directly assess strategic decisions at the time when they are made (Hanisch and Rau, 2014).

In addition, this dissertation contributes to family business research that deals with family firm heterogeneity (Block et al., 2013; Chrisman and Patel, 2012; Gu et al., 2016; Pongelli et al., 2016; Rau et al., 2019; Requejo et al., 2018; Schmid et al., 2015) by exploring the moderating roles of family management, generational stage and transgenerational control intention on the target screening choice. In line with existing family business research (Block et al., 2013; Chrisman and Patel, 2012; Gómez-Mejía et al., 2011; Gu et al., 2016; Kammerlander and Ganter, 2015), the findings of this dissertation suggest that the emphasis on SEW and specific non-economic goals such as transgenerational control intention varies among family firms, which consequently results in unique decision-making preferences. This dissertation thus adds to the body of existing family business research on goal diversity among family firms (e.g. Kammerlander and Ganter, 2015; Kotlar and De Massis, 2013) by shedding light on distinctive decision-making preferences within the group of family firms.

Finally, in this dissertation the non-economic goal of transgenerational intention served as a proxy measure for temporal orientation (i.e. long-term orientation) in decision-making. Hence, this dissertation also contributes to the scarce family business research on temporal orientations and decision-making time horizons in family firms (e.g. Block and Thams, 2008;

Chrisman and Patel, 2012; Kammerlander and Ganter, 2015) and responds to the call for more research in this area (Lumpkin and Brigham, 2011).

7.2.2 Practical implications

Using conjoint analysis to investigate strategic, organizational and financial decision criteria makes it possible to predict and understand decision-makers' cognitive systems for a particular judgement. In this way this dissertation reveals the silent antecedents of acquisition decisions that are at play and provides valuable insights into the evolving decision-making preferences of corporate acquirers in the process of acquisition target screening and selection. The results of this dissertation have several practical implications, primarily for corporate M&A decision-makers at family and non-family firms, family business owners and M&A professionals that advise organizations in the pre-acquisition target screening process.

Corporate M&A decision-makers at family and non-family firms can utilize the results of this dissertation to become aware of and avoid possible pitfalls in the early pre-acquisition target screening and selection phase.¹⁹² First, the search process that corporate acquirers use is frequently unsystematic and acquisition targets are often identified by chance, meaning that acquirers are engaging in opportunistic acquisitions. In relation to this point, the results of this dissertation may help corporate acquirers to become aware of the need to implement a structured target screening and selection process that is also accepted by the management and corporate development team of the acquiring organization.

Second, corporate acquirers often do not make enough effort to gather qualitative (e.g. information on corporate culture and reputation) and quantitative information (e.g. key performance indicators from the balance sheet and income statement) about the target. The overview of scholarly literature on M&A decision criteria conducted in this dissertation (see Chapter 3) may help corporate acquirers to develop an assessment scheme with decision criteria that are suitable and relevant for conducting a comprehensive strategic, financial, organizational and environmental acquisition target screening.

In addition, the practice-oriented M&A literature shows that the screening criteria used in acquisition target screening are often inconsistent, overly general and not derived from a firm's strategic objectives. This dissertation found that the decision-making preferences of corporate

¹⁹² For a practical discussion of possible pitfalls in pre-acquisition target screening and selection, see Lucks and Meckl (2015, p. 128).

acquirers and the importance attached to different M&A decision criteria are strongly related to acquisition motives (see Chapter 5). This insight can motivate corporate M&A decision-makers to consciously align their search strategy with acquisition objectives, which in turn are supposed to reflect the corporate strategy of the firm.

Another potential shortcoming in the early pre-acquisition screening phase is that acquirers often weight decision criteria “wrongly” and underestimate the relevance of individual criteria. The results of this dissertation may therefore be used by corporate acquirers to critically assess the importance of specific M&A decision criteria for their firm and the relevance of these attributes for eventually realizing post-acquisition success. For instance, if an acquirer believes that the target’s top managers are critical for the successful continuation of operations after an acquisition then it should become a clear goal for the acquiring team (right from the pre-acquisition phase) to engage in initiatives that bind critical human capital to the firm. To prevent key managers from leaving the firm, acquirers could not only provide monetary incentives but also develop trustful relationships by consciously involving them in critical discussions on future integration plans as well as by opening up leadership opportunities for them in the combined organization.

Furthermore, this dissertation found that distinct acquirer groups exist in acquisition target screening (see Chapter 5). This finding implies that corporate acquirers in the same organization may have divergent preferences with regards to the characteristics of potential acquisition targets. The knowledge of different acquirer segments and the distinct weighting of decision criteria in acquisition target screening developed in this dissertation can be used by corporate acquirers to reduce conflicts among decision-makers with divergent preferences and to make more consistent target screening decisions. A consensus about the weighting and prioritization of screening criteria among key decision-makers in the acquiring organization may provide guidance for decision-makers throughout the overall target screening and evaluation process. Such transparency over decision criteria may further ensure that the decision-making process in practice is less affected by emotions and that in the case of family firms the priorities of the business-owning families are incorporated into the target screening and evaluation process.

To sum up, corporate acquirers in family and non-family firms can utilize the results of this dissertation to critically reflect on their current target screening and selection process and the prioritization of different criteria. This critical reflection may help corporate acquirers to make more consistent evaluations of whether a target is a good fit and thus come to more realistic

conclusions about potential synergies. In addition, it may allow organizations to institutionalize learning effects and be better prepared when the next acquisition opportunities arise.

Family business owners: This dissertation not only has implications for corporate acquirers at family and non-family firms, but also for family business owners who are actively involved in M&A transactions. The findings of the empirical analysis related to the group of family firms can serve as a benchmark for family firms as it allows them to compare their own decision-making process with the approaches of other firms (see Chapter 6). Family business owners can also use the insights established in this dissertation to more effectively set priorities early in the pre-acquisition phase so that the search for potential acquisition targets reflects their values and preferences. Moreover, the knowledge about heterogeneous investment preferences within the group of family firms can be used by family business owners to critically reflect on the economic and non-economic goals that they use as reference points in acquisition decisions.

In addition, the findings of this dissertation indicate that family-managed firms and those with a transgenerational intention exhibit a tendency to select “similar” targets in terms of culture and business models. This similarity may foster trust and comfort for decision-makers at these firms in acquisition decisions. The findings on this point may indicate that the decision-making behaviour of these firms is affected by a so-called “similarity bias”. Hence, family business owners can take this finding as a prompt to reflect more consciously on the weighting of certain criteria that may at first sight seem to be beneficial because of the proposed “similarity”, however, may prove disadvantageous in later stages of the M&A process. Finally, this dissertation may support family-external executives and corporate M&A decision-makers within family firms to better understand the distinct dynamics of decision-making when the business-owning family is actively involved in running the firm.

M&A professionals: Corporate acquisitions are complex group decisions that frequently involve many different stakeholders and firm functions. M&A consultants can play a moderating role in balancing out the often contrary views and preferences of different stakeholders (e.g. family business owners, professional management) involved in the acquisition decision process. In addition, M&A consultants can support corporate acquirers conceptually in formulating an acquisition strategy with clear acquisition motives from which strategic, organizational, financial and other decision criteria are derived. M&A professionals can further use the insights generated in this dissertation to support corporate acquirers in prioritizing the decision criteria with which targets are identified, assessed and selected. This will help acquirers to set the right direction for successful acquisitions right from the start.

In addition, the findings of this dissertation reveal that corporate acquirers put considerably less emphasis on “soft” criteria such as corporate reputation and corporate culture, despite the recognition in M&A practice and the M&A literature that these factors are very important in acquisition decisions.¹⁹³ The reason for this may be attributed to the challenges associated with evaluating intangible resources (Harvey and Lusch, 1999; Kiessling et al., 2008) and the fact that, in practice, professional tools and frameworks to assess issues such as a target’s corporate reputation and organizational culture are often absent.

Hence, the findings of this dissertation suggest that organizations’ corporate development and M&A teams should implement decision aids and tools allowing them to analyse both the multidimensionality of corporate reputation and the cultural fit between the target and the acquirer. Professional M&A consultants are experienced in these matters and can provide acquirers with conceptual support to develop internal expertise in cultural and reputational due diligence. Hence, M&A professionals can utilize the results of this dissertation to develop concepts and tools that support corporate acquirers at family and non-family firms in implementing a systematic and structured target screening and evaluation process.

7.3 Limitations and directions for further research

As with any empirical work, this dissertation has several limitations, some of which open up promising avenues for further empirical research.

Methodology (conjoint analysis): While I tried to minimize limitations in the design and development of the main research methodology chosen for this dissertation, conjoint analysis still has some weaknesses. First, a conjoint experiment aims to approximate real-world decision-making by assessing individual preferences in hypothetical decision situations. An experimental approach of this kind is logically imperfect as it cannot capture all of the relevant factors involved in complex activities such as acquisition decisions (Holland and Shepherd, 2013). Another criticism of conjoint experiments is that only a limited number of decision attributes (usually between three and seven) can be included in hypothetical profiles as otherwise the experiment would become cognitively unmanageable for respondents (Holland and Shepherd, 2013). The reason for this is that for each additional attribute included in the

¹⁹³ See summary of literature on organizational decision criteria in Section 3.3.2 (p. 52) and summary of qualitative interviews in Section 4.2.2 (p. 66 et seq.).

experiment, the number of profiles each respondent has to evaluate needs to be increased so that utility estimation remains efficient (Orme, 2010a).

In addition, another criticism of conjoint experiments mentioned in the literature is that decision criteria (i.e. attributes and levels) included in the experiment may only be considered important by respondents because they were presented in the choice tasks (Shepherd and Zacharakis, 1997). This, however, is considered a minor limitation in this dissertation as the majority of survey respondents are experienced senior decision-makers (Brehmer and Brehmer, 1988) and as all attributes included in the experiment are grounded in M&A literature and their relevance was confirmed by participants in a comprehensive pilot study conducted before the survey instrument was used (see Section 4.5.2, p. 83).

Despite these shortcomings, conjoint analysis was considered a promising method for this dissertation as it has the advantage that it provides preference data that is not impacted by retrospective or self-report biases (Patzelt et al., 2008). In addition, the method has been used in a large number of entrepreneurial and managerial decision-making studies, which provides evidence that the method has strong validity and is able to reliably describe the preferences of individuals and to predict actual decision-making (Hanisch and Rau, 2014; Lohrke et al., 2010).

These methodological considerations concerning the main survey instrument used in this dissertation provide avenues for further research. First, future research could replicate the study undertaken in this dissertation by using alternative conjoint analysis methods based on ratings or rankings of profiles rather than on the paired comparison choices used in the CBC method. Second, scholars could combine the experimental method with an additional post-hoc qualitative study in order to get a more comprehensive insight into the decision-making behaviour and the weighting of different screening criteria in family versus non-family firms. Third, given that this dissertation is one of the first studies to assess the weighting of M&A decision criteria in acquisition target screening, a further promising avenue for future research would be to explore the weighting of additional decision criteria, such as the geographical proximity of or cultural distance between target and acquirer, and issues such as core competence and technological relatedness (see overview of decision criteria in Chapter 3).

Moreover, this dissertation focused on decision criteria applied by corporate acquirers in the pre-acquisition screening and evaluation of targets. Hence, the empirical results of this dissertation are a reflection of the decision-making behaviour of corporate acquirers in this early M&A phase. Future research could therefore investigate the weighting of these M&A decision

criteria in later phases of the M&A process (e.g. in the due diligence and valuation, the negotiation and the post-acquisition integration phase). Extending the investigation of M&A decision criteria carried out in this dissertation to other M&A phases would yield a deeper understanding of whether the decision criteria applied by corporate acquirers early in the process are consistent over time and across phases. This knowledge would allow a comparison of the decision criteria prioritized by corporate acquirers in different M&A phases (e.g. pre-acquisition phase vs post-acquisition integration phase), enabling a more comprehensive insight into the decision-making process of executives in corporate acquisitions.

Methodology (cluster analysis): An additional methodological limitation of this dissertation relates to the cluster analysis conducted in Chapter 5 with the aim to identify distinct corporate acquirer groups. In a cluster analysis, the use of different algorithms and similarity measures strongly impacts on the findings generated, meaning that cluster validation is of crucial importance (Hair et al., 2010, p. 561). To circumvent this shortcoming, I took several measures to increase the reliability and validity of the cluster solution. First, the two-stage clustering approach recommended in the literature (i.e. combination of non-hierarchical and hierarchical clustering) was applied, and different similarity measures were used to test the robustness of the findings (Hair et al., 2010; Ketchen and Shook, 1996). In addition, the clustering was re-estimated for the subsample of family firms, which confirmed that the identified cluster structure is also stable across different sample sizes. Finally, the cluster solution was critically assessed by experienced M&A professionals to establish the face validity of the findings.

Another limitation of the cluster analysis is that the data used for the analysis was collected in a single period of time with the aim of providing an initial, general picture of M&A decision-making patterns in acquisition target screening. This dissertation did not attempt to make conclusions about the relationship between these patterns and firm performance. Hence, future research could collect additional (longitudinal) balance sheet and income statement data in order to examine how the identified acquirer segments correlate with performance. In addition, an analysis of the stability of decision-making patterns in acquisition target screening over time and in particular under different macroeconomic conditions could also provide a deeper understanding of these acquirer patterns. Finally, subsequent research could replicate the study undertaken in this dissertation by using latent class analysis, which is an alternative segmentation method used in conjunction with conjoint analysis (Sawtooth, 2004).

Sampling: The Web-based survey used in this dissertation, comprising the conjoint experiment and a questionnaire, was conducted with corporate M&A decision-makers from family and non-family firms that are primarily headquartered in Germany (95.4%) and other countries in the DACH region (2.6%). Hence, the sample was limited to a particular geographical area, meaning that the external validity of empirical findings generated by this dissertation may be limited to this specific context. Hence, further research is needed that focuses on samples of corporate acquirers in other countries and institutional settings (e.g. the USA) in order to account for national cultural differences among decision-makers.

Variables and measures: The empirical analysis presented in Chapter 6 compared the decision-making behaviour of family versus non-family firms and within the group of family firms. In family business research, the findings of an empirical analysis strongly depend on the definition and operationalization of what constitutes a family firm (Block, 2009, p. 11 et seq.). This was also confirmed in this dissertation, as the results relating to the third research question (i.e. differences between family and non-family firms in the weighting of M&A decision criteria) were not robust across different definitional approaches.

Another limitation of this dissertation relates to the assumption that SEW priorities and temporal orientations (i.e. LTO) of decision-makers in family firms can be proxied by measures such as family ownership, family management, generational stage and transgenerational control intention. Taking variables as proxies for certain behaviour is in line with prior literature (Chrisman and Patel, 2012; Gómez-Mejía et al., 2018), since widely accepted scales are often unavailable. However, it would be better to capture critical aspects of decision-making directly. Hence, it would be a very promising, though challenging, area of future research to develop appropriate scales and constructs that enable a more direct measurement of SEW levels and temporal aspects in decision-making.

This dissertation has established an interesting and previously neglected perspective on decision-making preferences in acquisition target screening and shed light on the weighting of strategic, organizational and financial M&A decision criteria by executives and corporate acquirers at family and non-family firms. I strongly hope that some of the findings established in this dissertation will be advanced in future strategic management and family business research.

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Appendix

Appendix to Chapter 2

Table A2-1: Inclusion and exclusion criteria for literature review

Characteristics	Inclusion criteria	Exclusion criteria
Journal selection focus and publication medium	<ul style="list-style-type: none"> ▪ Journals that (potentially) deal with the topic of strategic decision-making in family firms ▪ High-quality, peer-reviewed academic journals that meet defined quality standards 	All others
Quality standards of publications	<ul style="list-style-type: none"> ▪ A ranking of $\geq C$ in VHB-Jourqual 3 (subrankings: Entrepreneurship; KMU; TIE) ▪ A ranking of P or P* in the 2016 Erasmus journal list (ERIM) 	All others
Type of publication	Full published articles and research notes	<ul style="list-style-type: none"> ▪ Books, book chapters ▪ Theses and dissertations ▪ Article commentaries ▪ Conference papers and working papers ▪ Practical articles by, e.g. consultancy firms
Language	English	All others
Research design	<ul style="list-style-type: none"> ▪ Conceptual studies ▪ Empirical studies (qualitative and quantitative) ▪ Literature reviews 	All others
Search strategy	Keywords: “famil*” and “decision*” in title and/or abstract	“Family” and “decision” appear neither in the title nor in the abstract
Content focus	<ul style="list-style-type: none"> ▪ Articles with a focus on <ul style="list-style-type: none"> - strategic decision-making in family firms - strategic decision-making context (e.g. M&A, internationalization) ▪ Strategic decision-making process and behavioural research ▪ Factors that influence the strategic decision-making process and outcomes 	Articles with a focus on <ul style="list-style-type: none"> - new ventures, SME decision-making - entrepreneurial or operational decision-making - succession, financial and capital structure decisions

Notes: Inclusion and exclusion criteria that guided the literature review.

Table A2-2: List of journals included in the literature review

No	Journal	ERIM journal list (EJL) ¹	VHB ² -JOURQUAL3	VHB rating
1	Abacus	P		
2	Academy of Management Journal, The	P*	ABWL	A+
3	Academy of Management Review, The	P*	ABWL	A+
4	Accounting Review, The	P*		
5	Accounting, Organizations and Society	P*		
6	Administrative Science Quarterly	P*	ABWL	A+
7	Auditing: A Journal of Practice & Theory	P		
8	British Journal of Industrial Relations	P		
9	Business Process Management Journal		TIE	C
10	Communications of the ACM	P		
11	Computers & Operations Research	P		
12	Contemporary Accounting Research	P*		
13	Creativity and Innovation Management		TIE, Entrepr.	C
14	Decision Sciences	P		
15	Decision Support Systems	P		
16	Economics of Innovation and New Technology		TIE	B
17	Entrepreneurship & Regional Development		Entrepr.	B
18	Entrepreneurship: Theory and Practice (ET&P)	P	TIE, Entrepr.	A
19	European Journal of Innovation Management		TIE	C
20	European Journal of Operational Research	P		
21	Family Business Review		KMU, Entrepr.	B
22	Financial Management	P		
23	Frontiers of Entrepreneurship Research		Entrepr.	C
24	Global Strategy Journal	P		
25	Human Relations	P		
26	Human Resource Management	P		B
27	Human Resource Management Review	P		
28	Industrial and Corporate Change (ICC)	P	TIE	B
29	Industrial Relations: A Journal of Economy and Society	P		
30	Industry & Innovation		TIE, Entrepr.	B
31	Information & Management	P		
32	Information Systems Research	P*		
33	Interfaces	P		
34	International Journal of Automotive Technology and Management		TIE	C
35	International Journal of Entrepreneurial Behavior & Research		TIE, Entrepr.	C
36	International Journal of Entrepreneurial Venturing		TIE, KMU, Entrepr	B
37	International Journal of Entrepreneurship and Innovation Management		TIE; Entrepr.	C
38	International Journal of Entrepreneurship and Small Business		Entrepr.	C
39	International Journal of Globalisation and Small Business	P	Entrepr.	C

Notes: ¹ Erasmus Research Institute of Management (ERIM) 2016 journal list (EJL).

² Journal list of Verband der Hochschullehrer für Betriebswirtschaft (VHB).

Table A2-2 (continued): List of journals included in the literature review

No	Journal	ERIM journal list (EJL) ¹	VHB ² -JOURQUAL3	VHB rating
40	International Journal of Industrial Organization	P*		
41	International Journal of Information Technology & Decision Making		TIE	C
42	International Journal of Innovation and Sustainable Development		TIE	C
43	International Journal of Innovation and Technology Management		TIE, Entrepr.	C
44	International Journal of Innovation Management		TIE, Entrepr.	B
45	International Journal of Product Development		TIE	C
46	International Journal of Research in Marketing	P*		
47	International Journal of Technology Management		TIE	C
48	International Small Business Journal		TIE, KMU, Entrepr.	C
49	Journal of Accounting and Economics	P*		
50	Journal of Accounting Research	P*		
51	Journal of Advertising	P		
52	Journal of Applied Psychology	P*		
53	Journal of Banking & Finance	P		
54	Journal of Business & Economic Statistics	P		
55	Journal of Business Finance & Accounting	P		
56	Journal of Business Venturing (JBV)	P*	TIE, Entrepr.	A
57	Journal of Consumer Psychology	P*		
58	Journal of Consumer Research	P*		
59	International Journal of Product Development		TIE	C
60	Journal of Corporate Finance	P		
61	Journal of Developmental Entrepreneurship		TIE, Entrepr.	C
62	Journal of Economics & Management Strategy	P		
63	Journal of Empirical Finance	P		
64	Journal of Engineering and Technology Management		TIE	C
65	Journal of Enterprising Culture		Entrepr.	C
66	Journal of Entrepreneurship		TIE, Entrepr.	C
67	Journal of Family Business Management		Entrepr.	C
68	Journal of Family Business Strategy		KMU, Entrepr.	C
69	Journal of Finance, The	P*		
70	Journal of Financial Economics	P*		
71	Journal of Financial Intermediation	P		
72	Journal of Financial Markets	P		
73	Journal of Interactive Marketing	P		
74	Journal of International Business Studies	P*		
75	Journal of International Money and Finance	P		
76	Journal of Management (JOM)	P*	ABWL	A
77	Journal of Management Studies (JMS)	P*	ABWL	A
78	Journal of Marketing	P*		
79	Journal of Marketing Research	P*		

Notes: ¹ Erasmus Research Institute of Management (ERIM) 2016 journal list (EJL).

² Journal list of Verband der Hochschullehrer für Betriebswirtschaft (VHB).

Table A2-2 (continued): List of journals included in the literature review

No	Journal	ERIM journal list (EJL) ¹	VHB ² -JOURQUAL3	VHB rating
80	Journal of Money, Credit and Banking	P		
81	Journal of Operations Management	P*		
82	Journal of Organizational Behavior	P		A
83	Journal of Product & Brand Management		TIE	C
84	Journal of Product Innovation Management (JPIM)	P	TIE	A
85	Journal of Research in Marketing and Entrepreneurship		Entrepr.	C
86	Journal of Retailing	P		
87	Journal of Service Research	P		
88	Journal of Small Business and Entrepreneurship		TIE, KMU, Entrepr.	C
89	Journal of Small Business Management (JSBM)		TIE, KMU, Entrepr.	B
90	Journal of Small Business Strategy		TIE, KMU, Entrepr.	C
91	Journal of Supply Chain Management	P		
92	Journal of the Academy of Marketing Science	P*		
93	Journal of Vocational Behavior	P		
94	Journal of World Business	P		
95	Leadership Quarterly	P		
96	Long Range Planning	P		
97	Management Accounting Research	P		
98	MIS Quarterly	P*		
99	Omega	P	ABWL	B
100	Organization Studies	P*	ABWL	A
101	Organizational Behavior and Human Decision Processes	P*	PERS/ORG	A
102	Organizational Research Methods	P		
103	Personnel Psychology	P		
104	Production and Operations Management	P*		
105	R&D Management		TIE	B
106	Research Policy (RP)	P*	TIE, Entrepr.	A
107	Review of Finance (formerly European Finance Review)	P*		
108	Review of Financial Studies	P*		
109	Small Business Economics	P	TIE, Entrepr.	B
110	Strategic Entrepreneurship Journal (SEJ)	P	TIE, Entrepr.	A
111	Strategic Management Journal	P*		A+
112	Strategic Organization	P		
113	Technological Forecasting and Social Change		TIE	B
114	Technology Analysis & Strategic Management		TIE	C
115	Technovation		TIE, Entrepr.	C
116	The International Journal of Entrepreneurship and Innovation		TIE, Entrepr.	C
117	The Journal of Private Equity		Entrepr.	D
118	Venture Capital. An International Journal of Entrepreneurial Finance		Entrepr.	C

Notes: ¹Erasmus Research Institute of Management (ERIM) 2016 journal list (EJL).

²Journal list of Verband der Hochschullehrer für Betriebswirtschaft (VHB)

Table A2-3: Overview of articles in research streams

Research Streams	N	Sources
Research Stream I: Influence of antecedent factors on strategic decision-making process	3	Martínez-Ferrero et al. (2016); Mustakallio et al. (2002); Vandekerckhof et al. (2018)
Research Stream II: Interrelationship between strategy process factors	8	Bee and Neubaum (2014); Eddleston, Otondo et al. (2008) ¹ ; Ensley (2006); Feltham et al. (2005) ¹ ; Hirigoyen and Labaki (2012); Nason et al. (2018); Pimentel et al. (2018); Zona (2016)
Research Stream III: Relationship between strategy process factors and outcomes	15	Binacci et al. (2016); Camblanne (2013), Eddleston et al. (2012); Gentry et al. (2014) ² ; Gu et al. (2016) ² ; Kammerlander and Ganter (2015) ² , König et al. (2013) ² , Lumpkin and Brigham (2011); Lumpkin et al. (2010); Newbert and Craig (2017); Pongelli et al. (2016) ² , Sharma and Manikutty (2005); Strike et al. (2015) ² ; Vandemaele and Vancauteran (2015) ² ; Veider and Kallmuenzer (2016) ²
Research Stream IV: Influence of antecedent factors on outcomes	30	Basco (2013); Basco (2014); Bianco et al. (2013); Boers et al. (2017); Calabrò et al. (2016); Caprio et al. (2011); Chrisman and Patel (2012); Deslandes et al. (2016); Gómez-Mejía et al. (2007); Gómez-Mejía et al. (2010); Gómez-Mejía et al. (2014); Gómez-Mejía et al. (2018); Ibrahim et al. (2001); Jones et al. (2008) ² ; Kahn and Henderson (1992); Kao and Kuo (2018); Kavadis and Castañer (2015); Kotlar et al. (2013); Kotlar, De Massis et al. (2014); Kotlar, Fang et al. (2014); Kotlar et al. (2017); Landry et al. 2013; Nieto et al. (2015); Praet (2013); Requejo et al. (2018); Schmid et al. (2015); Shim and Okamuro (2011); Souder et al. (2017); van Essen et al. (2015); Leitterstorf and Wachter (2016)
Total	56	

Notes: Several articles fall into multiple research streams:

¹ Article also falls into research stream I.

² Article also falls into research stream IV.

Table A2-4: Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Basco (2013)	Stream IV	Analysis of the influence of family involvement in management and family-oriented strategic decision-making on performance	Demographic and essence approach	Quantitative: structural equation modelling; N = 567 non-listed family firms	Survey (telephone)	The authors develop a theoretical framework to analyse the relationship between family management involvement, strategic decision-making and family firm performance. They conclude that the involvement and essence models complement each other.
Basco (2014)	Stream IV	Analysis of fit between decision-making and strategy in family firms and firm performance	Demographic and essence approach	Quantitative: cluster analysis, regression analysis; N = 732 non-listed family firms	Survey	The study found that the fit between business and family-oriented decision-making and strategic behaviour has implications for the performance of a firm.
Bee and Neubaum (2014)	Stream II	Analysis of the role of discrete emotional response in the family business system	Cognitive appraisal theory	Conceptual	None	The authors develop a framework for understanding discrete emotions from the perspective of a family member in the context of the family business system and the study analyses the consequences of discrete emotions for business strategy and decision-making.
Bianco et al. (2013)	Stream IV	Analysis of whether the investment behaviour of family firms is more sensitive to uncertainty than that of non-family firms	n/a	Quantitative: regression analysis; N = 2,959 non-listed family and non-family firms	Secondary data	Family firms are more averse to uncertainty than non-family firms, which leads to less investment. The greater sensitivity to uncertainty stems from the greater opacity and risk aversion of family firms.
Binacci et al. (2016)	Stream III	Analysis of how top management team diversity (inside the non-family component) influences family firm performance	Upper echelons theory; SEW	Quantitative: regression analysis; N = 584 top managers (97 TMTs from 500 listed and non-listed family firms)	Secondary data	Non-family team functional diversity improves firm performance. The relation between non-family manager characteristics and firm performance is moderated by family dominance in the TMT.
Boers et al. (2017)	Stream IV	Analysis of delisting decisions in family firms	SEW	Qualitative: content analysis; N = 2 formerly listed family firms	Case study (interviews; archival data)	By delisting a family firm, the business-owning family can reclaim independence and control. Business-owning families are willing to give up current SEW endowment and accept current financial losses for future SEW increases.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Calabrò et al. (2016)	Stream IV	Analysis of whether an incoming generation's involvement impacts on internationalization decisions	Stewardship theory	Qualitative: content analysis; N = 4 non-listed family firms	Case study (interviews)	The incoming generation's involvement has a positive impact on the exploration and exploitation of international entrepreneurial opportunities. The existence of interpersonal ties based on altruism and competence-based trust between senior and incoming generations mitigates this relationship.
Camblanne (2013)	Stream III	Analysis of how family vision affects the cognitive frames of family firm owners	Cognitive theory	Qualitative: cognitive mapping, cross-case analysis; N = 4 owners of non-listed FFs	Case study (interviews; cognitive maps)	This study suggests that family vision, through its emphasis on economic and non-economic aspects, influences and biases business owners' perceptions and affects strategic outcomes.
Caprio et al. (2011)	Stream IV	Analysis of the influence of ownership and family control on acquisition decisions	Agency theory	Quantitative: regression analysis; N = 777 listed family and non-family firms	Secondary data	Family firms generally prefer internal growth and are less likely to engage in acquisitions, especially when there is a risk of losing family control. The authors found no effect of ownership on acquisition performance.
Chrisman and Patel (2012)	Stream IV	Analysis of the influence of decision-making time horizon on R&D investment in family and non-family firms	BAM; myopic loss aversion framework	Quantitative: regression analysis; N = 964 listed family and non-family firms (8,473 firm-year observations)	Secondary data	FFs invest less in R&D than non-FFs, because family firm owners want to avoid perceived threats to their SEW. When performance is below aspiration levels, then family goals and economic goals tend to converge, and R&D investments by family firms increase and the variability of these investments decreases relative to non-FFs.
Deslandes et al. (2016)	Stream IV	Analysis of the impact of family ownership on payout decisions	SEW	Quantitative: regression analysis; N = 494 listed family and non-family firms, N = 299 payout firms	Secondary data	Family firms are more likely to make a payout than non-family firms. The level of payout among payout firms is lower for family firms than for non-family firms, and the portion of payouts in the form of dividends is higher. Lone-founder family firms are less likely to make payouts than other family firms.
Eddleston, Otondo et al. (2008) ¹	Stream II	Analysis of how participative decision-making and generational ownership dispersion affect cognitive and relationship conflict in family firms	n/a	Quantitative: regression analysis; N = 126 family members from 74 non-listed family firms	Questionnaire	When ownership is dispersed through multiple generations, participative decision-making is positively related to cognitive and relationship conflict. In one- and two-generation ownership firms, participative decision-making is negatively related to cognitive and relationship conflict.

Notes: This is a summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream I.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Eddleston et al. (2012)	Stream III	Analysis of the influence of stewardship culture determinants on family firm entrepreneurship	Stewardship theory	Quantitative: factor analysis, regression analysis; N = 179 non-listed family firms	Survey	Comprehensive strategic decision-making and long-term orientation (stewardship dimensions) contribute positively to corporate entrepreneurship.
Ensley (2006)	Stream II	Analysis of the influence of family executive team task conflicts on the relationship between CEO tenure and strategic sustainability	n/a	Quantitative: regression analysis; N = 108 family firms	Questionnaire	Family firms that persist with the same CEO tend to persist with the same strategy when the level of executive team task conflict is high. Higher levels of task conflict and intellectual debate within the executive team fosters a willingness to challenge strategic alternatives and increases the validity of strategic persistence.
Feltham et al. (2005) ¹	Stream II	Analysis of the degree of dependency of family firms on owner-managers and factors associated with this dependency	n/a	Quantitative: regression analysis; N = 765 family firms	Questionnaire	Both family and business factors are strongly correlated with the level of dependence on a single decision-maker (the owner-manager) in family businesses. Owners reduce the number of functions where they make decisions as they age and as the company increases in size.
Gentry et al. (2014) ²	Stream III	Analysis of the role of a long-term orientation in family firm decision-making	BTOF	Quantitative: regression analysis; N = 817 listed family firms (6,219 firm-year observations)	Secondary data	Family-influenced firms' decision-making reflects a focus on a long-term orientation, manifested in greater accumulation of slack resources, less strategic risk-taking and lower bankruptcy risk than non-family-influenced firms.
Gómez-Mejía et al. (2007)	Stream IV	Analysis of the relationship between family ownership and risk-taking preferences	BAM; SEW	Quantitative: regression analysis; N = 1,237 non-listed family firms	Secondary data	Family firms' main reference point in decision-making is often loss of SEW. In order to avoid SEW losses they are willing to accept significant performance risks. Hence, family firms can be risk-accepting and risk-averse at the same time.
Gómez-Mejía et al. (2010)	Stream IV	Analysis of diversification decisions in family and non-family firms	BAM; SEW	Quantitative: regression analysis; N = 360 listed family and non-family firms	Secondary data	FFs diversify less both domestically and internationally than non-family firms. When FFs diversify, they prefer domestic rather than international diversification. In the latter case they prefer regions that are culturally close. In the event of performance hazards or increased business risk, the willingness to diversify increases.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream I. ² Article also falls into research stream IV.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Gómez-Mejía et al. (2014)	Stream IV	Analysis of how SEW trade-offs influence R&D investment decisions	BAM; SEW	Quantitative: regression analysis; N = 610 listed firms (142 family firms; 401 founder firms; 67 non-family firms)	Secondary data	Family firms are less risk-averse than non-family firms when performance falls below aspiration levels. In addition, the influence of institutional owners on R&D investment tends to be lower when family firms experience declining performance, due to the decreased risk aversion when performance falls below aspirations.
Gómez-Mejía et al. (2018)	Stream IV	Analysis of the impact of family control on acquisition behaviour	BAM; SEW	Quantitative: regression analysis; N = 692 listed family and non-family firms	Secondary data	Family-controlled firms are generally more reluctant to make acquisitions and, when they do, they tend to prefer related targets. When performance falls below aspiration levels, family firms tend to prioritize financial wealth over SEW, which is reflected in a decreased reluctance to make acquisitions and a preference for more unrelated targets.
Gu et al. (2016) ¹	Stream III	Analysis of how family involvement (controlling owners' SEW needs) affects diversification	SEW	Quantitative: regression analysis; N = 80 family firms (413 observations)	Secondary data	The likelihood to pursue new industry entry is negatively correlated with family influence (focused SEW) but positively correlated with the succession of family dynasty (broad SEW). The influence of SEW on strategic decisions is moderated by the controlling owners' generation. The effect is strongest when the founder generation is in control.
Hirigoyen and Labaki (2012)	Stream II	Analysis of owner-manager regret in decision-making	Regret theory	Conceptual	None	The authors provide a theoretical framework for understanding the role of the emotion of regret in family business decision-making. They also introduce a dual dimension of regret that accounts for the family and business systems.
Ibrahim et al. (2001)	Stream IV	Analysis of factors that influence strategic decision-making in family firms	RBV	Quantitative: factor analysis; N = 74 CEOs of non-listed family firms	Survey	The strategic decision-making process in family firms is significantly influenced by three factors: the firm's resources and capabilities, the external competitive environment and family values and considerations.
Jones et al. (2008) ¹	Stream IV	Analysis of the influence exerted by affiliate directors (relational ties) on diversification decisions	SEW; social capital theory	Quantitative: regression analysis; N = 403 listed family and non-family firms	Secondary data	Affiliate directors stimulate family firms to pursue diversification strategies by sharing their experience and knowledge (relational ties) with family executives, which reduces the perceived risk.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream IV.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Kahn and Henderson (1992)	Stream IV	Analysis of the impact of family ownership on firms' location decisions	n/a	Quantitative: exploratory factor analysis; N = 990 firms (434 family firms; 555 non-family firms)	Secondary data	FFs prefer locations near where their own company is based, whereas non-FFs had a significantly higher preference for the availability of a skilled labour pool and technical infrastructure. Both FFs and non-FFs rank proximity to customers and markets as their highest preference.
Kammerlander and Ganter (2015) ¹	Stream III	Analysis of how the attention of family CEOs to non-economic goals affects the sensemaking process and the adaptation to discontinuous technological change	Attention-based view	Qualitative: content analysis; N = 7 non-listed family firms	Case study (interviews; archival data)	Family CEOs' non-economic goals (e.g. power and control, transgenerational intention, family reputation) influence their sensemaking process (i.e. interpretation of discontinuous change) and resulting organizational behaviour.
Kao and Kuo (2018)	Stream IV	Analysis of how family involvement and ownership influence FDI entry mode decisions	SEW	Quantitative: regression analysis; N = 61 listed family firms (1,463 investments)	Secondary data	The internationalization of family firms is driven by family managers' desire to maintain control over their firms. Family firms with higher levels of family involvement are more likely to choose a wholly owned subsidiary. When family owners are involved in the board of directors, internationalization is facilitated in situations of low uncertainty.
Kavadis and Castañer (2015)	Stream IV	Analysis of drivers of corporate restructuring	BAM	Quantitative: regression analysis; N = 60 listed family and non-family firms (414 firm-year observations)	Secondary data	Domestic family ownership and family CEOs have a significant positive impact on corporate restructuring. This effect is magnified under the conditions of high Anglo-American institutional investor ownership and low firm financial performance relative to aspirations in order to preserve socioemotional wealth.
König et al. (2013) ¹	Stream III	Introduction of propositions on the effect of family influence on the adoption of discontinuous technologies	4Cs model	Conceptual	None	The authors propose that family influence is associated with stronger emotional ties to existing assets and a higher mental model rigidity among organization members. They further suggest that family influence will reduce the speed of recognition, aggressiveness and flexibility of the adoption of discontinuous technologies.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream IV.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Kotlar et al. (2013)	Stream IV	Analysis of the influence of family control on external technology acquisitions (R&D contracting)	BAM SEW	Quantitative: regression analysis; N = 1,540 non-listed family and non-family firms	Secondary data	Family firms are more likely to acquire technology from external sources through R&D contracting when firm performance falls below aspiration levels and when some protection mechanism (e.g. filing of patents for the firm's proprietary technologies) is in place. The impact of negative aspiration performance gaps decreases with a higher level of family management.
Kotlar, Fang et al. (2014)	Stream IV	Analysis of the influence of economic (profitability) and non-economic (control) goals on R&D investment decisions	BTOF	Quantitative: regression analysis; N = 431 non-listed family and non-FFs (995 firm-year observations)	Secondary data	Family firms react more strongly to increasing supplier bargaining power when their profitability reference points have been reached. The relevance of reference points for control in family firm decision-making differs depending on whether targets for profitability goals are met or not.
Kotlar, De Massis et al. (2014)	Stream IV	Analysis of R&D investment patterns, taking account of internal and external strategic reference points in decision-making	BTOF; strategic reference point theory	Quantitative: regression analysis; N = 437 non-listed firms	Secondary data	Family management has a direct negative effect on strategic risk-taking and the change in R&D investments is significantly lower in the presence of slack resources and higher when performance falls below the historical level. Family-managed firms are less subject to social comparison processes than their non-family counterparts.
Kotlar et al. (2017)	Stream IV	Analysis of IPO underpricing decisions in family firms	BAM; SEW	Quantitative: regression analysis; N = 1,807 IPOs of family and non-family firms	Secondary data	Family firms with family member involvement do not have significantly higher IPO underpricing than lone-founder firms or non-family firms. The SEW lost at the IPO increases with the generation of family leadership. In particular, family firms led by a founder-family CEO have the lowest level of IPO underpricing, whereas IPO underpricing is highest in later-generation family firms.
Landry et al. (2013)	Stream IV	Analysis of how family ownership and SEW considerations influence the strategic decision to lease or buy assets	SEW	Quantitative: regression analysis; N = 227 listed family firms	Secondary data	Family firms are less prone to lease assets, except when they are more leveraged, have growth opportunities or want to preserve liquidity. A distinction between family and non-family firms and between firms with a family CEO and a lone founder leads to different strategic decisions and risk-taking behaviours.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Lumpkin and Brigham (2011)	Stream III	Conceptualization of dimensions for the study of long-term orientation (LTO)	n/a	Conceptual	None	A framework for studying LTO in family firms is introduced that includes three dimensions: futurity, continuity, perseverance. LTO is described as a higher-order heuristic that, in matters of intertemporal choice, provides a dominant logic for decisions and actions.
Lumpkin et al. (2010)	Stream III	Conceptualization of how a long-term orientation may affect the entrepreneurial behaviour of family firms	n/a	Conceptual	None	The authors propose that an LTO will be positively associated with innovativeness, proactiveness and autonomy but negatively associated with the risk-taking and competitive aggressiveness dimensions of EO.
Martínez-Ferrero et al. (2016)	Stream I	Analysis of the relationship between family ownership and managerial discretion	Agency theory	Quantitative: regression analysis; N = 1,275 listed family and non-family firms (9,594 firm-year observations)	Secondary data	FFs have more centralized decision-making and delegate differently to non-family firms. Family ownership is associated with greater control and monitoring of managerial decisions than in non-family firms. Family owners impose stronger discipline and dissuade non-family managers from using managerial discretion in their decision-making processes.
Mustakallio et al. (2002)	Stream I	Analysis of how contractual and relational governance mechanisms affect the quality of strategic decision-making	Agency theory; social capital theory	Quantitative: structural equation modelling; N = 192 non-listed family firms	Questionnaire	A positive association was found between (a) the strength of shared vision among family members and (b) a board's monitoring and counselling activities and strategic decision quality and commitment. The generation in charge of the business and family size are negatively correlated with social interactions among family members.
Nason et al. (2018)	Stream II	Conceptualization of the link between socialization of next-generation and temporal reference points in decision-making	BTOF; strategic reference point theory	Conceptual	None	The authors develop a theory to explain additional reference point characteristics (besides SEW) and their shifts over time. In particular, they conceptualize how the socialization of the business-owning family with the next generation, capitalist class peers and professional advisors leads to shifts in reference point characteristics.
Newbert and Craig (2017)	Stream III	Introduction of a normative theory of decision-making in family firms	n/a	Conceptual	None	The authors conceptualize a normative basis for decision-making in family firms and discuss avenues for reconceptualizing the SEW concept.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Nieto et al. (2015)	Stream IV	Analysis of relationship between ownership structure and innovation behaviour	Agency theory	Quantitative: regression analysis; N = 15,173 non-listed FFs and non-FFs	Secondary data	Family firms perform fewer innovation efforts and are less likely to turn to external sources of innovation than non-family firms. Family firms are more likely to achieve incremental innovations than radical innovations.
Pimentel et al. (2018)	Stream II	Analysis of differences in decision-making styles between family and non-family firms	n/a	Quantitative: regression analysis; N = 155 non-listed firms (82 family firms; 73 non-family firms)	Questionnaire	Family firms and non-family firms do not differ in the use of rational decision-making. However, experiential decision-making is used more strongly by family firms than non-family firms. Family involvement promotes experiential decision-making and inhibits the adoption of rational decision-making styles.
Pongelli et al. (2016) ¹	Stream III	Analysis of how family ownership influences foreign market entry mode selection	SEW	Quantitative: regression analysis; N = 204 family firms (368 foreign market entries)	Secondary data	Different types of family ownership structures affect entry mode decisions differently and impact on the time horizon of foreign investments and the willingness of family firms to cooperate with external parties. The presence of a non-family manager moderates the relationship between family ownership and entry mode decisions.
Praet (2013)	Stream IV	Analysis of the influence of ownership, governance and family management on divestment likelihood	Agency theory	Quantitative: regression analysis; N = 48 listed family firms	Secondary data	With increasing family ownership, divestment likelihood increases (alignment view). When family ownership becomes very high, divestment likelihood decreases (entrenchment view). Divestment likelihood is lower when the family exerts influence through the board of directors.
Requejo et al. (2018)	Stream IV	Analysis of how family involvement and the institutional environment affect acquisition propensity among family firms	SEW	Quantitative: regression analysis; N = 4,387 firms (1,237 family firms; 27,861 firm-year observations)	Secondary data	Family firms are less likely to undertake acquisitions than non-family firms, and this reluctance increases with family involvement. In addition, family firms from a shareholder-oriented institutional environment are more prone to engage in acquisitions. Stronger legal protections moderate the negative impact that family involvement has on acquisition propensity.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream IV.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Schmid et al. (2015)	Stream IV	Analysis of the influence of family ownership, management and supervision on diversification strategies	Agency theory; SEW	Quantitative: regression analysis; N = 701 listed firms (6,205 firm-year observations)	Secondary data	Family-owned firms were found to have higher levels of diversification than family-managed firms. When other large shareholders are present in the firm, they were found to perform a monitoring function and influence family owners to concentrate on the core business.
Sharma and Manikutty (2005)	Stream III	Development of a framework to understand the interactive influence of social forces on divestment decisions in family firms	RBV	Conceptual	None	The article presents a conceptual framework for understanding the role of social forces (specifically, culture and family values) on divestment decisions in family firms.
Shim and Okamuro (2011)	Stream IV	Analysis of the influence of ownership structure on merger decisions and merger performance	Agency theory	Quantitative: regression analysis; N = 1,202 listed family and non-family firms	Secondary data	Family firms are less likely to merge and obtain lower gains from mergers than non-family firms.
Souder et al. (2017)	Stream IV	Analysis of the influence of ownership structure, SEW and competitive conditions on new technology adoption	SEW	Quantitative: regression analysis; N = 79 listed and non-listed family and non-family firms	Secondary data	Firms with a minority family influence are more reluctant to adopt new technology than those with a majority family influence. The authors suggest that SEW goals only partly explain the cautious decision-making observed in family firms and the conflicting priorities between family and non-family firms.
Strike et al. (2015) ¹	Stream III	Analysis of the impact of family and non-family CEO career horizons on acquisition decisions	SEW	Quantitative: regression analysis; N = 264 listed family and non-family firms (3,432 firm-year observations)	Secondary data	Near-retirement family CEOs acquire larger and culturally closer targets than their non-family counterparts. Family CEOs near retirement are more likely to make long-term strategic decisions that benefit future generations rather than decisions that only serve their own short-term interest.
Van Essen et al. (2015)	Stream IV	Analysis of how family control influences firm strategy and performance	n/a	Quantitative: meta-analysis; N = 74 studies	Literature review	Listed FFs outperform listed non-FFs. Diversification, internationalization and financing strategies mediate the FF-performance relationship. The performance of FFs falls after the first generation, as more conservative strategic decision-making patterns arise among successor generations.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream IV.

Table A2-4 (continued): Summary of studies in the final literature review sample

Author(s)	Stream	Content	Theory	Methodology & data	Data collection	Main finding
Vandekerckhof et al. (2018)	Stream I	Analysis of the effect of SEW separation on TMT decision-making quality	SEW; upper echelons theory	Quantitative: regression analysis; N = 55 listed family firms (300 top managers)	Questionnaire	Behavioural integration mediates the negative effect of SEW separation on TMT decision-making quality. The negative effect of SEW separation on behavioural integration is mitigated by psychological safety and turns into a positive effect at high levels of psychological safety.
Vandemaele and Vancauteran (2015) ¹	Stream III	Analysis of the influence of CEO identity and presence of a family-dominated board on dividend payout decisions in private family firms	BAM; SEW	Quantitative: regression analysis; N = 501 non-listed family firms	Survey; secondary data	Dividend payout is lower when a family CEO leads the business and in the presence of a family-dominated board. The tendency of a family CEO or family-dominated board to retain earnings is found to be stronger in earlier generational stages.
Veider and Kallmuenzer (2016) ¹	Stream III	Analysis of long-term orientation in the strategic decision-making of founder- and descendant-led family firms	n/a	Qualitative: content analysis; N = 24 family firms (11 founder-led; 13 descendant-led family firms)	Interviews	Founder and descendant-led family firms were found to emphasize a long-term orientation (LTO) in decision-making. The study confirms the existence of a multidimensional LTO construct and showed that different family firms have distinct priorities.
Leitterstorf and Wachter (2016)	Stream IV	Analysis of the impact of blockholder preferences on strategic firm decisions in the context of takeover premiums offered	BAM	Quantitative: regression analysis; N = 149 takeover offers for listed firms	Secondary data	Family blockholders offer significantly lower premiums than other types of blockholders. This relationship between the existence of a family blockholder and takeover premiums is reinforced if the CEO is a member of the business-owning family.
Zona (2016)	Stream II	Analysis of the impact of board decision processes on board task performance	Upper echelons theory	Quantitative: regression analysis; N = 104 listed and non-listed family firms	Questionnaire	Board decision processes and decision outcomes change according to the governance context. Depending on CEO identity (family or non-family CEO), decision processes exhibit varying effects on task performance.

Notes: Summary of the review of literature on strategic decision-making in family firms presented in Chapter 2. ¹ Article also falls into research stream IV.

Appendix to Chapter 4

Figure A4-1: Introductory page of online survey

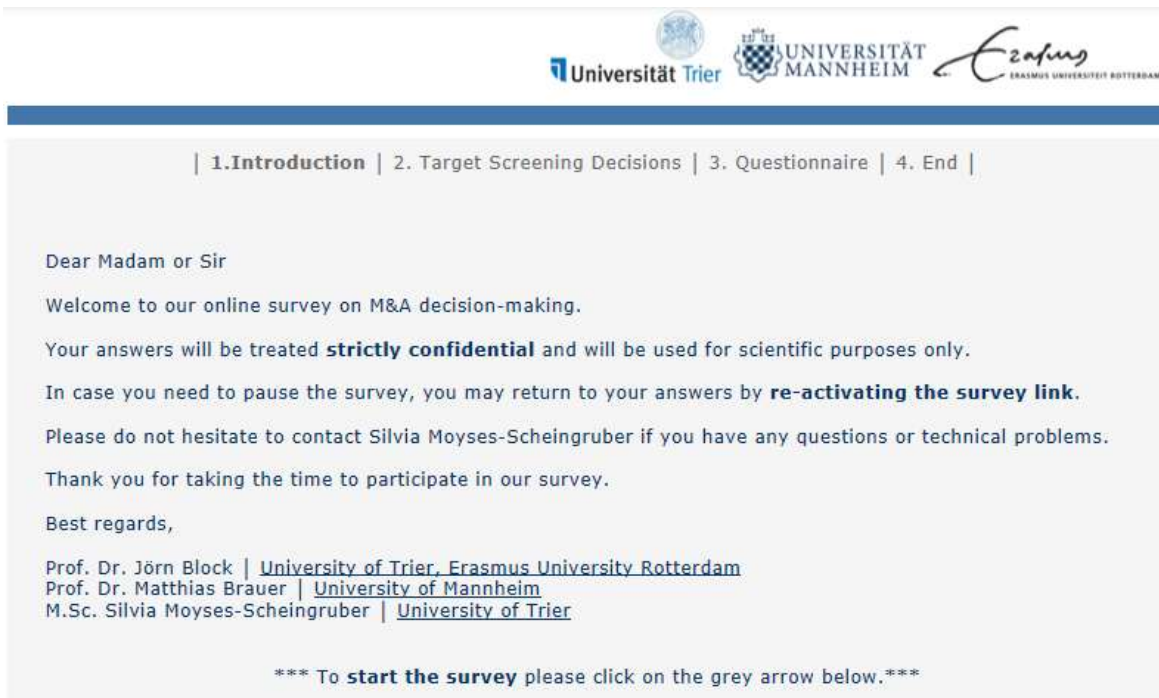


Figure A4-2: Introduction of conjoint experiment and decision framing (survey part I)



Figure A4-3: Questionnaire (survey part II)**Section 1: personal characteristics**

| 1. Introduction | 2. Target Screening Decisions | 3. Questionnaire | 4. End |

Personal Characteristics

What is your gender?

Female

Male

What is your year of birth?

What is your highest degree of education?

Below secondary school degree

Secondary school degree or equivalent (e.g., Mittlere Reife)

High school degree or equivalent (e.g., Abitur)

Bachelor degree

Master degree, diploma or MBA

PhD, doctoral degree or higher

What was the main focus in your education? *(Multiple answers possible)*

Business Administration or Economics

Engineering

Humanities

Law

Mathematics

Natural Sciences

Social Sciences

Other
(Please specify)

What is your current position in the company?

Member of the advisory board

Member of the supervisory board

Member of the management board
(Please specify your function, e.g. CEO, CFO, CTO, COO)

Head of strategy/ corporate development/ M&A

Employee of the strategy/ corporate development/ M&A department

Other
(Please specify your position)

For how many years have you been active for the company?

< 1 year 1-3 years 4-5 years 6-10 years 11-15 years 16-20 years > 20 years

Figure A4-3 (continued): Questionnaire (survey part II)**Section 2: company characteristics**

In which industry(ies) is your company active?
(Multiple answers possible)

Automotive
 Financial services and insurance
 Pharmaceuticals
 Aerospace and defense
 Food and beverages
 Rubber and plastics
 Chemicals and chemical products
 Mechanical engineering
 Transportation and logistics
 Electricity and gas
 Media and telecommunications
 Wholesale and retail trade
 Other
 (please specify)

Total number of employees in your company:

<10
 10-49
 50-499
 500-1000
 1001-3000
 3001-5000
 5001-10000
 >10000

Total sales in the financial year 2016 (in € million):

<2
 2-10
 11-50
 51-250
 251-500
 501-1000
 1001-5000
 >5000

How do you rate your company's current performance relative to your competitors?

	Much worse	Worse	Similar	Better	Much Better
Profitability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is your company listed on the stock exchange?

Yes
 No

In how many acquisition projects has your company been involved in the past five years?
(Please refer to both terminated and completed transactions)

None
 1-5
 6-10
 11-15
 >15

How many firms has your company acquired in the past five years?

None
 1-5
 6-10
 11-15
 >15

How important are the following acquisition motives to your company?

	Unimportant	Less important	Neutral	Important	Very important
Realize synergies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Achieve greater scale and lower operating costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meet growth objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extend into new products or markets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diversify risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get access to technical or managerial talent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get access to new technologies/ R&D know-how	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Get access to innovative/ disruptive business models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure A4-3 (continued): Questionnaire (survey part II)

Section 2: company characteristics

For each of the following statements, please select the response which best describes your company:

	2	1	0	1	2	
Our company puts a strong focus on <u>long-term strategic goals</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Our company puts a strong focus on <u>short-term financial goals</u> .
Our company has a <u>high</u> corporate reputation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Our company has a <u>low</u> corporate reputation.
Our company typically <u>responds to actions</u> that competitors initiate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Our company typically <u>initiates actions</u> to which competitors then respond.
Our company is <u>very seldom</u> the <u>first business</u> to introduce new products/ services, operating technologies, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Our company is <u>very often</u> the <u>first business</u> to introduce new products/ services, operating technologies, etc.
Our company typically seeks to <u>avoid competitive clashes</u> , preferring a "live-and-let-live" posture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Our company typically adopts a <u>very competitive</u> , "undo-the-competitors" posture.
In uncertain decision-making situations, our company typically adopts a <u>cautious, "wait-and-see" posture</u> in order to <u>minimize</u> the probability of making costly decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	In uncertain decision-making situations, our company typically adopts a <u>bold, aggressive posture</u> in order to <u>maximize</u> the probability of exploiting potential opportunities.
Our company has marketed <u>no new</u> lines of products or services in the past 5 years.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Our company has marketed <u>very many new</u> lines of products or services in the past 5 years.
Changes in product or service lines have been mostly of a <u>minor nature</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Changes in product or service lines have usually been <u>quite dramatic</u> .

In general, the top managers of our company...

	2	1	0	1	2	
...favor a strong emphasis on the <u>marketing of tried-and-true products or services</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	...favor a strong <u>emphasis on R&D, technological leadership, and innovation</u> .
...have a strong proclivity for <u>low-risk projects</u> (with normal and certain rates of return).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	...have a strong proclivity for <u>high-risk projects</u> (with chances of very high returns).
...believe that owing to the nature of the environment, it is best to explore it <u>gradually via cautious, incremental behavior</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	...believe that owing to the nature of the environment, <u>bold, wide-ranging acts are necessary</u> to achieve the firm's objectives.

Please indicate to what extent you agree or disagree with the following statements:

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Our market environment is characterized by significant changes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our customers regularly ask for new products or services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our company has strong competitors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competition in our market environment is intense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure A4-3 (continued): Questionnaire (survey part II)**Section 3: company characteristics (family-firm-specific questions)**

Would you consider your company to be a family business?

- Yes No

Your company is partly or fully owned by ...

(Multiple answers possible)

- one family.
 more families.
 a family foundation.
 one or more external blockholders
 (e.g., institutional investor, bank, private equity)
 none of the above.

How much percent of the total equity in your company is family owned (including family foundation)?

- Less than 5 %
 Between 5 % and 25 %
 Between 26 % and 50 %
 Between 51 % and 75 %
 More than 75 %

The family(ies) is (are) represented in the ...

(Multiple answers possible)

- advisory board.
 supervisory board.
 management board.
 Other
(Please specify)

The family business is now in its ...

- first generation.
 second generation.
 third generation.
 fourth or later generation.

Are you a member of the business owning family?

- Yes
(Please type in your generation of family ownership e.g., first, second, third, fourth)
 No

In your opinion, how likely is it that the business owning family passes on the company to future family generations?

- Very unlikely
 Unlikely
 Very likely
 Likely
 I don't know

Figure A4-4: Fixed choice task 1 of conjoint experiment

| 1. Introduction | **2. Target Screening Decisions** | 3. Questionnaire | 4. End |

Which target profile appears more attractive to you?
The targets differ only in the characteristics listed below.

Decision 5 of 15:



Acquisition target A



Acquisition target B

Target characteristics:

Profitability*:	Above industry average	Industry average
Expected acquisition price*:	Above industry average*	Below industry average*
Similarity of corporate culture*:	Different corporate culture	Similar corporate culture
Quality of top management team*:	Outstanding top management team	Weak top management team
Company reputation*:	Low company reputation	High company reputation
Business model*:	Reinvents your business model*	Same business model*
More attractive:	<input type="radio"/>	<input type="radio"/>

If you have made your choice, please click on the grey arrow below to continue.


*For details please move the cursor over the text.

Figure A4-5: Fixed choice task 2 of conjoint experiment


| 1. Introduction | **2. Target Screening Decisions** | 3. Questionnaire | 4. End |

Which target profile appears more attractive to you?
The targets differ only in the characteristics listed below.

Decision 11 of 15:



Acquisition target A



Acquisition target B

Target characteristics:

Expected acquisition price*:	Below industry average*	Industry average*
Quality of top management team*:	Average top management team	Average top management team
Business model*:	Complements your business model*	Reinvents your business model*
Similarity of corporate culture*:	Different corporate culture	Different corporate culture
Company reputation*:	Average company reputation	High company reputation
Profitability*:	Above industry average	Industry average
More attractive:	<input type="radio"/>	<input type="radio"/>

If you have made your choice, please click on the grey arrow below to continue.

*For details please move the cursor over the text.

Table A4-1: Overview of the pilot study sample

No.	Type	Role in organization	Focus in pilot test
1	Corporate M&A decision-maker	CEO, owner (former institutional investor)	Practical relevance of decision criteria
2	Corporate M&A decision-maker	CEO, supervisory board member	Practical relevance of decision criteria
3	Corporate M&A decision-maker	CEO	Practical relevance of decision criteria and choice tasks; complete survey instrument
4	Corporate M&A decision-maker	owner, supervisory board member (former managing director)	Practical relevance of decision criteria and choice tasks
5	Corporate M&A decision-maker	owner, supervisory board member (former managing director)	Practical relevance of decision criteria and choice tasks
6	Corporate M&A decision-maker	CEO, supervisory board	Practical relevance of decision criteria and choice tasks
7	M&A professional	Managing director	Practical relevance of decision criteria and choice tasks
8	M&A professional	Partner	Practical relevance of decision criteria and choice tasks
9	M&A professional	Project leader	Practical relevance of decision criteria and choice tasks; test of overall survey instrument
10	Academic	Professor, expert in family business research	Test of overall survey instrument
11	Academic	Professor, expert in strategic management and M&A	Test of overall survey instrument
12	Academic	Professor, expert in conjoint analysis	Conjoint design
13	Academic	Professor in business administration	Questionnaire
14	Academic	Director of an academic foundation for family businesses	Test of overall survey instrument
15	Academic	Post-doc	Test of overall survey instrument
16	Academic	Post-doc	Test of overall survey instrument
17	Academic	Doctorate student	Test of overall survey instrument
18	Other	Freelance	Wording
19	Other	Freelance	Wording

Notes: Pilot study conducted to validate survey instrument (see Section 4.5.2, p. 83).

Table A4-2: Correlation table of individual-level variables

No.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
1	Gender (Male)	1.00																									
2	Age	0.06	1.00																								
3	Position in the firm	-0.01	-0.50*	1.00																							
4	Organizational tenure	0.01	0.47*	-0.24*	1.00																						
5	Board experience	0.00	0.37*	-0.40*	0.24*	1.00																					
6	Formal education level	0.08	0.04	-0.08	-0.13	0.08	1.00																				
7	Education background: BA or economics	-0.02	-0.11	0.10	-0.07	-0.04	-0.12	1.00																			
8	Education background: engineering	0.06	0.02	-0.13	0.12	0.04	0.13	-0.34*	1.00																		
9	Education background: humanities	0.03	-0.09	-0.01	-0.01	0.00	-0.02	-0.03	-0.05	1.00																	
10	Education background: law	-0.11	0.01	-0.03	-0.07	0.00	0.04	-0.15	-0.14	0.09	1.00																
11	Education background: mathematics	-0.02	0.07	-0.01	-0.02	0.03	0.05	-0.17	-0.09	-0.02	-0.05	1.00															
12	Education background: natural science	0.02	0.04	-0.05	-0.05	0.03	0.16	-0.22*	-0.01	-0.02	-0.07	-0.04	1.00														
13	Education background: social sciences	-0.09	-0.05	0.11	-0.06	-0.05	0.05	-0.07	0.01	-0.02	0.02	0.10	-0.04	1.00													
14	Functional experience: accounting	0.14	0.09	-0.08	-0.08	0.14	0.11	0.34*	-0.23*	-0.02	-0.06	-0.01	-0.11	-0.01	1.00												
15	Functional experience: finance	0.09	0.03	0.00	-0.13	0.13	0.06	0.31*	-0.26*	0.04	-0.05	-0.01	-0.11	-0.04	0.70*	1.00											
16	Functional experience: general management	0.07	0.37*	-0.44*	0.06	0.32*	0.16	0.03	0.06	0.09	-0.02	0.05	0.08	-0.01	0.20	0.27*	1.00										
17	Functional experience: legal	0.08	0.11	-0.13	-0.07	0.11	-0.01	0.32*	-0.21	0.03	-0.04	0.08	-0.19	-0.01	0.70*	0.60*	0.26*	1.00									
18	Functional experience: marketing	-0.03	0.17	-0.27*	0.10	0.19	-0.06	-0.06	0.09	0.13	-0.01	-0.02	0.02	-0.02	-0.20	-0.18	0.41*	-0.12	1.00								
19	Functional experience: operations	0.08	0.22*	-0.33*	0.16	0.25*	0.03	-0.19	0.37*	0.09	-0.06	-0.02	0.05	0.01	-0.05	-0.11	0.47*	-0.02	0.49*	1.00							
20	Acqu. process index	0.30*	0.19	-0.06	-0.01	0.27*	0.12	0.13	-0.22*	0.07	0.02	0.01	-0.02	-0.02	0.43*	0.54*	0.30*	0.30*	0.03	0.00	1.00						
21	Emotional stability	0.11	0.08	-0.04	-0.09	0.07	0.10	0.02	-0.06	-0.16	-0.04	0.05	0.07	0.04	0.16	0.15	0.13	0.04	0.06	0.06	0.28*	1.00					
22	Agreeableness	-0.07	0.05	-0.05	0.00	-0.07	-0.06	-0.04	-0.03	-0.12	0.03	0.02	0.05	0.09	0.00	-0.07	0.00	-0.03	0.01	-0.02	-0.02	0.20	1.00				
23	Openness to new experience	0.03	0.08	-0.15	-0.06	0.09	-0.03	-0.05	0.07	0.02	0.02	-0.06	0.11	0.02	-0.11	-0.09	0.21	-0.03	0.32*	0.31*	-0.01	0.23*	0.12	1.00			
24	Conscientiousness	0.01	0.06	-0.09	-0.06	0.09	0.11	0.04	0.05	0.00	-0.02	0.03	-0.03	0.08	0.13	0.19	0.21	0.14	0.07	0.14	0.15	0.22	0.06	0.17	1.00		
25	Extraversion	-0.06	0.02	-0.06	-0.06	0.09	0.00	-0.15	0.08	-0.05	0.10	-0.10	0.06	-0.16	-0.13	-0.15	0.08	-0.12	0.30*	0.19	0.04	0.05	0.04	0.35*	0.03	1.00	

Notes: N = 304; Pearson correlation coefficients with significance levels *p < 0.05.

Table A4-3: Correlation table of firm and environmental-level variables

No.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Firm size 1: total sales	1.00																								
2	Firm size 2: employees	0.88*	1.00																							
3	Firm age (in years)	0.17	0.14	1.00																						
4	Firm orientation	0.07	0.06	-0.07	1.00																					
5	Relative firm performance index	-0.01	-0.06	-0.06	-0.09	1.00																				
6	EO index	-0.02	0.00	-0.09	-0.19	0.36*	1.00																			
7	Innovativeness index	0.05	0.10	-0.07	-0.30*	0.28*	0.80*	1.00																		
8	Proactiveness index	-0.03	-0.04	-0.07	-0.12	0.32*	0.80*	0.48*	1.00																	
9	Risk-taking index	-0.08	-0.07	-0.08	-0.03	0.26*	0.80*	0.40*	0.49*	1.00																
10	Listed firm	0.38*	0.39*	-0.02	0.20	0.00	-0.04	-0.02	-0.06	-0.02	1.00															
11	Family firm1	-0.19	-0.22*	0.14	-0.30*	0.00	0.14	0.11	0.11	0.12	-0.36*	1.00														
12	External blockholder	0.03	0.05	-0.05	0.24*	0.01	-0.22*	-0.25*	-0.21	-0.07	0.30*	-0.50*	1.00													
13	AM: realize synergies	0.16	0.18	0.04	0.14	0.02	0.01	-0.03	0.01	0.04	0.10	-0.18	0.09	1.00												
14	AM: achieve greater scale, lower oper. costs	0.08	0.06	-0.01	0.10	0.02	0.05	-0.04	0.03	0.13	0.13	-0.13	0.08	0.56*	1.00											
15	AM: meet growth objectives	0.14	0.13	0.06	0.05	0.05	0.06	-0.01	0.08	0.07	0.10	-0.16	0.08	0.11	0.19	1.00										
16	AM: extend into new products/ markets	0.00	0.03	0.04	-0.10	-0.05	0.19	0.20	0.13	0.12	-0.11	0.16	-0.14	-0.05	-0.09	0.17	1.00									
17	AM: diversify risk	-0.09	-0.11	0.05	-0.21	-0.02	-0.03	0.00	-0.03	-0.06	-0.09	0.17	-0.15	-0.05	0.02	0.02	0.26*	1.00								
18	AM: access to man. and technical talent	-0.11	-0.08	-0.02	-0.17	0.12	0.14	0.14	0.06	0.13	0.07	0.11	-0.05	0.06	0.05	0.06	0.13	0.22*	1.00							
19	AM: access to new technologies/ R&D	0.09	0.16	0.05	-0.15	0.01	0.29*	0.37*	0.15	0.16	0.10	0.07	-0.14	0.08	-0.02	0.04	0.37*	0.18	0.43*	1.00						
20	AM: access to innov./ disrupt business model	0.02	0.07	0.02	-0.19	-0.01	0.31*	0.34*	0.15	0.25*	-0.01	0.12	-0.14	0.06	0.08	0.01	0.31*	0.26*	0.35*	0.66*	1.00					
21	Acquisition intensity	0.50*	0.52*	0.10	0.13	0.06	0.03	0.02	0.00	0.04	0.31*	-0.15	0.07	0.14	0.09	0.14	0.03	-0.07	0.02	0.19	0.12	1.00				
22	Serial acquirer	0.37*	0.38*	0.07	0.11	0.06	0.04	0.04	-0.01	0.05	0.21	-0.13	0.07	0.10	0.08	0.08	0.00	-0.05	0.01	0.14	0.09	0.86*	1.00			
23	Environmental turbulence index	0.19	0.20	-0.02	0.00	0.14	0.31*	0.33*	0.15	0.23*	0.17	-0.09	-0.02	0.18	0.14	0.10	0.08	-0.05	0.18	0.21	0.17	0.00	-0.06	1.00		
24	Environmental dynamism index	0.16	0.17	-0.04	-0.06	0.21*	0.38*	0.40*	0.19	0.30*	0.18	-0.05	-0.03	0.13	0.10	0.10	0.11	-0.03	0.23*	0.26*	0.22*	0.07	0.02	0.86*	1.00	
25	Environmental competitiveness index	0.15	0.15	0.00	0.08	0.00	0.09	0.11	0.04	0.05	0.08	-0.11	-0.01	0.17	0.13	0.06	0.01	-0.06	0.03	0.06	0.04	-0.08	-0.14	0.77*	0.33*	1.00

Notes: N = 304; Pearson correlation coefficients with significance levels *p < 0.05.

Table A4-4: List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Acquisition intensity	Acquisition intensity captures how many acquisitions the company has undertaken in the past five years and is measured in five categories: 1 = none, 2 = 1–5, 3 = 6–10, 4 = 11–15, 5 = > 15.	Firm-level
Acquisition motive: access to innovative/disruptive business models	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “access to innovative/disruptive business models” is to the company.	Firm-level
Acquisition motive: access to managerial/technical talent	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “access to managerial/technical talent” is to the company.	Firm-level
Acquisition motive: access to new technologies/R&D	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “access to new technologies/R&D” is to the company.	Firm-level
Acquisition motive: achieve greater scale, lower operating costs	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “achieve greater scale, lower operating costs” is to the company.	Firm-level
Acquisition motive: diversify risk	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “diversify risk” is to the company.	Firm-level
Acquisition motive: extend into new products or markets	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “extend into new products or markets” is to the company.	Firm-level
Acquisition motive: meet growth objectives	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “meet growth objectives” is to the company.	Firm-level
Acquisition motive: realize synergies	The variable acquisition motive is measured on a 5-point Likert scale: 1 = unimportant, 2 = less important, 3 = neutral, 4 = important, 5 = very important. It captures how important the acquisition motive “realize synergies” is to the company.	Firm-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Acquisition process experience index (task-specific experience)	Index is based on five Likert items (for details see Section 4.6.2). The index captures the individual decision-maker's level of acquisition process experience.	Ind.-level
Acquisition process experience: deal negotiation	Acquisition process experience in deal negotiation measured on a 5-point Likert scale: 1 = no experience, 2 = little experience, 3 = some experience, 4 = high experience, 5 = very high experience.	Ind.-level
Acquisition process experience: due diligence and target valuation	Acquisition process experience in due diligence and target valuation measured on a 5-point Likert scale: 1 = no experience, 2 = little experience, 3 = some experience, 4 = high experience, 5 = very high experience.	Ind.-level
Acquisition process experience: integration	Acquisition process experience in integration measured on a 5-point Likert scale: 1 = no experience, 2 = little experience, 3 = some experience, 4 = high experience, 5 = very high experience.	Ind.-level
Acquisition process experience: strategy formulation	Acquisition process experience in strategy formulation measured on a 5-point Likert scale: 1 = no experience, 2 = little experience, 3 = some experience, 4 = high experience, 5 = very high experience.	Ind.-level
Acquisition process experience: target screening	Acquisition process experience in target screening measured on a 5-point Likert scale: 1 = no experience, 2 = little experience, 3 = some experience, 4 = high experience, 5 = very high experience.	Ind.-level
Age of the respondent	Age of the respondent was measured in five categories: 1 = < 35, 2 = 35–44, 3 = 45–54, 4 = 55–64, 5 = > 65.	Ind.-level
Blockholder category	The firm is partly or fully owned by: (1) one family; (2) two families; (3) a family foundation; (4) one or more external blockholders (e.g. institutional investor, bank, private equity company). The items of the variable were measured as dummy variables.	Firm-level
Board experience	Number of board seats held by the respondent in other companies is measured in seven categories: 1 = none, 2 = 1, 3 = 2, 4 = 3, 5 = 4, 6 = 5, 7 = > 5.	Ind.-level
Concentration of family ownership	The percentage of the total equity that is family-owned (including a family foundation) is measured in five categories: 1 = less than 5%, 2 = between 5% and 25%, 3 = between 26% and 50%, 4 = between 51% and 75%, 5 = more than 75%.	Firm-level
Education background1: business administration or economics	Dummy = 1 if respondent has an educational background in business administration or economics.	Ind.-level
Education background2: engineering	Dummy = 1 if respondent has an educational background in engineering.	Ind.-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Education background3: humanities	Dummy = 1 if respondent has an educational background in humanities.	Ind.-level
Education background4: law	Dummy = 1 if respondent has an educational background in law.	Ind.-level
Education background5: mathematics	Dummy = 1 if respondent has an educational background in mathematics.	Ind.-level
Education background6: natural science	Dummy= 1 if respondent has an educational background in natural science.	Ind.-level
Education background7: social sciences	Dummy = 1 if respondent has an educational background in social sciences.	Ind.-level
Education background8: other	Dummy = 1 if respondent has an educational background in another field.	Ind.-level
Entrepreneur	Dummy = 1 if respondent founded or acquired the company.	Firm-level
Entrepreneurial orientation index	Unidimensional measure of entrepreneurial orientation based on nine Likert items (for details see Section 4.6.3). The index captures the company's level of entrepreneurial orientation.	Firm-level
Environmental competitiveness index	Environmental dynamism index based on two Likert items (for details see Section 4.6.3). The index captures the level of competitiveness in the market environment.	Firm-level
Environmental dynamism index	Environmental dynamism index based on two Likert items (for details see Section 4.6.3). The index captures the level of dynamism in the market environment	Firm-level
EO1: Emphasis on the marketing of tried-and-tested products vs emphasis on R&D, technological leadership and innovation	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
EO2: No new lines vs many new lines of products/services were marketed	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
EO3: Changes in product/service lines were mostly minor in nature vs drastic changes	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details refer to Section 4.6.3).	Firm-level
EO4: Respond to actions that competitors initiate vs initiate actions to which competitors react	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details refer to Section 4.6.3).	Firm-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
EO5: Very seldom the first business to introduce new products vs very often the first business	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
EO6: Avoid competitive clashes vs very competitive	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
EO7: Strong proclivity for low-risk projects (certain return) vs for high-risk projects (high return)	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
EO8: Explore the environment gradually vs bold, wide-ranging acts to achieve firm's objectives	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
EO9: In uncertain situations, company adopts a cautious stance vs adopts a bold, aggressive stance	Likert item for entrepreneurial orientation measured on a semantic differential ranging from 1 to 5 (for details see Section 4.6.3).	Firm-level
External blockholder	Dummy = 1 if company is partly or fully owned by one or more external blockholders (e.g. institutional investor, bank, private equity company).	Firm-level
Family firm1: narrow definition	Dummy = 1 if company is a family firm. <u>Definitional approach:</u> For a private firm (i.e. non-listed) the condition is met if at least 50% of the total equity is family-owned (including a family foundation). For public (i.e. listed) firms the condition is met if at least 25% of the total equity is family-owned (including a family foundation). <u>In addition</u> , a member of the business-owning family must be represented in the management or in the advisory/supervisory board.	Firm-level
Family firm2: broad definition	Dummy = 1 if company is a family firm. <u>Definitional approach</u> (without ownership thresholds): A firm is a family firm if it is owned, managed and/or controlled by one or more families or a family foundation.	Firm-level
Family firm3: subjective definition	Dummy = 1 if the respondent considers the company to be a family firm. <u>Definitional approach:</u> Subjective family firm definition. The respondent considers the company to be a family firm.	Firm-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Family involvement	The organizational body in which the business-owning family(ies) is (are) represented is measured in four categories: 1 = advisory board, 2 = supervisory board, 3 = management board, 4 = other.	Firm-level
Family management	Dummy = 1 if a member of the business-owning family is represented in the management board of the firm (coded by author based on the variable <i>family involvement</i> , category 3).	Firm-level
Firm age	Firm age is measured as the number of years since the firm was founded (i.e. 2018 minus the foundation year). Source: manual collection.	Firm-level
Firm orientation	Firm orientation is measured with a semantic differential that ranges from 1 = long-term strategic goals to 5 = short-term financial goals. The variable captures whether the company's activities are guided by a long-term strategic or short-term financial orientation.	Firm-level
Firm size 1 (total sales)	Firm size in terms of total sales in 2016 (in € million) is measured in eight categories: 1 = < 2, 2 = 2–10, 3 = 11–50, 4 = 51–250, 5 = 251–500, 6 = 501–1,000, 7 = 1,001–5,000, 8 = > 5,000.	Firm-level
Firm size 2 (employees)	Firm size in terms of the total number of employees in the company is measured in 8 categories: 1 = < 10, 2 = 10–49, 3 = 50–499, 4 = 500–1,000, 5 = 1,001–3,000, 6 = 3,001–5,000, 7 = 5,001–10,000, 8 = > 10,000.	Firm-level
Firm location (country)	The country in which the firm is located is measured in four categories: 1 = Germany, 2 = Austria, 3 = Switzerland, 4 = other Central European country (e.g. Luxembourg, the Netherlands). This variable was coded by author.	Firm-level
Formal education level	Highest degree of formal education measured in six categories: 1 = below secondary school degree, 2 = secondary school degree or equivalent (e.g. Mittlere Reife), 3 = high school degree or equivalent (e.g. Abitur), 4 = bachelor's degree, 5 = master's degree, diploma or MBA, 6 = PhD, doctoral degree or higher.	Firm-level
Functional experience1: accounting	Functional experience in accounting measured on a 5-point Likert scale: 1 = no knowledge, 2 = little knowledge, 3 = some knowledge, 4 = high knowledge, 5 = very high knowledge.	Firm-level
Functional experience2: finance	Functional experience in finance measured on a 5-point Likert scale: 1 = no knowledge, 2 = little knowledge, 3 = some knowledge, 4 = high knowledge, 5 = very high knowledge.	Firm-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Functional experience3: general management	Functional experience in general management measured on a 5-point Likert scale: 1 = no knowledge, 2 = little knowledge, 3 = some knowledge, 4 = high knowledge, 5 = very high knowledge.	Firm-level
Functional experience4: legal	Functional experience in legal matters measured on a 5-point Likert scale: 1 = no knowledge, 2 = little knowledge, 3 = some knowledge, 4 = high knowledge, 5 = very high knowledge.	Firm-level
Functional experience5: marketing	Functional experience in marketing measured on a 5-point Likert scale: 1 = no knowledge, 2 = little knowledge, 3 = some knowledge, 4 = high knowledge, 5 = very high knowledge.	Firm-level
Functional experience6: operations	Functional experience in operations measured on a 5-point Likert scale: 1 = no knowledge, 2 = little knowledge, 3 = some knowledge, 4 = high knowledge, 5 = very high knowledge.	Firm-level
Generational stage	The generational stage of the family firm is measured in four categories: 1 = first generation, 2 = second generation, 3 = third generation, 4 = fourth or later generation.	Firm-level
Head of specialized department	Dummy = 1 if respondent is a head of a specialized department (e.g. strategy, M&A or corporate development, finance). Dummy variable created based on the categorical variable <i>position</i> .	Firm-level
Industry: aerospace and defence	Dummy = 1 if the company is active in the aerospace and defence industry.	Firm-level
Industry: automotive	Dummy = 1 if the company is active in the automotive industry.	Firm-level
Industry: chemicals and chemical products	Dummy = 1 if the company is active in the chemicals and chemical products industry.	Firm-level
Industry: electricity and gas	Dummy = 1 if the company is active in the electricity and gas industry.	Firm-level
Industry: financial services and insurance	Dummy = 1 if the company is active in the financial services and insurance industry.	Firm-level
Industry: food and beverages	Dummy = 1 if the company is active in the food and beverages industry.	Firm-level
Industry: mechanical engineering	Dummy = 1 if the company is active in the mechanical engineering industry.	Firm-level
Industry: media and telecommunications	Dummy = 1 if the company is active in the media and telecommunications industry.	Firm-level
Industry: other	Dummy = 1 if the company is active in another industry (e.g. building materials, information technology, steel).	Firm-level
Industry: pharmaceuticals	Dummy = 1 if the company is active in the pharmaceuticals industry.	Firm-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Industry: rubber and plastics	Dummy = 1 if the company is active in the rubber and plastics industry.	Firm-level
Industry: transportation and logistics	Dummy = 1 if the company is active in the transportation and logistics industry.	Firm-level
Industry: wholesale and retail trade	Dummy = 1 if the company is active in the wholesale and retail trade industry.	Firm-level
Innovativeness index	The innovativeness index (entrepreneurial orientation dimension) is based on three Likert items (for details see Section 4.6.3). The index captures the firm's degree of innovativeness.	Firm-level
Listed family firm	Dummy = 1 if family firm listed on the stock exchange. The variable <i>family firm1</i> was used to define the group of family firms.	Firm-level
Listed firm	Dummy = 1 if company is listed on the stock exchange.	Firm-level
Male	Dummy = 1 if respondent is male. Dummy = 0 if respondent is female.	Ind.-level
Member of specialized department	Dummy = 1 if respondent is a member of a specialized department (e.g. strategy, M&A or corporate development, finance). Dummy variable created based on the categorical variable <i>position</i> .	Ind.-level
Member of the business-owning family	Dummy = 1 if respondent is a member of the business-owning family.	Ind.-level
Member of the management board	Dummy = 1 if respondent is a member of the management board. Dummy variable created based on the categorical variable <i>position</i> .	Ind.-level
Member of the supervisory board	Dummy = 1 if respondent is a member of the supervisory or advisory board. Dummy variable created based on the categorical variable <i>position</i> .	Ind.-level
Organizational acquisition experience (overall)	Organizational acquisition experience is measured in five categories: 1 = none, 2 = 1–5, 3 = 6–10, 4 = 11–15, 5 = > 15. The variable captures how many acquisition projects (terminated and completed transactions) the company has been involved in during the past five years.	Firm-level
Organizational tenure	Tenure of respondent at their current company (in years) is measured in seven categories: 1 = < 1, 2 = 1–3, 3 = 4–5, 4 = 6–10, 5 = 11–15, 6 = 16–20, 7 = > 20.	Ind.-level
Personality trait: agreeableness	Personality trait measured with a 2-item Likert scale that ranges from 1 = disagree strongly to 7 = agree strongly (for details see Section 4.6.2). The scale captures the degree to which the respondent is characterized by agreeableness.	Ind.-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Personality trait: conscientiousness	Personality trait measured with a 2-item Likert scale that ranges from 1 = disagree strongly to 7 = agree strongly (for details see Section 4.6.2). The scale captures the degree to which the respondent is characterized by conscientiousness.	Ind.-level
Personality trait: emotional stability	Personality trait measured with a 2-item Likert scale that ranges from 1 = disagree strongly to 7 = agree strongly (for details see Section 4.6.2). The scale captures the degree to which the respondent is characterized by emotional stability.	Ind.-level
Personality trait: extraversion	Personality trait measured with a 2-item Likert scale that ranges from 1 = disagree strongly to 7 = agree strongly (for details see Section 4.6.2). The scale captures the degree to which the respondent is characterized by extraversion.	Ind.-level
Personality trait: openness to new experience	Personality trait measured with a 2-item Likert scale that ranges from 1 = disagree strongly to 7 = agree strongly (for details see Section 4.6.2). The scale captures the degree to which the respondent is characterized by openness to new experience.	Ind.-level
Position	Current position of the respondent in the company measured in four categories: 1 = advisory/supervisory board member, 2 = member of the management board, 3 = head of specialized department, 4 = member of specialized department.	Ind.-level
Proactiveness index	The proactiveness index (entrepreneurial orientation dimension) is based on two Likert items (for details see Section 4.6.3). The index captures the firm's degree of proactiveness.	Ind.-level
Relative firm performance index	Relative firm performance index based on two Likert items, <i>relative firm performance1</i> and <i>relative firm performance2</i> (for details see Section 4.6.3).	Ind.-level
Relative firm performance1: profitability	Firm performance in terms of profitability relative to competitors is measured on a 5-point Likert scale: 1 = much worse, 2 = worse, 3 = similar, 4 = better, 5 = much better.	Firm-level
Relative firm performance2: sales growth	Firm performance in terms of sales growth relative to competitors is measured on a 5-point Likert scale: 1 = much worse, 2 = worse, 3 = similar, 4 = better, 5 = much better.	Firm-level
Risk-taking index	The risk-taking index (entrepreneurial orientation dimension) is based on three Likert items (for details see Section 4.6.3). The index captures the willingness of the firm to take risks.	Firm-level

Table A4-4 (continued): List of variables (in alphabetical order) and description of coding

Variable	Description of coding	Type
Serial acquirer	Dummy = 1 if the company has undertaken more than ten acquisitions in the past five years. Dummy variable created based on the categorical variable <i>acquisition intensity</i> .	Firm-level
Transgenerational intention1 (dichotomous)	Dummy = 1 if the business-owning family intends to pass on the company to future family generations. Dummy variable created based on the categorical variable <i>transgenerational intention2</i> .	Firm-level
Transgenerational intention2 (category)	The likelihood that the business-owning family will pass on the business to future family generations is measured in five categories: 1 = very unlikely, 2 = unlikely, 3 = likely, 4 = very likely, 5 = I don't know.	Firm-level

Table A4-5: Reliability of big five personality trait scales (TIPI)

Variable/Measure	Item	Description of items	Scale	Source	Cronbach alpha
Ten Item Personality Inventory (TIPI) – Big Five		How well do the following statements describe your personality? I see myself as someone who is ...	7-point Likert-type scale: 1 = disagree strongly, 7 = agree strongly)	Gosling et al. (2003)	
Agreeableness	1	... critical, quarrelsome (R)			0.22
	2	... sympathetic, warm			
Conscientiousness	3	... dependable, self-disciplined			0.61
	4	... disorganized, careless (R)			
Emotional stability	5	... anxious, easily upset (R)			0.39
	6	... calm, emotionally stable			
Extraversion	7	... extraverted, enthusiastic			0.75
	8	... reserved, quiet (R)			
Openness to experience	9	... open to new experiences, complex			0.45
	10	... conventional, uncreative (R)			

Notes: The original TIPI items (in English language) were taken from Gosling et al. (2003). For the German version of the questionnaire the validate German translation of TIPI scale by Muck et al. (2007) was used. “R” denotes reverse-scored item.

Table A4-6: Reliability of performance, environment, acquisition experience scales

Variable	Item	Description of items	Scale	Source	Cronbach alpha	
Relative performance index		How do you rate your company's performance relative to your competitors?	5-point Likert-type scale: 1 = much worse, 7 = much better	Shortened from Eddleston, Kellermanns et al. (2008)	0.62	
	1	Profitability				
	2	Sales Growth				
Environmental indices:		Please indicate to what extent you agree or disagree with the following four statements:	5-point Likert-type scale: 1 = disagree strongly, 5 = agree strongly	Jansen et al. (2006)	0.65	
Environmental dynamism index	1	Our market environment is characterized by significant changes.				Dill (1958)
	2	Our customers regularly ask for new products or services.				Volberda and Van Bruggen (1997)
Environmental competitiveness index	1	Our company has strong competitors.				Birkinshaw et al. (1998)
	2	Competition in our market environment is intense.	Jaworski and Kohli (1993)			
Acquisition experience index		How do you rate your experience with regards to the following phases of the acquisition process?	5-point Likert-type scale: 1 = no experience, 5 = very high experience	Diverse ¹ (e.g. Angwin et al. 2015)	0.89	
	1	Acquisition strategy formulation				
	2	Target screening and selection				
	3	Due diligence and valuation				
	4	Deal negotiation				
	5	Integration				

Notes: ¹ The items of the acquisition experience index were derived from the literature.

Table A4-7: Reliability of entrepreneurial orientation scales

Variable	Item	Description of Items	Cronbach alpha	
Entrepreneurial orientation index (unidimensional)			0.71	
Innovativeness index	EO1	In general, the top managers of my firm favour a strong emphasis on the marketing of “tried-and-true” products or services (1)	vs ... favour a strong emphasis on R&D, technological leadership, and innovation (5)	0.71
	EO2	Our company has marketed no new lines of products or services in the past 5 years. (1)	vs Our company has marketed very many new lines of products or services in the past 5 years. (5)	
	EO3	Changes in product or service lines have been mostly of a minor nature. (1)	vs Changes in product or service lines have usually been quite dramatic. (5)	
Proactiveness index	EO4	Our company typically responds to actions that competitors initiate. (1)	vs Our company typically initiates actions to which competitors then respond. (5)	0.66
	EO5	Our company is very seldom the first business to introduce new products/services, operating technologies, etc. (1)	vs Our company is very often the first business to introduce new products/services, operating technologies, etc. (5)	
	EO6 ¹	Our company typically seeks to avoid competitive clashes, preferring a “live-and-let-live” posture. (1)	vs Our company typically adopts a very competitive, “undo-the-competitors” posture. (5)	
Risk-taking index	EO7	In general, the top managers of my firm have a strong proclivity for low-risk project (with normal and certain rates of return). (1)	vs ... have a strong proclivity for high-risk projects (with chances of very high returns). (5)	0.78
	EO8	... believe that owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behaviour. (1)	vs ... believe that owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm’s objectives. (5)	
	EO9	In uncertain decision-making situations, our company typically adopts a cautious, “wait-and-see” posture in order to minimize the probability of making costly decisions. (1)	vs In uncertain decision-making situations, our company typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities. (1)	

Notes: Entrepreneurial orientation scale based on Covin and Slevin (1989, 1991). The scale was measured on a semantic differential (Likert-type scale from 1-5).

¹ The 3-item proactiveness scale produced an alpha of 0.49. The ambivalent item (EO 6) of the proactiveness index that reflects “competitive“ was finally eliminated, which led to an acceptable alpha value of 0.66.

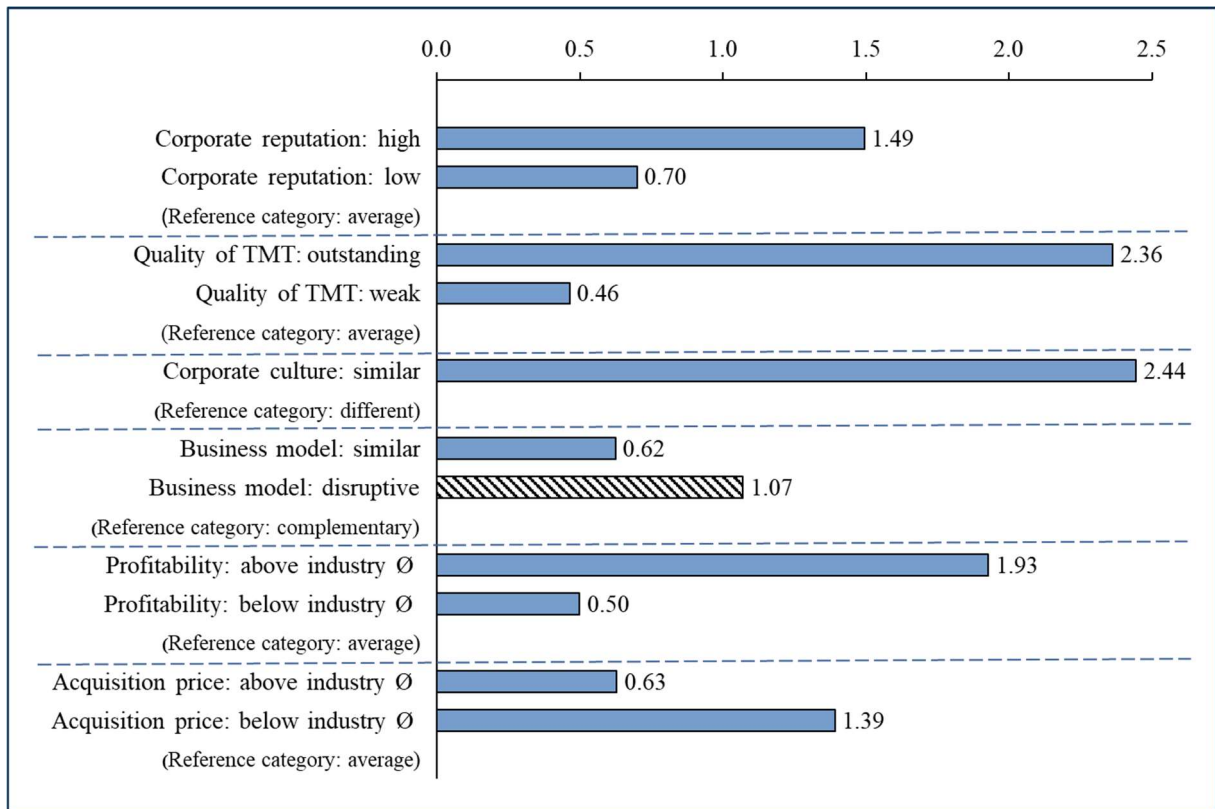
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Table A5-1: Main effects model (reference category average)

Attributes and levels	Log odds (p-value)
Subjective criteria (“soft facts”)	
Corporate Reputation: high	0.402 (< 0.001)
Corporate Reputation: low (Reference category: average)	-0.358 (< 0.001)
Corporate culture: similar (Reference category: different)	0.898 (< 0.001)
Quality of top management team: outstanding	0.862 (< 0.001)
Quality of top management team: weak (Reference category: average)	-0.772 (< 0.001)
Strategic criterion	
Business model: similar	-0.473 (< 0.001)
Business model: disruptive (Reference category: complementary)	0.070 (0.429)
Monetary criteria (“hard facts”)	
Profitability: above industry average	0.656 (< 0.001)
Profitability: below industry average (Reference category: industry average)	-0.698 (< 0.001)
Acquisition price: above industry average	-0.465 (< 0.001)
Acquisition price: below industry average (Reference category: industry average)	0.328 (< 0.001)
N (decisions)	7,904
N (decision-makers)	304

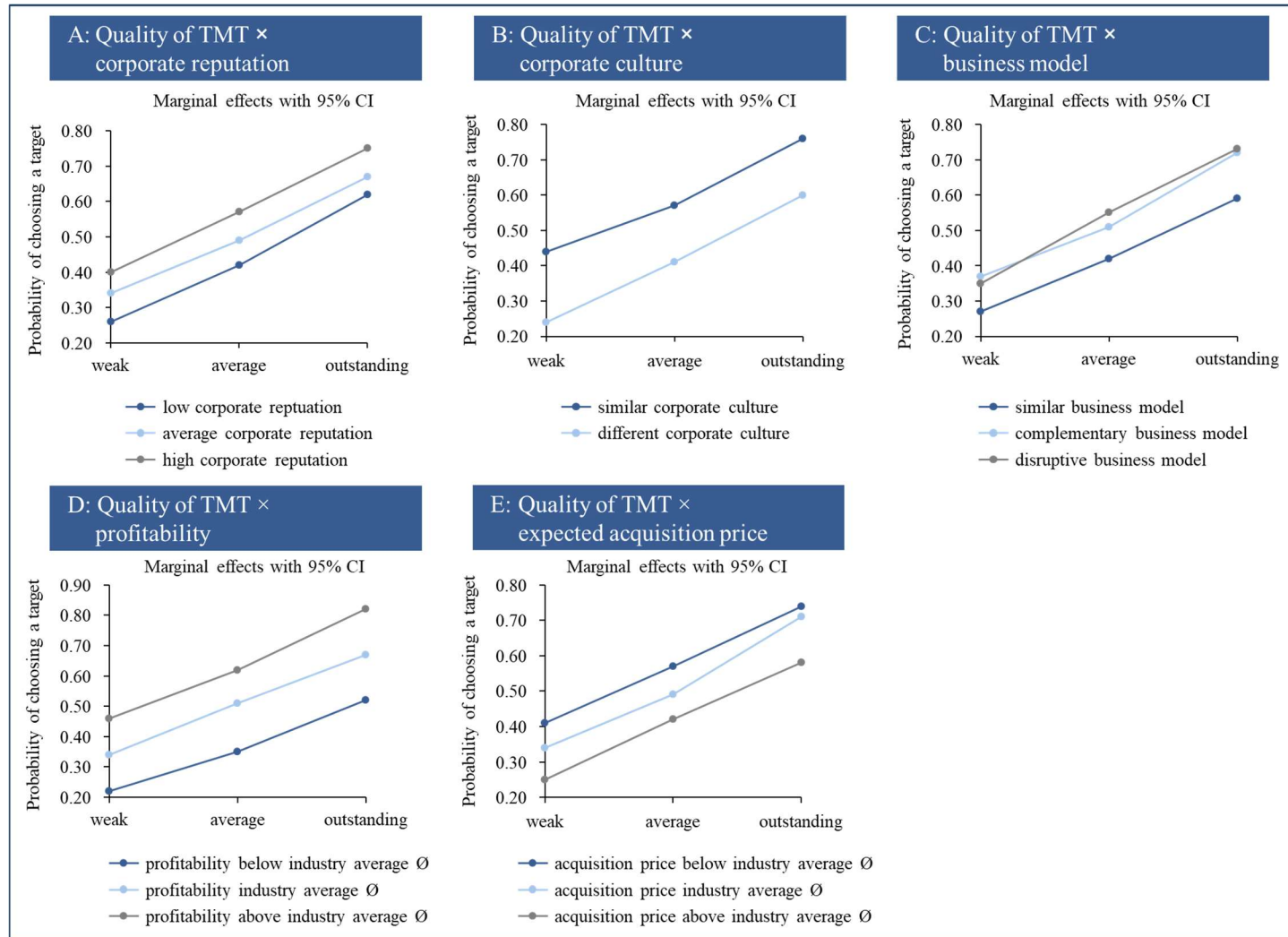
Notes: Regression type: multilevel logistic regression with random intercepts and random slopes. Estimated with robust standard errors. Dependent variable: decision of the decision-maker.

Figure A5-1: Effect size of attribute levels on target screening choice (re-calculation)



Notes: Odds ratios based on log odds from multilinear regression model of 7,904 hypothetical target screening decisions nested in 304 individual corporate investors. For each decision criterion a reference category was chosen (see lower case text in bold). Hatched bar indicates that no statistically significant effect is presented relative to the reference category.

Figure A5-2: Marginal effects of attribute interactions



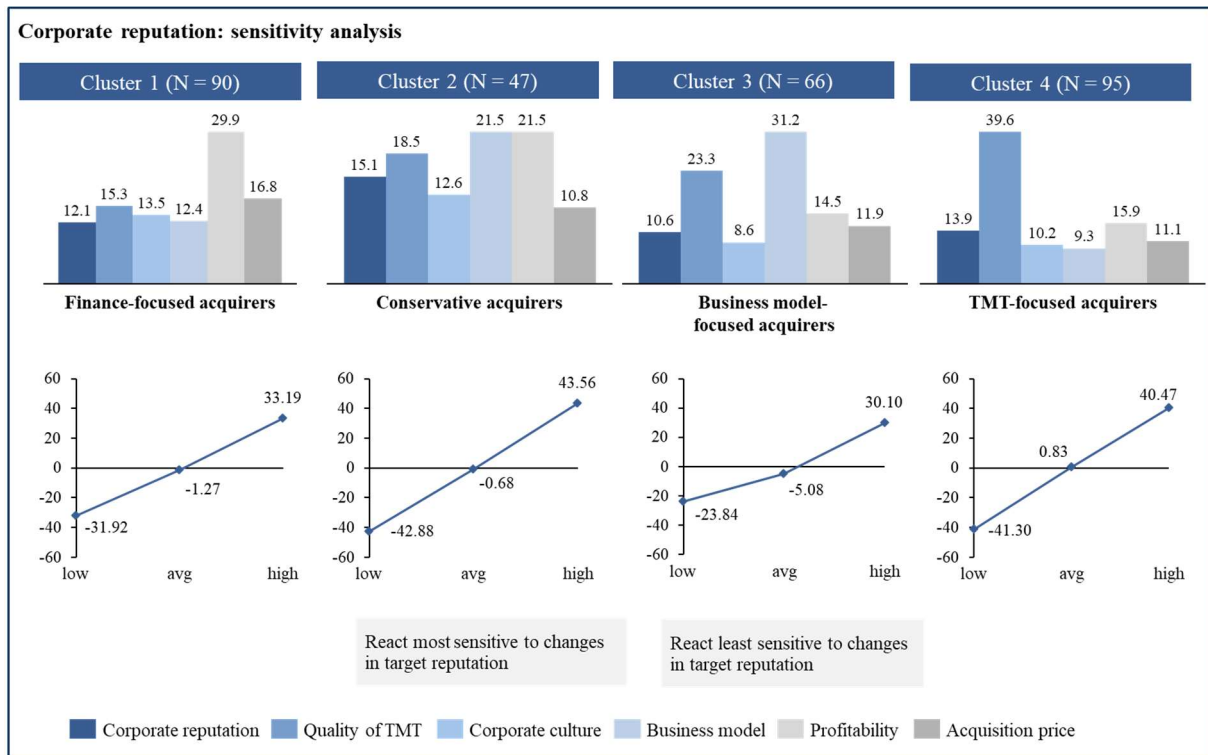
Notes: N = 304; The figures display the estimated marginal effects on the probability of choosing a target (y-axis) for different values of QTMT (x-axis) and the interacted variables (see legend). The marginal effects are derived from the main effects model (see Table 5-2, p. 132) estimated by a multilevel logistic regression.

Table A5-2: Correlation table of active clustering variables

Attribute levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Corporate reputation: high	1.00																
2 Corporate reputation: average	-0.36*	1.00															
3 Corporate reputation: low	-0.62*	-0.51*	1.00														
4 TMT: outstanding	0.05	0.06	-0.10	1.00													
5 TMT: weak	-0.09	0.31*	-0.18	0.03	1.00												
6 TMT: average	-0.02	-0.16	0.15	-0.95*	-0.34*	1.00											
7 Corporate culture: similar	-0.28*	0.43*	-0.10	-0.14	0.05	0.12	1.00										
8 Corporate culture: different	0.28*	-0.43*	0.10	0.14	-0.05	-0.12	-1.00*	1.00									
9 Business model: similar	0.09	0.04	-0.12	0.11	-0.10	-0.07	0.05	-0.05	1.00								
10 Business model: complementary	0.26*	0.14	-0.36*	-0.31*	-0.06	0.31*	0.22*	-0.22*	-0.22*	1.00							
11 Business model: disruptive	-0.23*	-0.11	0.30*	0.06	0.12	-0.09	-0.16	0.16	-0.86*	-0.31*	1.00						
12 Profitability: above	0.10	0.09	-0.17	-0.40*	-0.03	0.39*	0.00	0.00	0.17	0.23*	-0.29*	1.00					
13 Profitability: average	-0.37*	-0.01	0.35*	0.07	0.08	-0.10	0.12	-0.12	-0.08	-0.44*	0.31*	-0.16	1.00				
14 Profitability: below	0.06	-0.09	0.02	0.36*	-0.01	-0.34*	-0.05	0.05	-0.13	-0.04	0.15	-0.91*	-0.27*	1.00			
15 Acquisition price: above	0.37*	0.04	-0.38*	0.37*	-0.06	-0.33*	-0.04	0.04	-0.22*	0.40*	0.00	-0.15	-0.27*	0.26*	1.00		
16 Acquisition price average	0.03	0.15	-0.15	-0.46*	-0.22*	0.50*	0.19	-0.19	0.15	0.21*	-0.26*	0.35*	-0.16	-0.28*	-0.39*	1.00	
17 Acquisition price: below	-0.42*	-0.13	0.49*	-0.16	0.18	0.09	-0.05	0.05	0.15	-0.54*	0.14	-0.03	0.37*	-0.13	-0.87*	-0.11	1

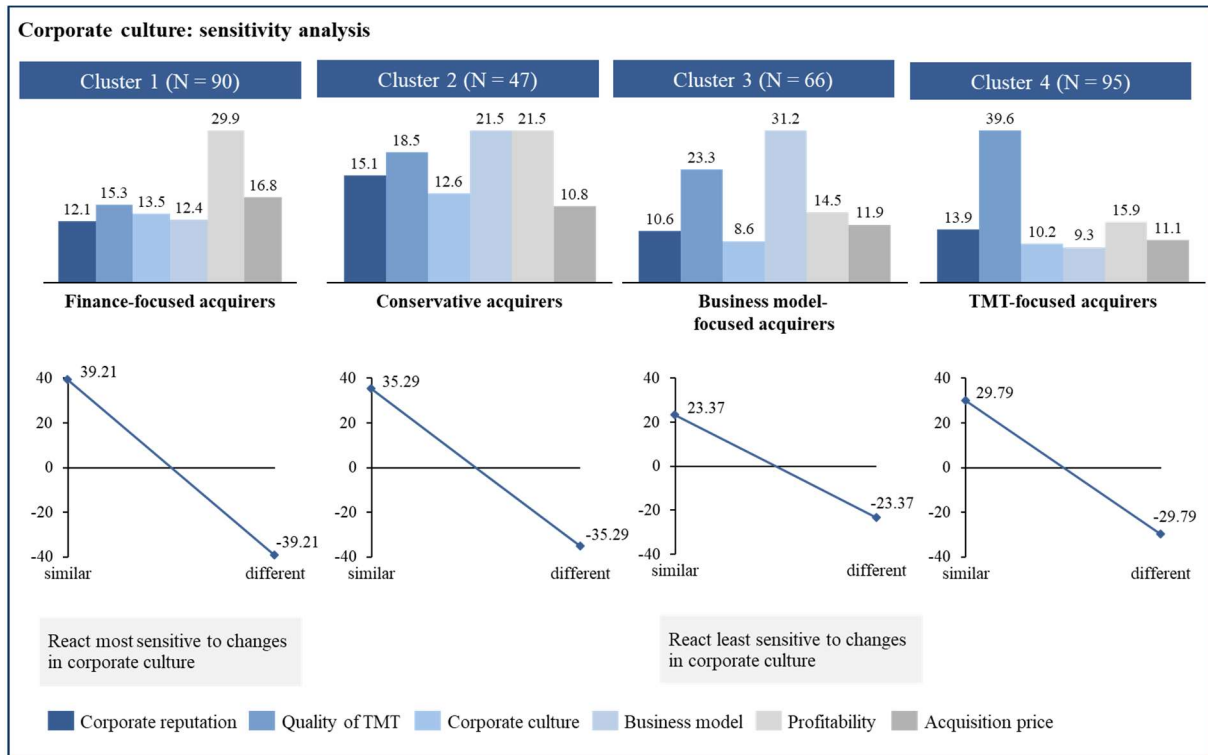
Notes: N = 304; Pearson correlation coefficients with significance levels *p < 0.05.

Figure A5-3: Attribute importance and utilities for criterion corporate reputation



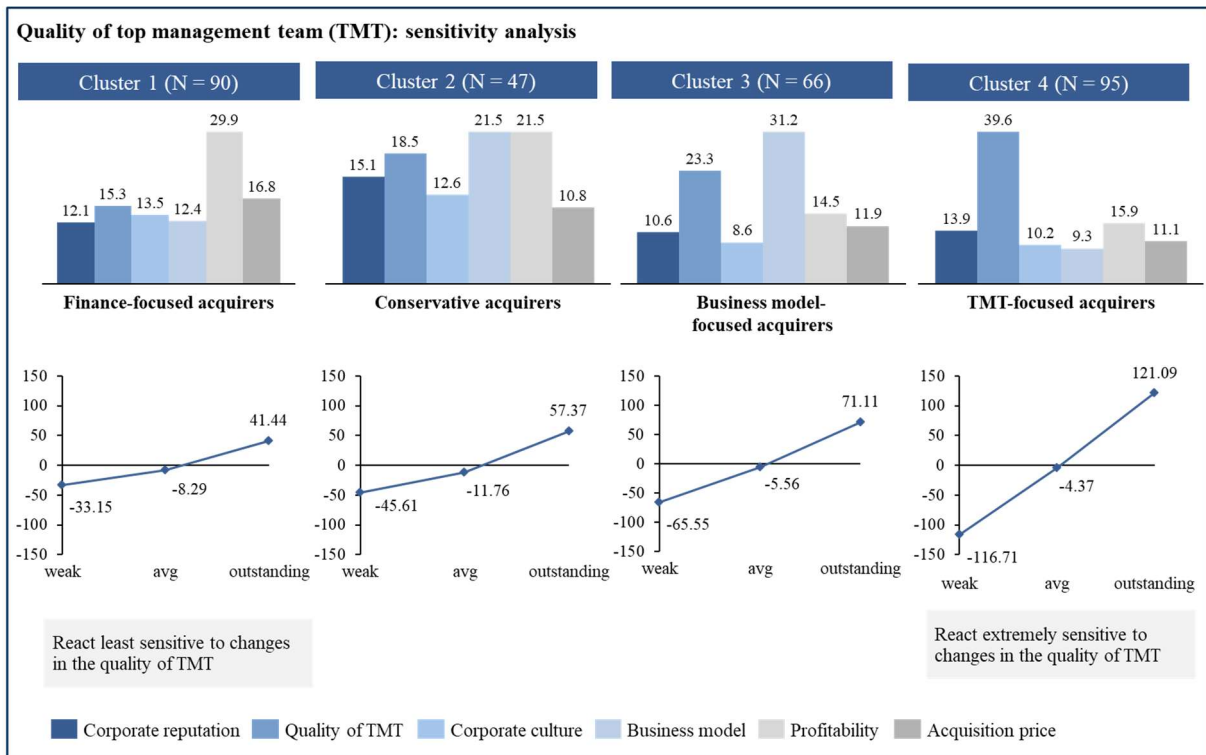
Notes: The figures displayed in the graphs are the utility estimates derived from an HB regression model.

Figure A5-4: Attribute importance and utilities for criterion corporate culture



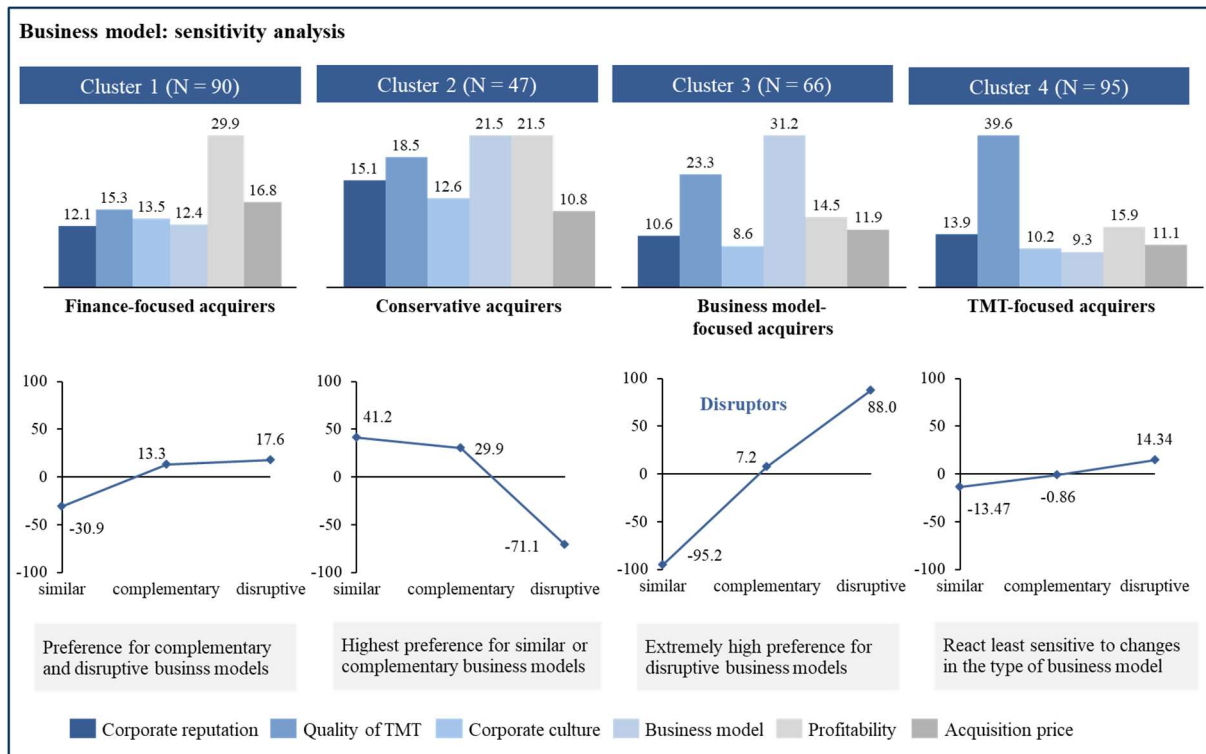
Notes: The figures displayed in the graphs are the utility estimates derived from an HB regression model.

Figure A5-5: Attribute importance and utilities for criterion quality of TMT



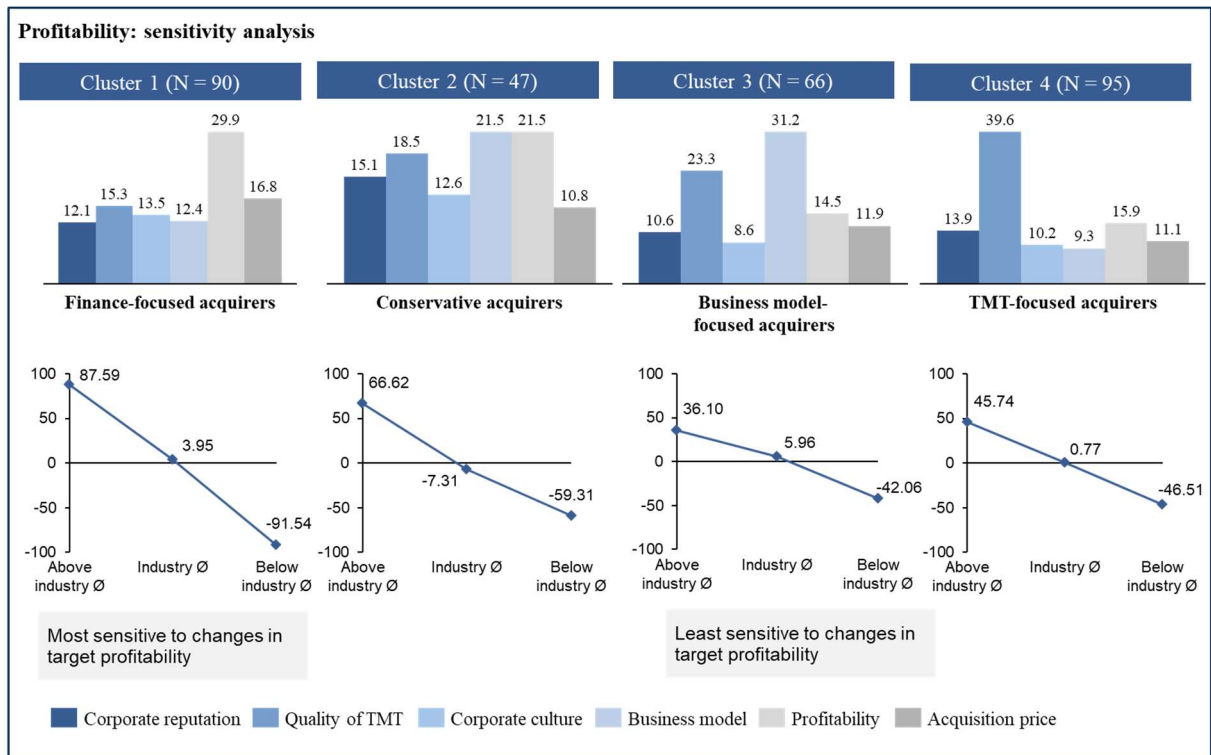
Notes: The figures displayed in the graphs are the utility estimates derived from an HB regression model.

Figure A5-6: Attribute importance and utilities for criterion business model



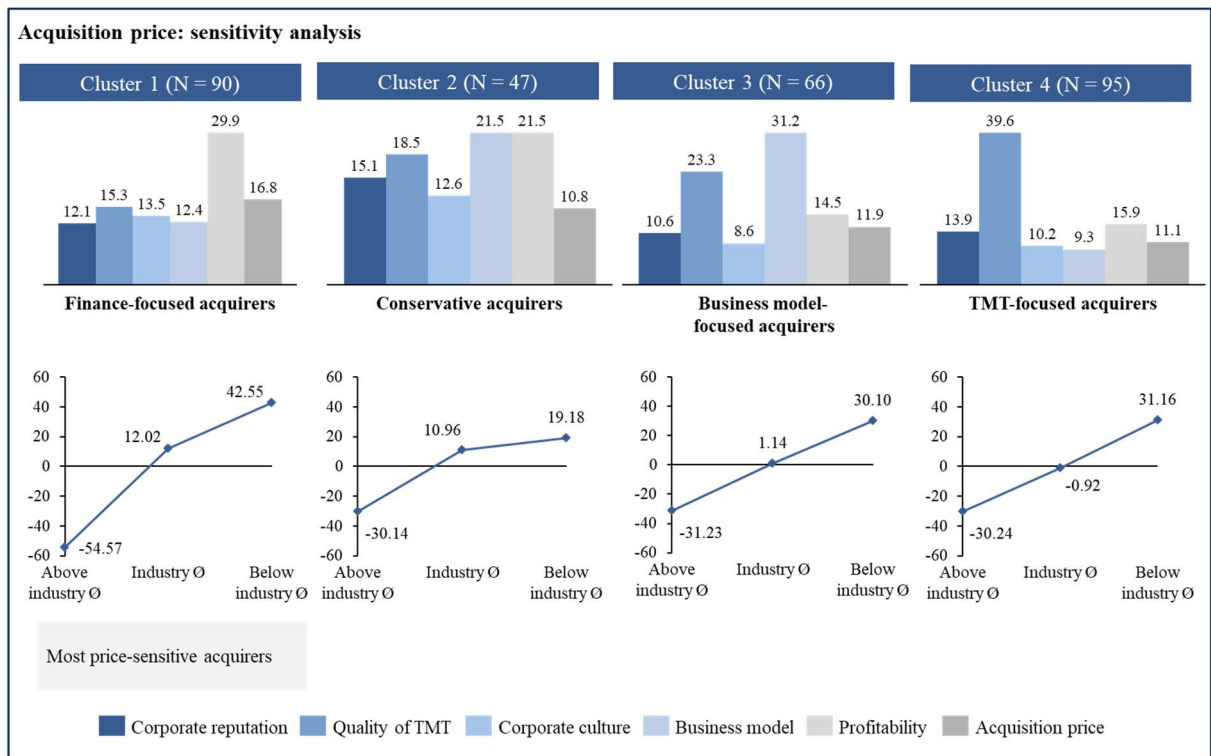
Notes: The figures displayed in the graphs are the utility estimates derived from an HB regression model.

Figure A5-7: Attribute importance and utilities for criterion target profitability



Notes: The figures displayed in the graphs are the utility estimates derived from an HB regression model.

Figure A5-8: Attribute importance and utilities for criterion acquisition price



Notes: The figures displayed in the graphs are the utility estimates derived from an HB regression model.

Table A5-3: Tukey post-hoc comparison for individual-level variables

Variable	Cluster Comparison (cluster i vs cluster j)	Mean Difference (i-j)	Std Error	95% confidence interval	
				Lower Bound	Upper Bound
Gender	Cluster 2 vs Cluster 1	0.123*	0.050	-0.01	0.25
	Cluster 3 vs Cluster 1	0.099	0.045	-0.02	0.22
	Cluster 4 vs Cluster 1	0.050	0.041	-0.06	0.16
	Cluster 3 vs Cluster 2	-0.024	0.054	-0.16	0.11
	Cluster 4 vs Cluster 2	-0.073	0.050	-0.20	0.06
	Cluster 4 vs Cluster 3	-0.049	0.045	-0.17	0.07
Age	Cluster 2 vs Cluster 1	0.417	0.184	-0.06	0.89
	Cluster 3 vs Cluster 1	0.281	0.165	-0.15	0.71
	Cluster 4 vs Cluster 1	0.469***	0.150	0.08	0.86
	Cluster 3 vs Cluster 2	-0.137	0.195	-0.64	0.37
	Cluster 4 vs Cluster 2	0.052	0.182	-0.42	0.52
	Cluster 4 vs Cluster 3	0.188	0.164	-0.23	0.61
Member of the advisory or supervisory board	Cluster 2 vs Cluster 1	-0.023	0.048	-0.15	0.10
	Cluster 3 vs Cluster 1	0.046	0.043	-0.06	0.16
	Cluster 4 vs Cluster 1	0.082	0.039	-0.02	0.18
	Cluster 3 vs Cluster 2	0.070	0.051	-0.06	0.20
	Cluster 4 vs Cluster 2	0.105	0.047	-0.02	0.23
	Cluster 4 vs Cluster 3	0.035	0.043	-0.07	0.15
Acquisition process experience index	Cluster 2 vs Cluster 1	0.220	0.165	-0.21	0.65
	Cluster 3 vs Cluster 1	0.313	0.149	-0.07	0.70
	Cluster 4 vs Cluster 1	0.330*	0.135	-0.02	0.68
	Cluster 3 vs Cluster 2	0.094	0.175	-0.36	0.55
	Cluster 4 vs Cluster 2	0.110	0.164	-0.31	0.53
	Cluster 4 vs Cluster 3	0.017	0.147	-0.36	0.40
Acquisition process experience: deal negotiation	Cluster 2 vs Cluster 1	0.259	0.211	-0.29	0.80
	Cluster 3 vs Cluster 1	0.457*	0.190	-0.03	0.95
	Cluster 4 vs Cluster 1	0.451**	0.172	0.01	0.90
	Cluster 3 vs Cluster 2	0.198	0.224	-0.38	0.78
	Cluster 4 vs Cluster 2	0.193	0.209	-0.35	0.73
	Cluster 4 vs Cluster 3	-0.005	0.188	-0.49	0.48
Acquisition process experience: integration	Cluster 2 vs Cluster 1	0.134	0.192	-0.36	0.63
	Cluster 3 vs Cluster 1	0.493**	0.173	0.05	0.94
	Cluster 4 vs Cluster 1	0.329	0.157	-0.08	0.73
	Cluster 3 vs Cluster 2	0.359	0.203	-0.17	0.88
	Cluster 4 vs Cluster 2	0.195	0.190	-0.30	0.69
	Cluster 4 vs Cluster 3	-0.164	0.171	-0.61	0.28

Notes: A Tukey post-hoc test was performed after the ANOVA analysis, which compares the means of every cluster to the means of every other cluster. Statistically significant levels: * $p \leq 0.10$ ** $p \leq 0.05$ *** $p \leq 0.01$.

Table A5-4: Tukey post-hoc comparison for firm- and environmental-level variables

Variable	Cluster Comparison (cluster i vs cluster j)	Mean Difference (i-j)	Std Error	95% confidence interval	
				Lower Bound	Upper Bound
Firm orientation	Cluster 2 vs Cluster 1	0.008	0.194	-0.49	0.51
	Cluster 3 vs Cluster 1	-0.413*	0.175	-0.86	0.04
	Cluster 4 vs Cluster 1	-0.138	0.159	-0.55	0.27
	Cluster 3 vs Cluster 2	-0.421	0.206	-0.95	0.11
	Cluster 4 vs Cluster 2	-0.146	0.192	-0.64	0.35
	Cluster 4 vs Cluster 3	0.275	0.173	-0.17	0.72
AM: realize synergies	Cluster 2 vs Cluster 1	-0.156	0.180	-0.20	0.63
	Cluster 3 vs Cluster 1	-0.483**	0.162	-0.20	-0.07
	Cluster 4 vs Cluster 1	-0.270	0.147	-0.65	0.11
	Cluster 3 vs Cluster 2	-0.327	0.190	-0.82	0.17
	Cluster 4 vs Cluster 2	-0.113	0.178	-0.57	0.35
	Cluster 4 vs Cluster 3	0.213	0.160	-0.20	0.63
AM: achieve greater scale, lower operating costs	Cluster 2 vs Cluster 1	-0.038	0.185	-0.51	0.44
	Cluster 3 vs Cluster 1	-0.527***	0.166	-0.96	-0.10
	Cluster 4 vs Cluster 1	-0.318	0.151	-0.71	0.07
	Cluster 3 vs Cluster 2	-0.490*	0.196	-1.00	0.02
	Cluster 4 vs Cluster 2	-0.280	0.183	-0.75	0.19
	Cluster 4 vs Cluster 3	0.210	0.164	-0.21	0.63
AM: extend into new products/markets	Cluster 2 vs Cluster 1	-0.076	0.144	-0.45	0.30
	Cluster 3 vs Cluster 1	0.272	0.130	-0.06	0.61
	Cluster 4 vs Cluster 1	0.027	0.118	-0.28	0.33
	Cluster 3 vs Cluster 2	0.348*	0.153	-0.05	0.74
	Cluster 4 vs Cluster 2	0.103	0.143	-0.27	0.47
	Cluster 4 vs Cluster 3	-0.245	0.129	-0.58	0.09
AM: access to managerial/ technical talent	Cluster 2 vs Cluster 1	-0.205	0.192	-0.70	0.29
	Cluster 3 vs Cluster 1	0.195	0.173	-0.25	0.64
	Cluster 4 vs Cluster 1	0.533***	0.157	0.13	0.94
	Cluster 3 vs Cluster 2	0.400	0.203	-0.12	0.93
	Cluster 4 vs Cluster 2	0.738***	0.190	0.25	1.23
	Cluster 4 vs Cluster 3	0.338	0.171	-0.10	0.78
AM: access to new technologies/R&D	Cluster 2 vs Cluster 1	-0.245	0.188	-0.73	0.24
	Cluster 3 vs Cluster 1	0.351	0.169	-0.09	0.79
	Cluster 4 vs Cluster 1	0.160	0.153	-0.24	0.56
	Cluster 3 vs Cluster 2	0.595**	0.199	0.08	1.11
	Cluster 4 vs Cluster 2	0.405	0.186	-0.08	0.89
	Cluster 4 vs Cluster 3	-0.190	0.167	-0.62	0.24

Notes: A Tukey post-hoc test was performed after the ANOVA analysis, which compares the means of every cluster to the means of every other cluster. Statistically significant levels: * $p \leq 0.10$ ** $p \leq 0.05$ *** $p \leq 0.01$.

Table A5-4 (continued): Tukey post-hoc comparison for firm and environmental-level variables

Variable	Cluster Comparison (cluster i vs cluster j)	Mean Difference (i-j)	Std Error	95% confidence interval	
				Lower Bound	Upper Bound
AM: access to innovative/ disruptive business models	Cluster 2 vs Cluster 1	-0.267	0.195	-0.77	0.24
	Cluster 3 vs Cluster 1	0.523**	0.176	0.07	0.98
	Cluster 4 vs Cluster 1	0.046	0.159	-0.37	0.46
	Cluster 3 vs Cluster 2	0.790***	0.207	0.26	1.32
	Cluster 4 vs Cluster 2	0.313	0.193	-0.19	0.81
	Cluster 4 vs Cluster 3	-0.477	0.174	-0.93	-0.03
Entrepreneurial orientation index	Cluster 2 vs Cluster 1	0.074	0.119	-0.23	0.38
	Cluster 3 vs Cluster 1	0.347***	0.107	0.07	0.62
	Cluster 4 vs Cluster 1	0.183	0.107	-0.07	0.43
	Cluster 3 vs Cluster 2	0.273	0.107	-0.05	0.60
	Cluster 4 vs Cluster 2	0.109	0.107	-0.20	0.41
	Cluster 4 vs Cluster 3	-0.164	0.107	-0.44	0.11
Innovativeness index	Cluster 2 vs Cluster 1	-0.207	0.161	-0.62	0.21
	Cluster 3 vs Cluster 1	0.308	0.145	-0.07	0.68
	Cluster 4 vs Cluster 1	0.094	0.131	-0.24	0.43
	Cluster 3 vs Cluster 2	0.515***	0.170	0.08	0.96
	Cluster 4 vs Cluster 2	0.302	0.159	-0.11	0.71
	Cluster 4 vs Cluster 3	-0.213	0.143	-0.58	0.16
Risk-taking index	Cluster 2 vs Cluster 1	0.361*	0.154	-0.04	0.76
	Cluster 3 vs Cluster 1	0.488***	0.139	0.13	0.85
	Cluster 4 vs Cluster 1	0.308*	0.126	-0.02	0.63
	Cluster 3 vs Cluster 2	0.127	0.163	-0.29	0.55
	Cluster 4 vs Cluster 2	-0.053	0.153	-0.45	0.34
	Cluster 4 vs Cluster 3	-0.180	0.137	-0.53	0.17
Environmental dynamism index	Cluster 2 vs Cluster 1	-0.368*	0.154	-0.77	0.03
	Cluster 3 vs Cluster 1	0.156	0.138	-0.20	0.51
	Cluster 4 vs Cluster 1	0.096	0.126	-0.23	0.42
	Cluster 3 vs Cluster 2	0.525***	0.163	0.10	0.95
	Cluster 4 vs Cluster 2	0.464***	0.152	0.07	0.86
	Cluster 4 vs Cluster 3	-0.060	0.137	-0.41	0.29

Notes: A Tukey post-hoc test was performed after the ANOVA analysis, which compares the means of every cluster to the means of every other cluster. Statistically significant levels: * $p \leq 0.10$ ** $p \leq 0.05$ *** $p \leq 0.01$.

Table A5-5: Tukey post-hoc comparison for family firm-specific variables

Variable	Cluster Comparison (cluster i vs cluster j)	Mean Difference (i-j)	Std Error	95% confidence interval	
				Lower Bound	Upper Bound
Concentration of family ownership (in 5 categories)	Cluster 2 vs Cluster 1	0.475**	0.184	0.00	0.95
	Cluster 3 vs Cluster 1	0.204	0.161	-0.21	0.62
	Cluster 4 vs Cluster 1	0.037	0.151	-0.36	0.43
	Cluster 3 vs Cluster 2	-0.271	0.186	-0.75	0.21
	Cluster 4 vs Cluster 2	-0.438*	0.178	-0.90	0.02
	Cluster 4 vs Cluster 3	-0.167	0.154	-0.57	0.23
Generational stage (in 4 categories)	Cluster 2 vs Cluster 1	0.582*	0.225	0.00	1.17
	Cluster 3 vs Cluster 1	0.053	0.197	-0.46	0.56
	Cluster 4 vs Cluster 1	0.335	0.185	-0.14	0.81
	Cluster 3 vs Cluster 2	-0.529*	0.228	-1.12	0.06
	Cluster 4 vs Cluster 2	-0.247	0.217	-0.81	0.32
	Cluster 4 vs Cluster 3	0.282	0.188	-0.21	0.77

Notes: A Tukey post-hoc test was performed after the ANOVA analysis, which compares the means of every cluster to the means of every other cluster. Statistically significant levels: * $p \leq 0.10$ ** $p \leq 0.05$ *** $p \leq 0.01$.

Appendix to Chapter 6

Table A6-1: Cross table type of ownership and organizational tenure

Type of ownership	Organizational tenure							Test statistic	
	<1 year	1-3 years	4-5 years	6-10 years	11-15 years	16-20 years	>20 years	Pearson Chi ²	Cramer's V
Non-family firm (N=114)	11.4%	25.4%	14.9%	18.4%	14.9%	6.1%	8.8%		
Family firm (N=190)	4.7%	17.4%	12.1%	16.3%	14.2%	12.1%	23.2%		
Total	7.2%	20.4%	13.2%	17.1%	14.5%	9.9%	17.8%	18.157***	0.244

Notes: N = 304; Pearson's chi-square test and Cramer's V for categorical variables.

Statistically significant levels: * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$; percentage values are rounded.

Table A6-2: Cross table type of ownership and firm category

Type of ownership	Firm category		Test statistic	
	Listed firm	Non-listed firm	Pearson Chi ²	Cramer's V
Family firm (N=190)	15.8%	84.2%		
Non-family firm (N=114)	49.1%	50.9%		
Total	28.3%	71.7%	39.024***	-0.358

Notes: N = 304; Pearson's chi-square test and Cramer's V for categorical variables.

Statistically significant levels: * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$; Percentage values are rounded.

Table A6-3: Interaction effects models (family vs non-family firms): robustness test

Attributes and levels	Hypotheses	Model 1 Log odds (p-value)	Model 2 Log odds (p-value)	Model 3 Log odds (p-value)
Corporate reputation: high × family firm	H1	0.134 (0.308)	0.079 (0.552)	-0.090 (0.488)
Corporate reputation: average × family firm <i>(reference category: low)</i>		0.034 (0.795)	0.098 (0.455)	-0.130 (0.322)
Business model: complementary × family firm	H2a/b	0.080 (0.596)	0.156 (0.325)	-0.111 (0.468)
Business model: disruptive × family firm <i>(reference category: similar)</i>		-0.059 (0.744)	0.103 (0.574)	-0.016 (0.930)
Corporate culture: similar × family firm <i>(reference category: different)</i>	-	-0.046 (0.747)	-0.093 (0.519)	0.090 (0.522)
Quality of TMT: outstanding × family firm	-	0.114 (0.521)	0.068 (0.712)	-0.109 (0.536)
Quality of TMT: average × family firm <i>(reference category: weak)</i>		-0.065 (0.653)	-0.034 (0.825)	0.067 (0.641)
Profitability: above industry average × family firm	-	-0.056 (0.725)	-0.124 (0.461)	0.086 (0.591)
Profitability: industry average × family firm <i>(reference category: below industry average)</i>		-0.009 (0.947)	-0.093 (0.511)	0.084 (0.534)
Acquisition price: below industry average × family firm	-	-0.151 (0.318)	-0.165 (0.300)	0.109 (0.468)
Acquisition price: industry average × family firm <i>(reference category: above industry average)</i>		0.065 (0.619)	0.083 (0.540)	-0.039 (0.766)
N (decisions)		7,904	7,904	7,904
N (decision-makers)		304	304	304
N (decision-makers of family firms)		190	204	190

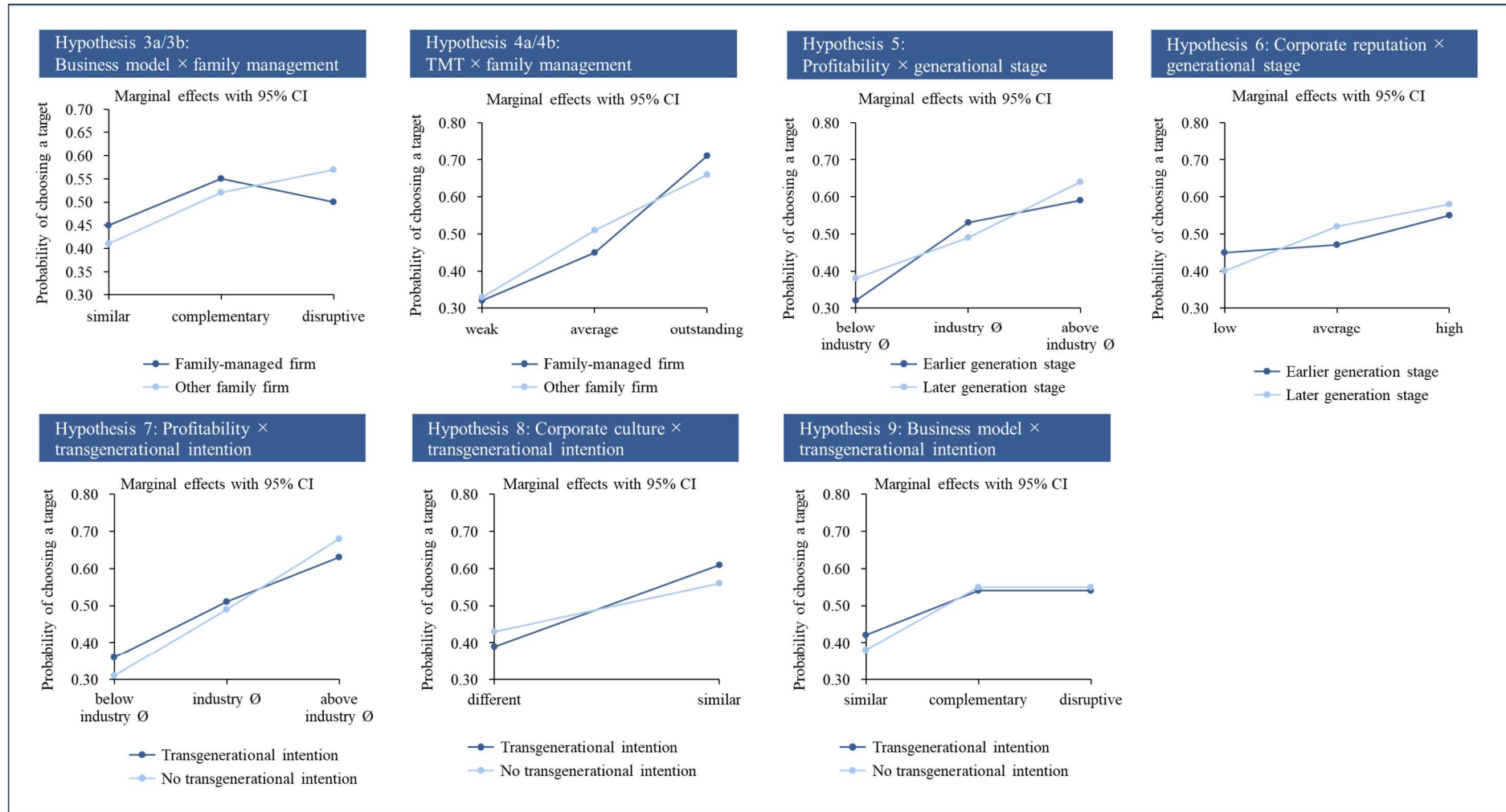
Notes: Dependent variable: preference of decision-maker. Regression type: logit regression with clustered standard errors on individual level. Model 1 was estimated with *family firm1*, Model 2 with *family firm2* and Model 3 with *family firm3*.

Table A6-4: Interaction effects models (family firms): robustness test

	Hypotheses	Model 1 Coefficient (p-value)	Model 2 Coefficient (p-value)	Model 3 Coefficient (p-value)
H3/4: Family management (Model 1)				
Business model: complementary × family management	H3a/b	-0.035 (0.855)	-	-
Business model: disruptive × family management (reference category: similar)		-0.490 (0.038)	-	-
Quality of TMT: outstanding × family management	H4a/b	0.366 (0.071)	-	-
Quality of TMT: average × family management (reference category: weak)		-0.131 (0.433)	-	-
H5/6: Generational stage (Model 2)				
Profitability: above industry average × generational stage	H5	-	-0.059 (0.532)	-
Profitability: industry average × generational stage (reference category: below industry average)		-	-0.179 (0.021)	-
Corporate reputation: high × generational stage	H6	-	0.114 (0.165)	-
Corporate reputation: average × generational stage (reference category: low)		-	0.243 (0.002)	-
H7-9: Transgenerational intention (Model 3)				
Profitability: above industry average × transgenerational intentionI	H7	-	-	-0.509 (0.014)
Profitability: industry average × transgenerational intentionI (reference category: below industry average)		-	-	-0.096 (0.577)
Corporate culture: similar × transgenerational intentionI (reference category: different)	H8			0.391 (0.055)
Business model: complementary × transgenerational intentionI	H9			-0.244 (0.289)
Business model: disruptive × transgenerational intentionI (reference category: similar)				-0.185 (0.536)
N (decisions)		4,940	4,940	4,524
N (decision-makers)		190	190	174

Notes: Dependent variable: preference of decision-maker. Regression type: logit regression with clustered standard errors on individual level. The models include all variables from Table 4-6 (p. 74). Besides the interactions displayed, the models further include interactions with all screening criteria.

Figure A6-1: Marginal effects – heterogeneity within family firms



Notes: The figures display the estimated marginal effects on the probability of choosing a target (y-axis) for different values of the decision criteria (x-axis) and the interaction variables (see legend). The marginal effects are derived from the multilevel logistic regression models in Table 6-4.

