

# **The informational prerequisites of pricing decisions: Determinants and implications of pricing information acquisition in SMEs**

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## **Declaration**

I hereby declare that the work presented in this thesis is solely carried out by myself at Edinburgh Napier University, except where due acknowledgement is made and that it has not been submitted for any other degree.

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Date: 10<sup>th</sup> May, 2015

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## **Abstract**

Pricing information is an important prerequisite in deciding optimal prices. Firms are advised to gather and analyse pricing-related information to arrive at profitable pricing decisions and to ensure long-term firm survival and success. Nevertheless, managers and researchers tend to overlook the first step in the process of making pricing decisions that focuses on the fundamental question of how firms should collect pricing information to determine pricing strategies and to arrive at profitable and competitive prices for their products and services. This question is especially relevant, but largely overseen in the small and medium-sized enterprise (SME) context. Confronted with the complexities of pricing, many SME managers feel overwhelmed and admit that pricing decisions are frequently guided by gut feelings, as they lack an effective information basis when making such decisions. These shortcomings in SME pricing are particularly critical given the high economic relevance of the SME sector in many European economies. However, the bulk of pricing research tends to overlook investigating the informational prerequisites of pricing decisions. The existing research on pricing information acquisition practices remains inconclusive and is very scant, inhibiting a detailed understanding of the underlying mechanisms.

The main aim of the research is therefore to critically investigate and explore in detail the role of pricing information acquisition in SMEs, and to structure and model the antecedents and consequences of SME pricing information acquisition practices as crucial constituents of market-oriented pricing management. Resting on the positivist research philosophy, the adopted survey design used an online questionnaire that addressed the general management of manufacturing SMEs at the executive level. The questionnaire yielded 173 responses representing a response rate of seven per cent.

The comprehensive statistical analysis determined a positive link between pricing performance and overall firm performance, indicating that superior pricing capabilities are an important lever for firm success in SMEs. Pricing information acquisition practices were found to have a positive impact on pricing performance, showing that informational pricing practices should receive particular attention by SME managers. Despite

the high relevance of pricing information acquisition practices, the overall amount of pricing information acquisition actually conducted by SMEs was found to be low, indicating that SMEs tend to overlook the informational prerequisites of pricing decisions. This thesis developed a novel typology of pricing information acquisition behaviour at the information source level, and, thereby, clarified the dimensionality of this construct. This will enable future research and discussion on the modes of firms' pricing information acquisition practices and help SME managers to implement professional pricing information acquisition practices. Further, the detailed investigation of ten influencing factors identified important internal and external determinants of pricing information acquisition, thereby helping research and practice to understand the key drivers behind this important construct. The innovative theoretical perspective adopted in this thesis may help future researchers studying the informational prerequisites of pricing decision-making by adopting or modifying the developed theoretical framework.

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## List of Abbreviations

cf.	confer
df	degrees of freedom
EBSCO	Elton B. Stephens Company
EC	European Commission
ed.	editor
eds.	editors
e.g.	exempli gratia (for example)
et al.	et alii (and others)
EU	European Union
H	hypothesis
i.e.	id est (that is)
LE	large enterprise
M	mean
n/a	not applicable or not available
n.s.	not significant
<i>p</i>	probability
p.	page
pp.	pages
<i>r</i>	t-test effect size

RBV	Resource-based View
RC	Research challenge
RO	Research objective
RQ	Research question
$r_s$	Spearman's rho
SD	standard deviation
SE	standard error
SME	Small and Medium-sized Enterprises
$t$	test statistic for t-test
U.K.	United Kingdom
U.S.	United States
$\chi^2$	chi-square

## **1 Introduction**

The first step in the process of making pricing decisions is the acquisition of pricing information. This is the foundation of professional pricing in small and medium-sized enterprises (SMEs). Companies are advised to gather and analyse pricing-related information to arrive at profitable decisions regarding one of the most crucial questions a firm must answer, which is how to price its products and services. This doctoral thesis aims to further analyse the role of pricing information acquisition in SMEs and to shed light on its influencing factors and success consequences.

### **1.1 The research question background**

Researchers see pricing as the most effective weapon in the marketing mix (Diller 2008; Siems 2009; Totzek and Alavi 2010; Winer 2005). Pricing is regarded as key driver of a firm's performance and as a crucial factor in earning economic rents (Dutta, Zbaracki, and Bergen 2003; Hofstetter and Miller 2009; Morgan 2012). A growing number of scholars highlight the immediate impact of pricing on profitability (Meehan et al. 2011; Nagle and Hogan 2006; Raju and Zhang 2010; Roll, Pastuch, and Buchwald 2012; Smith 2012b). Consequently, superior pricing decisions are vital to a firm's viability and success. The first step in the process of making pricing decisions is the acquisition and use of pricing information (Homburg and Totzek 2011), which is regarded as the foundation of professional pricing in its organisational context (Docters et al. 2012; Indounas 2009; Ingenbleek 2007; Totzek and Alavi 2010). This is comprehensible given the fact that informational resources play a crucial role in the success or failure of an organisation (Barabba and Zaltman 1995; Hult, Ketchen, JR., and Slater 2005; Morgan, Vorhies, and Mason 2009; Slater and Narver 2000b). Without appropriate information, pricing decisions are likely to be gut-based and haphazard (Meehan et al. 2011). The consequence of such informal pricing practices is that firms will likely extract suboptimal profits from their markets (Ingenbleek et al. 2003; Monroe 2003). In the long-term, ignoring the informational prerequisites of pricing decisions might even jeopardise the firm's existence, because profitability cannot be sustainably ensured.

The question of how firms should collect pricing information to determine pricing strategies and to arrive at profitable and competitive prices for their products is especially relevant and critical but tends to be overlooked by many managers (Roll, Pastuch, and Buchwald 2012). This is even more the case in an SME context, because confronted with the complexities of pricing, many SME managers feel overwhelmed (Banterle, Carraresi, and Cavaliere 2011; Cant 2012; Carson et al. 1998). Prior studies indicate that SME managers admit that pricing decisions are frequently guided by gut feelings, as they lack an effective information basis and sufficient managerial pricing skills when making such decisions (Cant 2012; Carson et al. 1998; Hankinson 1995; Meziou 1994). This deficiency is a significant obstacle in professional pricing practices and profitable pricing decisions in SMEs and a very critical observation against the backdrop of the high importance of the SME sector to the EU (European Union) economy (Palmieri 2007; Spence and Essoussi 2010; Stokes and Wilson 2010; Wymenga et al. 2012). SMEs account for roughly two-thirds of the jobs within the non-financial European business economy and for 59 per cent of the value added from all enterprises (Eurostat 2011). In addition, shortcomings in SME pricing are particularly perilous, because, compared to larger enterprises and multinationals, SMEs are far more vulnerable due to limited resources, a lower labour productivity and a limited impact on the marketplace (Banterle, Carraresi, and Cavaliere 2011; Carson 1993; Eurostat 2011; McCartan-Quinn and Carson 2003; Stokes and Wilson 2010).

### **1.2 Rationale for the research**

The solutions that academic research has provided to alleviate the informational pricing problems faced by firms are extremely scant. The bulk of pricing research tends to overlook the first step of making pricing decisions, which focuses on the fundamental question of how firms should collect pricing information to determine pricing strategies and to arrive at profitable and competitive prices for their products (Özer and Phillips 2012). There is a dearth of conceptual and empirical research on the subject of gathering and processing pricing information.

As the literature review will reveal, pricing research tends to overlook the first step in the pricing process, which deals with the acquisition and use of pricing information. Only a few studies have shed light on the significant question of how firms should collect and use pricing information to make profitable pricing decisions (Avlonitis and Indounas 2006; Indounas 2009; Totzek and Alavi 2010; Tzokas et al. 2000; Wiltinger 1998). Before any information processing can occur, firms must gather the necessary pricing information (Ingenbleek 2007; Wiltinger 1998). Scholars regard firms' information acquisition activities as "the most important step in the information processing model" (Yeoh 2005, p. 165). Ingenbleek (2007, p. 450) states, "At the foundation of value-informed pricing in its organizational context are [...] the information sources that may inform managers about the customer's value perception". However, the sporadic studies on this issue investigate large businesses (Totzek and Alavi 2010; Wiltinger 1998). Additionally, they often focus on export (Tzokas et al. 2000) and service pricing (Avlonitis and Indounas 2006; Indounas 2009), and only study external pricing information (Totzek and Alavi 2010) or rely on small qualitative samples (Wiltinger 1998). The existing literature does not focus explicitly on firms' pricing information practices. Typically, they include only isolated parts of the underlying cause-and-effect relationships (Indounas 2009; Tzokas et al. 2000), which tends to reduce the possibility of a broad and detailed understanding of the underlying influencing mechanisms.

In addition, there is little conceptual and empirical research on the antecedents and consequences of pricing information practices. Specifically, to the best of my knowledge, no quantitative study, which analyses the antecedents of pricing information acquisition in an integrative manner, has been previously conducted. The situation is even more critical for SMEs. This is a significant obstacle to knowledge generation and theory development of the important issue of pricing information acquisition. Although pricing researchers call for identification and analysis of factors causing variation in pricing-related behaviour (Diamantopoulos and Mathews 1995; Ingenbleek 2007; Rao and Kartono 2009; Schuppar 2006), the existing research provides very little guidance in the area of internal resources and capabilities and situational external factors that affect these pricing information practices. Furthermore, as the literature review will reveal

there is a considerable research deficit regarding the performance consequences of pricing information practices. Scholars have investigated the relationship between information acquisition practices and performance in the areas of entrepreneurship (e.g., Keh, Nguyen, and Ng 2007), exporting (e.g., Hart and Tzokas 1999; Yeoh 2000) and environmental scanning (e.g., Brush 1992; Garg, Walters, and Priem 2003); however, there are few studies regarding this relationship in the pricing literature (Indounas 2009; Totzek and Alavi 2010), and this research does not focus on SMEs. Pricing researchers call for more research on the performance implications of pricing practices (Ingenbleek 2007; Schuppar 2006) and even more in the case of SMEs (Kaiser 2011).

The existing research on pricing information practices remains inconclusive and is scant. Therefore, it misses a relevant core problem for pricing practitioners in firms as well as for pricing researchers. This research is designed to close the identified gaps in the literature.

### **1.3 Potential benefits for research and practice**

Given the high practical relevance and the academic shortcomings and research deficits, the underlying thesis makes important contributions to research as well as to practice. With respect to investigating the antecedents and consequences of pricing information acquisition practices in SMEs this thesis makes an innovative contribution to the literature and closes several research gaps. Academically, a first important contribution is that this research provides initial conceptual and empirical investigation of the important, but previously overlooked, first step of the pricing process, which deals with the informational prerequisites of pricing decisions, thus, contributing to the pricing literature focusing on intra-organisational pricing processes. Here, the value of the underlying study centres on identifying and acknowledging pricing information acquisition as a strategic pricing capability and a distinct sub-challenge within pricing management. It develops a novel typology of pricing information acquisition behaviour at the information sources level and, thereby, clarifies the dimensionality of this construct. This will enable future research and discussion on the modes of firms' pricing information acquisition practices.

In addition, this thesis is exceptional in the sense that it integrates and applies a new theoretical perspective of the antecedents and consequences of pricing information acquisition practices. The underlying study integrates findings from the three key management theories Information Economics theory, Resource-based View and Contingency theory. By doing so, it develops a broadened theoretical perspective on informational pricing activities. Based on this innovative theoretical perspective, this research views pricing performance as the key consequence of pricing information acquisition practices, thereby elucidating the significance of informational pricing practices. It also identifies important internal and external influencing factors, which help to explain and understand the key mechanisms behind pricing information acquisition practices.

From a practical perspective, this thesis yields some important new insights, which SME managers may find useful in developing their pricing strategy. The study emphasises the importance of professional pricing practices for firm success, implying that pricing should be deliberately set on the management agenda in SMEs. Further, SME managers should pay more attention to pricing information practices to avoid gut-based pricing practices. The innovative conceptualisation of pricing information acquisition may provide SME managers with directions for an internal discussion about the current use of different types of pricing information and help identifying areas for improvement regarding this important sub-challenge of professional pricing practices in SMEs.

#### **1.4 Scope of the research**

Although a considerable amount of literature has been published about pricing in general, most of the theory and cases are based on LEs and multinationals (e.g., Dutta, Zbaracki, and Bergen 2003; Hinterhuber 2004; Kossmann 2008; Schuppar 2006; Wiltinger 1998). Hills, Hultman, and Miles (2008, p. 100) stated that marketing research “has predominately focused on large, resource-abundant corporate organizations and ignored small, entrepreneurial organizations. This myopic perspective has tended to overlook the resource constraints, capability limits, business objectives, and contexts of more entrepreneurial firms [...]”. Given the distinct characteristics in managerial and organisational structures in SME marketing (McCartan-Quinn and Carson 2003; Stokes

and Wilson 2010), the dearth of research on the subject of SME pricing is critical. As the literature review will reveal, the lack of empirical research is even more apparent in the gathering and processing of pricing information, which is especially relevant but widely overseen in an SME context, creating a significant obstacle in professional pricing practices and profitable pricing decisions in SMEs. Given the increased vulnerability of SMEs and the high economic significance of the SME sector for the EU economy (Stokes and Wilson 2010; Wymenga et al. 2012), and the German economy in particular (German Federal Ministry for Economic Affairs and Energy 2013; Institut für Mittelstandsforschung 2012), the necessity of studying the pricing information acquisition behaviour in German SMEs becomes evident.

In addition, the underlying thesis focuses on the pricing information practices of manufacturing firms. The reason for concentrating on products and not on services is that both are regarded as distinctive objects of study in pricing research (Hoffman, Turley, and Kelley 2002; Indounas 2009). Compared to physical products, services have specific characteristics, such as perishability, heterogeneity, intangibility, and simultaneity (Avlonitis and Indounas 2005; Shoemaker and Mattila 2009). Given the idiosyncratic nature of pricing practices in manufacturing and service firms, researchers recommend investigating product pricing and service pricing with separate approaches (Avlonitis, Indounas, and Gounaris 2005; Kaiser 2011; Shoemaker and Mattila 2009). As the literature review will reveal, product pricing has not been given the necessary attention in the context of the specific issue of pricing information processing. Against the background of this lack of attention and given financial resource constraints in conducting the empirical study, it was decided to focus on the pricing information practices of manufacturing firms.

### **1.5 Aims and objectives**

Given the high relevance of the addressed research question, the primary aims of this thesis are to critically investigate and explore in detail the role of pricing information acquisition in SMEs, and to structure and model the antecedents and consequences of SMEs' pricing information acquisition practices as crucial constituents of market-

oriented pricing management. In this context, the following objectives will be addressed:

1. This research aims to introduce the construct pricing information acquisition into the SME pricing literature and to contribute to theory building regarding this issue. Relevant antecedent factors and the performance consequences will be conceptualised to understand in detail the pricing information practices of SMEs.
2. This research endeavours to explore empirically the level of pricing information acquisition in SMEs. This will give initial insights into how pricing information acquisition is carried out by SME practitioners.
3. This research seeks to investigate the influence of selected internal contextual determinants on firms' pricing information acquisition.
4. This study intends to study the influence of external situational determinants on SME pricing information acquisition practices.
5. This study looks at the relationship between a firm's pricing information acquisition and the success of the SME in order to shed light on the performance impact of the main construct.

## **1.6 Research questions**

The main research question investigates the determinants and the implications of pricing information acquisition in SMEs, i.e., the informational prerequisites of pricing decisions.

The following five research questions will be investigated:

1. How should the pricing information acquisition practices and their antecedents and consequences be conceptualised in an SME context?
2. What is the current status quo of pricing information acquisition in SMEs?
3. Which internal factors drive the pricing information acquisition practices in SMEs?

4. Which external situational factors drive the pricing information acquisition practices in SMEs?
5. What is the success impact of SME pricing information acquisition practices?

### **1.7 Research philosophy and methods**

This research upholds a positivist research philosophy, since this theoretical position enables a very high level of objectivity and certainty for scientific knowledge generation (Crotty 2009). Based on key management theories, this study will develop hypotheses that consist of several discrete variables. The developed theoretical framework will be tested based on careful empirical observation by means of a cross-sectional, non-experimental survey design using an online questionnaire. Rigorous scale development procedures and the refinement of the scales by means of two pilot studies ensured the generation of a valid and reliable research instrument.

Given the described scope of this study, German manufacturing SMEs were specified as the target population. The upper threshold of the EU SME definition was used to exclude large firms from the target population. As indicated in the research objectives, this research investigates the acquisition of information for pricing decisions. Consequently, managers responsible for pricing decisions were selected as the sampling element for the underlying study. Specifically, the questionnaire addressed the general management of German manufacturing SMEs at the executive level, because these target persons are responsible for pricing decisions and the firms' success measures.

The employment of the online questionnaire by means of simple random sampling yielded 220 questionnaires, reflecting a preliminary response rate of 9 per cent. The systematic data cleaning procedure ensured a high data quality and led to a final sample of 173 questionnaires, representing a response rate of 7 per cent.

### **1.8 Structure of the thesis**

This thesis consists of six chapters. Chapter 1 provides the background of the underlying research and discusses in detail the rationale for the study. It justifies this research

effort by highlighting several benefits and potential contributions and delimits the scope of the thesis. Subsequently, it presents the main aim and objectives of the research and identifies the investigated research questions. In addition, Chapter 1 outlines this study's methodological approach. The chapter concludes with an overview of the structure of the research.

Chapter 2 presents a comprehensive review of the pertinent literature. The review builds the theoretical foundations for the development of the research model. Since the study focuses on pricing in SMEs, Chapter 2 commences with a structural overview of the pertinent pricing literature. In addition, it analyses in detail the relevant characteristics and facets of the SME sector. It continues by considering the selected key management theories applied. It also presents an extensive review of conceptual and empirical literature on pricing information practices and its antecedents and consequences. Chapter 2 concludes with a synthesis that identifies the research gap by highlighting several research challenges and deduces the research questions addressed in the underlying thesis.

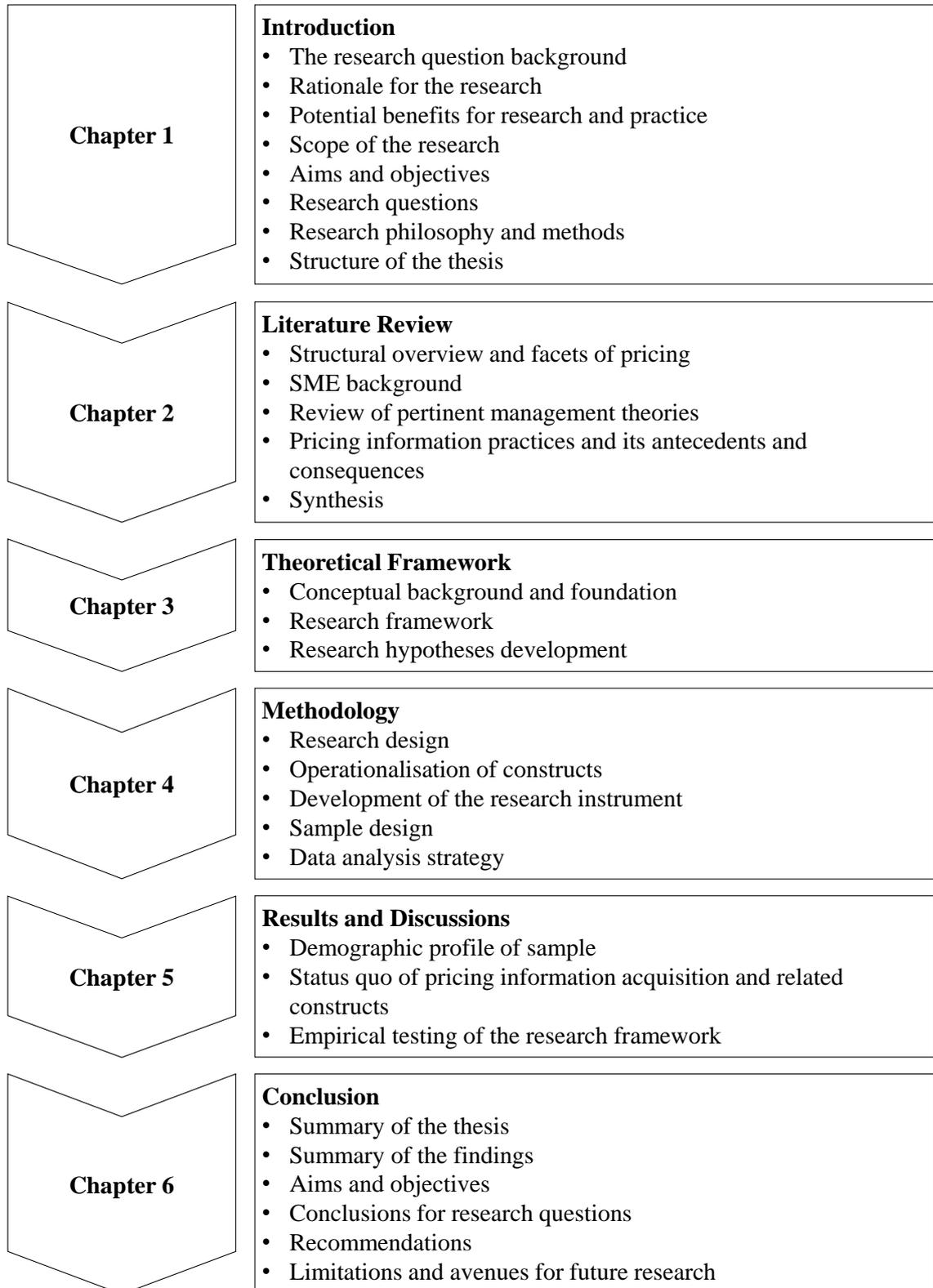
Chapter 3 provides the conceptual background and foundation. It includes a detailed discussion of the key model variables including the theories from which the variables were deduced. All selected variables are presented in the research model. This is followed by the hypotheses development regarding the relationships between the selected variables. Chapter 3 concludes with a summary of the research hypotheses investigated in this thesis.

Chapter 4 discusses in detail the methodological foundations of the underlying research effort. Specifically, it justifies the selection of the cross-sectional survey design and develops the empirical measures and scales for the variables investigated in the study. It also elaborates on the process of developing the online survey instrument used for data collection and outlines the sample design by specifying the target population, the sampling procedure and by giving an overview of the data collection procedure. Finally, Chapter 4 covers the adopted data analysis strategy.

Chapter 5 presents the empirical results of the research. It commences with a description of the key characteristics of the collected survey data. It continues by providing the results as well as a discussion of a comprehensive analysis covering all variables investigated in this research. The chapter also comprises the empirical testing of the theoretical model. This involves the presentation of the statistical results of the hypotheses testing and a detailed interpretation and discussion of the findings.

Chapter 6 concludes the study with a summary of the thesis and its findings. Subsequently, the achievement of its aims and objectives is highlighted and the research questions are answered. In addition, the chapter presents this thesis' contribution to the existing knowledge in terms of its research implications as well as its recommendations for practitioners. Finally, it describes certain limitations, which provide useful direction for future research. Figure 1.1 presents a summary of the structure of this thesis.

**Figure 1.1: Structure of the thesis**



## **2 Literature Review**

### **2.1 Introduction**

Chapter 2 presents an in-depth discussion of the pertinent literature as well as the justification for the research questions. The remainder of the literature review is organised as follows. The literature review commences with a structural overview of pricing, which concludes with a discussion of the relevance of information problems in the context of professional pricing. Since SMEs are the context of this study, the literature review provides an analysis of this sector and sheds light on the current state of SME pricing research. Subsequently, it considers key management theories that build the theoretical fundament of this research. Based on these findings, this chapter provides an in-depth analysis and discussion of the pertinent literature on pricing information practices including the antecedents and consequences. This analysis comprises conceptual contributions as well as empirical studies. Finally, based on the extensive discussion of the literature, this chapter identifies the key challenges of the current body of research. These research challenges lead to the development of the theoretical framework.

### **2.2 Structural overview and facets of pricing**

#### **2.2.1 Definition of pricing**

In the literature, there seems to be a common denominator for using the terms *pricing* or *pricing policy* for the practices associated with the management of firms' selling prices (e.g., Calantone and Di Benedetto 2007; Chatterjee 2009; Cui, Raju, and Zhang 2008; Diller 2008; Homburg, Jensen, and Hahn 2012; Indounas 2009; Ingenbleek 2014; Monroe 2003; Raju and Zhang 2010; Smith 2012a). Managerial practitioners tend to favour the terms *price management* or *pricing management* for the tasks related to a firm's price-setting practices (Meehan et al. 2011; Roll, Pastuch, and Buchwald 2012; Schuppar 2006). This study will use the terms *pricing*, *pricing policy*, *price management* and *pricing management* interchangeably.

Although there are many different definitions of what actually constitutes pricing (Siems 2009), most definitions arrive at the shared understanding that pricing consists of strategic and operative decisions regarding prices and price-benefit relations and activities carried out to determine firms' prices and implement them in the market (Kaiser 2011; Schuppar 2006). Based on the works of Diller (2008), Kossmann (2008), Schuppar (2006) and Siems (2009), the following definition has been derived and adopted for the purposes of this research:

*Pricing is a management task that encompasses all strategic and operative decisions regarding price-benefit relations of products and/or services, as well as all activities related to the goal-oriented determination of selling prices and the price implementation on the market.*

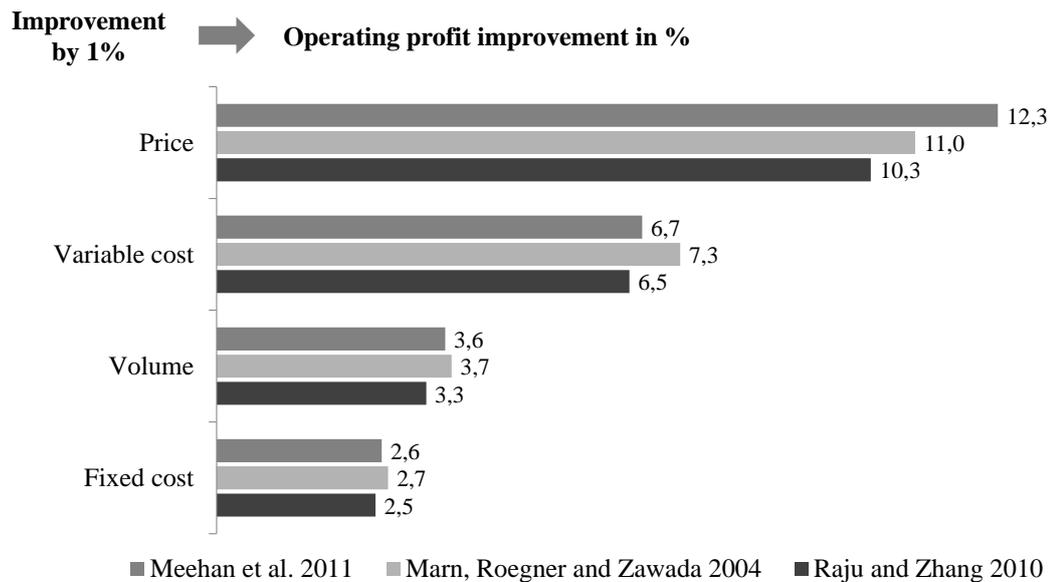
### **2.2.2 Pricing and firm success**

Many researchers highlight the importance of pricing and regard it as a crucial element for firm success. Researchers see pricing as the most effective weapon in the marketing mix (Diller 2008; Totzek and Alavi 2010; Winer 2005). One reason for this is that pricing is the only element of the marketing mix that directly generates turnover (Diamantopoulos and Mathews 1995; Indounas 2009). By contrast, "(a)ll the other variables in the marketing mix generate costs: advertising and promotion, product development, selling effort, distribution, packaging—all involve expenditures" (Monroe 2003, p. 8). Consequently, researchers view it as "one of the key marketing tasks that drive a firm's performance" (Hofstetter and Miller 2009, p. 5) and as a key capability in earning economic rents (Dutta, Zbaracki, and Bergen 2003; Morgan 2012). A growing number of scholars report a significant and immediate impact of pricing on profitability (Cram 2006; Homburg, Jensen, and Schuppar 2005; Marn and Rosiello 1992; Nagle and Hogan 2006; Raju and Zhang 2010; Roll and Achterberg 2010; Wübker 2004).

Pricing is regarded as the most important lever in optimising a firm's turnover and profits (Roll, Pastuch, and Buchwald 2012). As Figure 2.1 shows, studies have compared the impact of the four available profit levers, namely, price, volume, variable costs and

fixed costs (Marn, Roegner, and Zawada 2004; Meehan et al. 2011; Raju and Zhang 2010), and the results of the studies indicate that price is the most effective lever in increasing performance.

**Figure 2.1: Impact of different profit levers on firm performance**



Source: Marn, Roegner, and Zawada 2004, p. 5; Meehan et al. 2011, p. 2; Raju and Zhang 2010, p. 14

Relative to price, changes in costs and volume have a much smaller effect on operating profits in all four cases. The result of a one per cent increase in price, assuming no loss of volume, increases operating profit by 10.3 to 12.3 per cent on average. A one per cent decline in variable cost results in only a 6.5 to 7.3 per cent increase in operating profit. In addition, the relevance of pricing as a profit lever increases even more, since the use of cost and volume as a profit lever has become increasingly difficult because many companies have already pushed them extensively in recent years (Marn, Roegner, and Zawada 2004). Improvements in price typically have three to four times the effect on profitability as proportionate increases of volume (Marn, Roegner, and Zawada 2004; Marn and Rosiello 1992).

In addition, researchers have demonstrated the great impact of pricing on profitability based on an analysis of annual data published by large companies (Mohammed 2010; Roll, Pastuch, and Buchwald 2012). Mohammed (2010) presents the effects of a one per cent price increase, assuming constant demand, on selected Fortune 500 companies. The calculations reveal that a one per cent price increase has a major impact on a firm's profitability. In the case of Wal-Mart, for instance, this increase would lead to a profit growth of 18 per cent, and in the case of Amazon, it would lead to a 23 per cent profit increase (Mohammed 2010).<sup>1</sup> Similarly, Roll, Pastuch, and Buchwald (2012) have analysed annual data of selected firms contained in the German stock index and corroborate Mohammed's (2010) findings. A one per cent increase in price led to a 13 per cent increase in return on sales in the case of Adidas and a 20 per cent increase in return on sales in the case of Deutsche Lufthansa (Roll, Pastuch, and Buchwald 2012). Thus, it becomes obvious that pricing management is a very strong and rapid force if a firm wants to increase its profits and ensure long-term company success. At the same time, the prior argument also makes it clear that systematic mistakes in price setting can lead to equally high profit losses. This implies potential severe negative implications for long-term firm survival. This notion is even more critical for SMEs, which are characterised by resource constraints and limited power and are therefore even more vulnerable than their larger counterparts (Carson 1993; McCartan-Quinn and Carson 2003; Stokes and Wilson 2010). Summarising, this section has shown that superior pricing decisions are vital to a firm's viability and success (Dallemlule and Kuester 2007; Roll, Pastuch, and Buchwald 2012; Siems 2009).

### **2.2.3 Structural approaches to pricing**

The purpose of this section is to give a structural overview of approaches to pricing in order to clarify what constitutes this management task. By doing this, this section will provide a more detailed understanding of which decision areas and activities are relevant to the pricing function. There are two broad groups to structure prior contributions

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<sup>1</sup> Calculations based on 2008 annual data of Wal-Mart and Amazon.

to pricing. The first literature stream is the implementation-oriented perspective, and the second is the sequential process-oriented perspective to pricing.

Studies that fall into the *implementation-oriented* literature stream conceptualise pricing by differentiating its components into different layers (Schuppar 2006) and originate in the normative tradition of the pricing literature (Ingenbleek and van der Lans 2013). For example, Nagle and Hogan (2006) presented a conceptual framework consisting of the five layers of value creation, price structure, price and value communication, pricing policy and price level. Empirical studies in this stream typically focus on the strategy layer of pricing and investigate the determinants of different pricing strategies (Forman and Lancioni 2002; Noble and Gruca 1999; Rao and Kartono 2009; Tellis 1986). For instance, Rao and Kartono (2009) study the relationship among firms' pricing strategy choices, pricing objectives and selected strategy determinants on the basis of a survey of 199 firms in the U.S., Singapore and India. Studies of this type show the importance of studying the relationships between firms' pricing strategies and the related influencing determinants to understand how managers make decisions. However, the implementation-oriented perspective tends to ignore the sequential logic of pricing practices in firms (Dutta, Zbaracki, and Bergen 2003). It tends to focus on single layers of pricing management, leaving largely unanswered the question of how firms should develop effective processes across the different layers of pricing management and how firms should gather and process the information needed to make strategic pricing decisions (Ingenbleek and van der Lans 2013; Schuppar 2006; Wiltinger 1998).

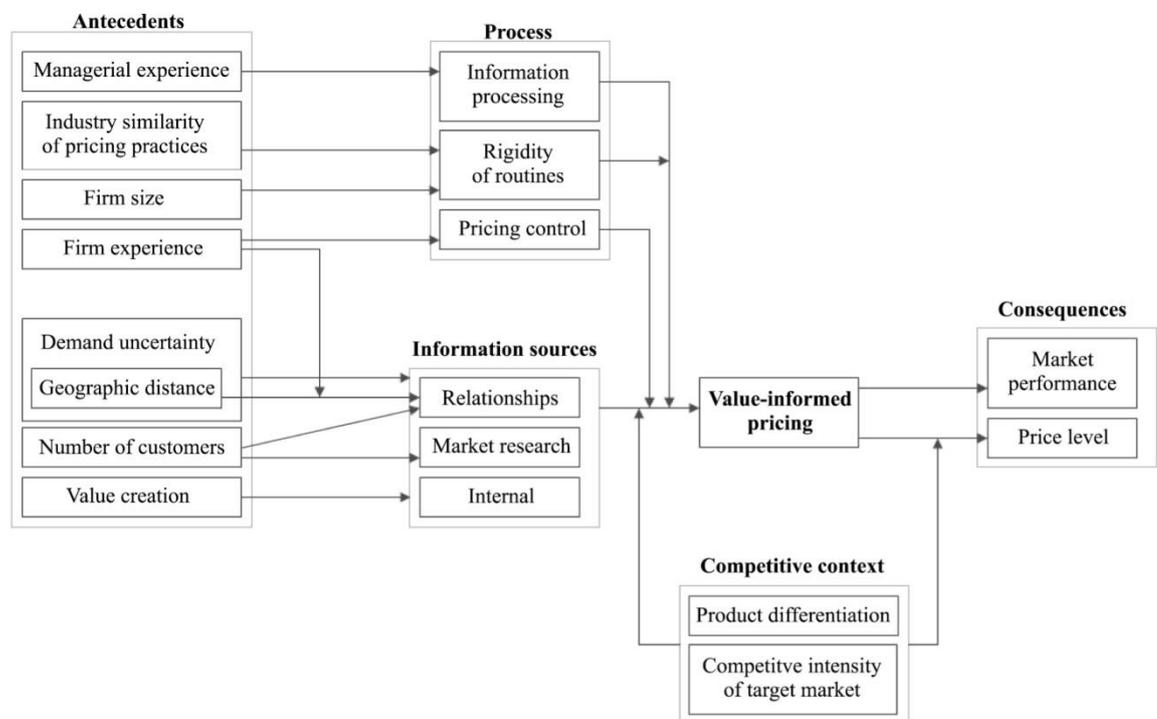
Recent research has pointed out the relevance of studying pricing from a sequential *process-oriented* perspective (Fassnacht 2009; Ingenbleek and van der Lans 2013; Kossmann 2008; Liozu and Hinterhuber 2013; Schuppar 2006; Totzek and Alavi 2010). More specifically, literature drawing on the process perspective highlights the importance of considering pricing issues in a logical sequence of decisions (Dutta, Zbaracki, and Bergen 2003; Ingenbleek 2007; Roll, Pastuch, and Buchwald 2012; Simon 2004). The process-oriented literature stream acknowledges that pricing is more difficult and complicated for managerial practitioners than suggested by the normative

pricing models of the implementation-oriented perspective (Ingenbleek and van der Lans 2013). Therefore, the process-oriented literature focuses on studying the complex pricing practices that take place within the boundaries of the firm and, hence, may not be directly visible in the market (Ingenbleek and van der Lans 2013).

In the Figures 2.2 and 2.3 below, two conceptual pricing frameworks are presented. These frameworks have been selected out of all the frameworks used in pricing strategy in SMEs, because they are the most relevant to this study’s research question.

The aforementioned complexity of organisational pricing practices highlighted by the process-oriented perspective on pricing is illustrated by the conceptual pricing framework of Ingenbleek (2007), which is shown in Figure 2.2. Ingenbleek’s (2007) conceptual framework is presented here, because it is, to the best of my knowledge, the result of the most recent integrative review of empirical literature on pricing practices published in the pertinent literature.

**Figure 2.2: Ingenbleek’s conceptual pricing framework**

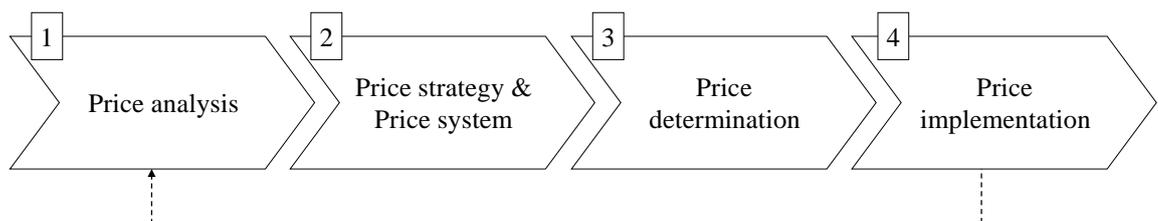


Source: Ingenbleek 2007, p. 451

Ingenbleek’s (2007) conceptual framework suggests that effective pricing practices might be the outcome of a firm’s competences related to the acquisition of pricing information resources and the associated pricing information deployment processes in the context of price determination. The acquisition and use of pricing information are considered important prerequisites to effective pricing, or as Ingenbleek (2007, p. 441) states, value pricing “is the result of the deployment of informational resources such as market research, relationships and internal knowledge on customers. Firms should not only develop these information sources, but also secure the process by which they are deployed”. He further states, “the foundation of value-informed pricing in its organizational context are [...] the information sources that may inform managers about the customer’s value perception” (Ingenbleek 2007, p. 450). Considering that pricing information plays such a crucial role in effective pricing decisions, more research focus and additional studies on this issue are recommended (Ingenbleek 2007).

Another conceptual work relevant to the underlying study is the one by Homburg and Totzek (2011). It is presented in Figure 2.3, because it is a recent work, which exemplifies the sequential process-oriented view on pricing (Kossmann 2008; Schuppar 2006; Shipley and Jobber 2001; Simon 2004; Wiltinger 1998; Wübker 2004).

**Figure 2.3: Homburg and Totzek’s sequential pricing framework**



Source: Adapted from Homburg and Totzek 2011, p. 21

Based on Homburg and Totzek (2011), the following four process steps can be distinguished: First, the process step price analysis comprises the acquisition and preparation of internal and external information, which provide the necessary information to enable pricing decision making. The second step of the process focuses on the formulation of an integrative pricing strategy. Amongst other features, it can incorporate strategic deci-

sions about pricing objectives, price-quality positioning and competitive strategy. Third, the process step price determination involves more operative tasks. For instance, one major task is the determination of list prices of products and services. In this context, a broad range of different methods is discussed in the literature (cf. Hofstetter and Miller 2009; Sattler and Nitschke 2003; Völckner 2006 for an overview). Fourth, the process step of price implementation involves activities dealing with the extraction of intended prices from the markets. The authors agree with Ingenbleek's (2007) work in that they view price analysis or, in other words, pricing information sources and their processing, as a crucial prerequisite of strategic and operative pricing decision making. Studying the informational prerequisites of pricing decisions, therefore, is a promising area for further studies.

#### **2.2.4 Definition of pricing information**

Given the high relevance of the issue of pricing information practices and the research focus of the underlying thesis, it becomes necessary to clearly define the term.

In the literature, a multitude of perspectives on the term *information* exists (cf. Machlup and Mansfield 1983 for an overview). The reason for this is that information is an important construct in many different scientific disciplines (e.g., mathematic and natural sciences, economic and social sciences, engineering sciences) (Wiltinger 1998). From the broad perspective of science, there is no common denominator for what exactly constitutes information (Glazer 1991). Therefore, this research looks at the term only from the perspective of business management research. From this perspective, Wittmann (1959) has introduced a definition. Wittmann (1959, p. 14) states that "(i)nformation is purpose-oriented knowledge".<sup>2</sup>

This definition yields important drawbacks and insights for the present research. First, the definition suggests a close relationship between the terms *information* and *knowledge*. This understanding is shared and corroborated by the seminal article of

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<sup>2</sup> This is a direct translation of the German definition "*Information ist zweckorientiertes Wissen*" (Wittmann 1959, p. 14).

Glazer (1991) that deals with the impact of information on marketing. Following Wittmann (1959) and Glazer (1991) the present research uses the terms *information* and *knowledge* interchangeably. Information gathering and processing is closely related to the learning process of an organisation and its members. Analysis and synthesis of information occurs over time during information processing and so does learning and knowledge building (Bierly, Kessler, and Christensen 2000). Second, the purpose-orientation suggested in Wittmann's (1959) definition points toward close links between information and decision making. In firms, information is gathered and accumulated to guide and enable decision making (Adam 1997; Hult 2011).<sup>3</sup> Consequently, in the present study, pricing information is defined as follows:

*Pricing information is purpose-oriented knowledge generated for pricing decisions in the different steps of the pricing process.*

This definition is based on Wittmann (1959) and acknowledges Wiltinger's (1998) considerations and applications to the pricing context. However, it departs from existing definitions in that it explicitly adds the pricing component. By doing this, the definition is narrowed down to the specific context of pricing decisions that take place in the different steps of the pricing process.

### **2.2.5 Relevance and impact of pricing information**

The purpose of this section is to shed a more differentiated light on the question of why pricing information has a major significance in pricing success. The price analysis, in terms of the acquisition and preparation of internal and external pricing information, has been identified as a crucial component of pricing.

There seems to be a consensus that information plays a crucial role in successful business practices among marketing (Barabba and Zaltman 1995; Daft and Weick 1984; Glazer 1991; Kotler et al. 2011; Slater and Narver 2000b; Turner 1991) and SME schol-

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<sup>3</sup> This notion is investigated and discussed in detail in Section 2.4.1. Information Economics theory studies how information influences economic decision making in firms (Hult 2011).

ars (Carson et al. 2002). Specifically, various pricing textbooks highlight the principal importance of information for pricing practices (Docters et al. 2012; Düssel 2005; Hinterhuber 2008b; Meehan et al. 2011; Monroe 2003; Roll, Pastuch, and Buchwald 2012). Information is a powerful lever in successful business decisions and pricing decisions respectively (Totzek and Alavi 2010; Wiltinger 1998).

Information is regarded as an important firm resource and a crucial strategic asset for pricing (Barney 1991; Dutta, Zbaracki, and Bergen 2003). The reason for this is that information is the fundamental basis for determining what Monroe (2003) describes as *pricing discretion*. It is comprised of a price ceiling that reflects customer's perceived value (maximum price) and a price floor that mirrors the cost (minimum price) (Monroe 2003). Competitive factors reduce the price ceiling, and internal corporate objectives or regulatory constraints raise the price floor (Monroe 2003). The result is the final pricing discretion that can be understood in terms of an optimal price or price range. Monroe (2003, p. 12) suggests "management should analyse the effect of proposed prices on demand, costs, competition, and the other elements of marketing strategy before determining a new pricing strategy". Analysis without an appropriate informational fundament is very difficult. Consequently, information on customers (price ceiling), internal context (price floor) and competitors (adjustment of price ceiling) is a prerequisite in deciding the optimal price range of a product or service because it unveils the final price discretion.

If adequate information is available, optimal price setting becomes more likely (Roach 2011; Roll, Pastuch, and Buchwald 2012; Totzek and Alavi 2010; Wiltinger 1998). As a result, the price lever can unfold its high potential to a greater extent. Conversely, structural lacks of information can be a major barrier to optimal price setting. If firms fail to render an adequate information basis, it becomes increasingly difficult to make optimal pricing decisions in light of the highly dynamic environment caused by an intensified global competition, shortened product life cycles, increasingly saturated markets, reduced brand loyalty and increasing professionalism of purchasing managers (Homburg, Kuester, and Krohmer 2013; Nagle and Hogan 2006; Roll, Pastuch, and Buchwald

2012; Zanger 2006). Firms must gather information to cope with today's fast-moving environmental shifts, or in Daft and Weick's (1984, p. 286) words: "Managers literally must wade into the ocean of events that surround the organization and actively try to make sense of them". It is likely that gathering and processing pricing information decreases uncertainty, decision ambiguity and gut-based pricing decision behaviour (Carson et al. 2002, p. 203). Especially SMEs have been criticised for this type of pricing decision making (Carson et al. 1998; Greenbank 1999; Hankinson 1995; Meziou 1994; Skinner 1970).

To sum up, it is apparent that pricing information plays a crucial role in the success or failure of a firm's pricing. Consequently, there is a need to understand in detail firms' pricing information practices and the underlying mechanisms. These practices are a key challenge of pricing.

## **2.3 SME background**

### **2.3.1 Definitions of Small and Medium-sized Enterprises**

Since the SME sector is the context of this study, it is necessary to define the term. Giving a clear and precise definition of what constitutes an SME can be difficult (Kenny and Dyson 1989; Stokes and Wilson 2006). In the literature, a broad variety of definitions and opinions exist as to which companies must be counted in the SME sector (Blankson and Stokes 2002; Carson and Cromie 1990; Günterberg and Kayser 2004; Ibrahim and Goodwin 1986; Karlsson and Åhlström 1997; Katz and Green 2011; Scarborough, Wilson, and Zimmerer 2009; Storey and Greene 2010; Wolter and Hauser 2001). The criteria used to define an SME can be classified into a qualitative (theoretical) group and a quantitative (operational) group (Günterberg and Kayser 2004; Henschel 2010a; McCartan-Quinn and Carson 2003; Pfohl 2006; Stokes and Wilson 2006; Wolter and Hauser 2001).

Qualitative definitions try to consider SMEs' special characteristics within the company structure. Important qualitative definitions are the ones by Bolton (1971), Wynarczyk et

al. (1993) and McCartan-Quinn and Carson (2003). The influential Bolton Report (Bolton 1971), for instance, proposes that an SME has three characteristics:<sup>4</sup> First, an SME is managed by its owner(s) in a personalised way. Second, an SME must be legally independent in the sense that the management is free from outside control in its decisions. Third, an SME must have a relatively small share of the marketplace. However, qualitative definitions like the one by Bolton (1971) can be criticised for their lack of explicitness and definitive differentiation from large enterprises (LE). To take a case in point, a small market share is not always characteristic of SMEs and independence is relatively difficult to measure (Stokes and Wilson 2006).

Given these drawbacks of qualitative SME definitions, this research will adopt a quantitative SME definition. Quantitative definitions overcome the limitations of qualitative definitions by considering clear thresholds. Although generalised inter-sector comparisons using size classifications are difficult in some cases,<sup>5</sup> quantitative definitions are considered, on the whole, to be easy to apply, to objectify and to enable statistical analysis (Stokes and Wilson 2006). Quantitative definitions focus primarily on criteria such as size, headcount, turnover and balance sheet value (Ibrahim and Goodwin 1986). Regarding these criteria, several institutions have established quantitative definitions (European Commission 2005; Great Britain Houses of Parliament 2008; Günterberg and Kayser 2004; US Small Business Administration 2011). The definition of the European Commission (EC) is particularly viable in the context of this study because it has the advantage of greater cross-national comparability (European Commission 2009). Furthermore, it is frequently used in SME research and facilitates improved comparability of research results (e.g., Brem, Kreusel, and Neusser 2008; Henschel 2010b; Krake 2005; Palmieri 2007). Therefore, this thesis will adopt the quantitative SME definition as established by the EU. The quantitative EU SME definition uses the following

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<sup>4</sup> Also cf. Storey and Greene (2010) and Stokes and Wilson (2006).

<sup>5</sup> For instance, Stokes and Wilson (2006) mention an example of 49 employees constituting a small manufacturer but the same number of employees would likely be considered a medium-sized consultancy or retailer.

thresholds to delimit SMEs from LEs and to classify SMEs into micro firms, small firms and medium-sized firms.

**Table 2.1: Definitions and categories of SMEs by the European Union**

<b>Enterprise category</b>	<b>Number of employees</b>	<b>Annual turnover (million Euros)</b>	<b>Annual balance sheet total (million Euros)</b>
Micro firm	< 10	≤ 2	≤ 2
Small firm	< 50	≤ 10	≤ 10
Medium-sized firm	< 250	≤ 50	≤ 43

Source: European Commission 2005, p. 14; Günterberg 2012, p. 175; Stokes and Wilson 2010, p. 4

With regard to the three criteria, a firm must respect three conditions. First, the staff headcount must fulfil the respective thresholds given in Table 2.1. Second, an SME must meet either the turnover or the balance sheet ceiling (European Commission 2005). Furthermore, a legal independence criterion must be fulfilled; in other words, the SME must be autonomous. The legal independence criterion is met if a firm holds less than a 25 per cent share in another firm and/or another firm holds less than a 25 per cent share in the considered firm (European Commission 2005).

### **2.3.2 Economic relevance of the SME manufacturing sector**

Various researchers agree that the importance of the SME contribution to the EU economy is particularly substantial (Day 2000; Hamer 2006; Krake 2005; Palmieri 2007; Spence and Essoussi 2010; Stokes and Wilson 2010; Storey 2002; Williams 2003). SMEs are regarded as “the backbone of the European economy” (Wymenga et al. 2012, p. 9). In a German context, SMEs are described as the “(e)ngine of the German economy” (German Federal Ministry for Economic Affairs and Energy 2013, p. 1).

Perhaps the most important reason for their significance is the SME sector’s contribution to employment. In 2008, 20.9 million SMEs provided 90.6 million jobs in the EU and accounted for roughly two-thirds of the jobs within the non-financial European business economy (Eurostat 2011; Wymenga et al. 2012). Distributive trades (23.3 mil-

lion jobs), manufacturing (19.5 million jobs) and construction (13.2 million jobs) were the three most important European SME industry sectors (Eurostat 2011). According to the German Institute for SME Research (Institut für Mittelstandsforschung, IfM), German SMEs provided 14.1 million jobs in 2010 and accounted for 54.7 per cent of total employment, which illustrates the major role of the SME sector for the German economy (Institut für Mittelstandsforschung 2012).

A further reason for the importance of the SME sector arises from a high level of value added<sup>6</sup>. In 2008, non-financial EU SME businesses generated € 3619 thousand millions of value added (Eurostat 2011). Although this figure can be considered as very substantial, the relative contribution of the SME sector to the added value of all enterprises was 58 per cent and lower than their contribution to employment with 67 per cent (Wymenga et al. 2012). In sum, large corporations accounted for higher labour productivity ratios than their smaller counterparts (Eurostat 2011). This was particularly prevalent in the manufacturing sector and can be explained with the SMEs specific characteristics, such as a lower level of capital intensity, lower innovation rates and an inability to take advantage of economies of scale (Eurostat 2011). Indeed, business churn rates of around 10 per cent in typical developed economies under normal economic conditions underline the vulnerability of entrepreneurial firms (Stokes and Wilson 2010). The aforementioned issues are critical since “manufacturing productivity is the motor driving EU wealth creation” (European Commission 2010, p. 2). The inherent disadvantages and the lower labour productivity tend to make SMEs more vulnerable than large firms. SMEs tend to be particularly exposed and at risk compared to LEs (Mole et al. 2004). Given these disadvantages and the significance for employment and economic growth, manufacturing SMEs are an especially important subject.

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<sup>6</sup> The EU calculates the value added at factor cost “from turnover, plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services” (Eurostat 2011, p. 115).

### 2.3.3 The distinctive nature of SMEs

Empirical research on SME marketing shows that SMEs adopt a distinctive approach to marketing and pricing, respectively, as an integral part of the marketing mix (Carson 1990; Forman and Lancioni 2002; Gilmore, Carson, and Grant 2001; McCartan-Quinn and Carson 2003; Stokes and Wilson 2010). In prior SME research, distinctive characteristics have been identified as key differences between LEs and SMEs (Garengo, Biazzo, and Bititci 2005; McCartan-Quinn and Carson 2003; Pfohl 2006; Stokes and Wilson 2010). The following characteristics, which distinguish SMEs from LEs, are based on the work of Carson (1993) and Stokes and Wilson (2010), but have been adapted for purposes of this research.

*Limited resources* in the form of financial, human, material and informational resource constraints in SMEs contribute to limited marketing activity (Stokes and Wilson 2010). Compared to large multinationals, SMEs' marketing budgets, market intelligence and information management systems are considerably behind (Gilmore, Carson, and Grant 2001; Li 1997; Wood 2001).

*A highly personalised management style* is an important difference between SMEs and LEs (Jennings and Beaver 1997; Stokes 2000). In SMEs, pricing is largely dependent on the owner/manager's attitude, management style and managerial skills (McCarthy 2003). In LEs, persons in charge of pricing are often professional managers with highly specialised business or marketing expertise who serve on the board for shorter periods of time. In contrast, the SME owner/manager is typically a generalist who has founded the business and hence manages the SME over a considerably longer period (Carson 1993).

The *lack of specialist expertise* is another important characteristic. For SMEs, especially in the early growth stages, it is extremely difficult to acquire marketing and pricing expertise by hiring a pricing expert due to the limited scope and scale of operations (Carson 1993). Therefore, the pricing activity of an SME relies frequently on the own-

er/manager, who often has a production-oriented or craftsman background with limited or no specialist marketing and pricing expertise (Fuller 1994; Hankinson 1995).

More so than their larger counterparts, SMEs are in an *evolutionary process* (O'Farrell and Hitchens 1988). The development of a small micro-firm with 500,000 € annual turnover into a medium-sized firm with 45 million € annual turnover leads to a much more dynamic growth process, incorporating strong shifts and changes regarding management style, organisational structure and the development of formal systems (Churchill and Lewis 1983).

Compared to LEs, the *limited impact on the marketplace* is a consequence of SMEs' fewer orders, fewer customers, fewer employees and adverse cost structures (Banterle, Carraresi, and Cavaliere 2011; Carson 1993; Forman and Lancioni 2002). As a result, SMEs have limited pricing power in a given competitive setting and industry due to their limited scale and scope of operations (Gilmore, Carson, and Grant 2001).

The influence of the pertinent SME literature dealing with the distinctive characteristics of SMEs for the research objectives pursued in this study is twofold. First, the aforementioned literature analysis yields that there are various and considerable differences between the pricing in SMEs on the one hand and LEs and multinationals on the other. It can be inferred that these differences also apply to the pricing sub-capability of pricing information-gathering activities. The specific pricing information behaviour of SMEs is a distinctive research issue and must be investigated separately. The significant differences between SMEs and large corporations are perhaps the most important reason to make SMEs the subject of investigation in the present study. This calls for a unique study of the pricing information behaviour focusing on SMEs if the available body of literature focusing on SME pricing yields insufficient applicable insights and explanations as to how SMEs should approach the topic of pricing information processing. In this context, it will be shown in the next section that prior research largely ignores the issue of pricing in SMEs in general and, more specifically, the solutions that academic research has provided to alleviate the important issue of pricing information in SMEs are scant and fragmented.

Second, the previous discussion sheds light on SME-specific factors possibly influencing the pricing information behaviour in this type of firms. It contributes to answering the question of which SMEs might engage in pricing information behaviour and why. This research does not aim to compare SMEs' information behaviour to LEs' information behaviour, but to understand which determinants might influence the pricing information behaviour within the homogenous group of SMEs. Specifically, the SME literature discussed in this section identifies management attributes as one distinctive group of potential influencing factors. SMEs have a highly specialised management style and lack specialist expertise. Furthermore, the organisational characteristics and resources in terms of resource constraints and the scale and scope of operations can be inferred as factors possibly explaining the pricing behaviour of SMEs. Finally, external market factors might have a considerable effect on the information behaviour of SMEs because SMEs have a limited impact on the marketplace. External risks caused by dynamic markets, limited power and complex markets could influence the information behaviour in SMEs.

### **2.3.4 Review of pricing research in an SME context**

Given the distinctive characteristics of SMEs as compared to LEs, the purpose of this section is to investigate in detail the pricing literature with an SME focus. An extensive search of scientific databases (e.g., ABI INFORM Complete/ProQuest, Business Source Complete/EBSCO) was carried out and the literature dealing with SME pricing is summarised in the following Table 2.2.

**Table 2.2: Summary of prior empirical studies on pricing practices in SMEs**

Author(s) Year	Coun- try of study	Sam- ple size	Industrial sector	Firm size	Data collec- tion method	Focus of the study	Relevant findings
Haynes 1964	U.S.	88	Multiple manufac- turing, service	<500 employ- ees	Qualita- tive in- terviews	Cost-plus pricing strate- gy	Many firms use a cost-based approach to pricing, using flexible mark-ups. Managers set prices by means of a complex pattern of unsystematic experimentation, considerable inertia, imitation of competitive pricing behaviour and the tailoring of mark-ups to demand. Managers tend to stress full costs rather than demand considerations.
Skinner 1970	U.K.	179	Multiple manufac- turing, service	Unclear, aver- age 337 em- ployees	Survey	Cost-plus pricing strate- gy	Small firms have simplistic pricing strategies. Only 66 per cent of the small firms investigated analysed their costs into fixed and variable costs. On the contrary, 93 per cent of large firms did so.
Cunning- ham and Hornby 1993	U.K.	12	Multiple manufac- turing, service	<100 employ- ees	Qualita- tive in- terviews	Pricing strate- gies and tech- niques	Pricing in service and distribution companies is less cost-based and more cus- tomer-oriented. Manufacturing companies' pricing is more likely to be cost based. Small firms are not very concerned about competitor's prices and cues. SME pricing appears to be more demand-oriented and flexible than previously reported.
Meziou 1994	U.S.	247	Multiple manufac- turing, service	<100 employ- ees	Survey	Pricing meth- ods and tech- niques	A small minority of SMEs uses sophisticated pricing techniques such as margin- al analysis, demand-based methods and market research to determine prices. In SMEs, an intuitive and cost-oriented pricing prevails. A lack of financial re- sources limits the use of external information for pricing purposes and the use of elaborate pricing analyses and modelling.
Hankinso n 1995	U.K.	50	Engineer- ing manu- facturers	<100 employ- ees	Qualita- tive in- terviews	Pricing strate- gies and tech- niques	Eighty-two per cent of the sample used cost-plus pricing. Small firms appeared to ignore opportunities for improved financial performance. Communicational and educational shortcomings of managers appear to cause suboptimal pricing practices.
Carson et al. 1998	Ire- land	40	Multiple manufac- turing	<=200 em- ployees	Qualita- tive in- terviews	Pricing deci- sions of own- er-managers	Price is considered in contexts such as costs, cash flow, competition, margins and mark-ups, profits and banking. Most SMEs use cost-plus pricing and strive for product differentiation. Other factors affecting price setting are customer awareness and customer price sensitivity. SMEs are hugely vulnerable to their market/industry environment. A more rigorous analysis of a company's situation (especially competitors' actions) is recommended.

Author(s) Year	Coun-try of study	Sam-ple size	Industrial sector	Firm size	Data collec- tion method	Focus of the study	Relevant findings
Gilmore et al. 1999	Ire-land	60	Multiple manufac- turing, service	> 10 employ- ees <250 employ- ees	Qualita- tive in- terviews	Added value in the context of SMEs	The balancing of price and value is considered a challenging and difficult prob- lem by SMEs. The results indicate that information on competitors' prices is frequently taken into consideration.
Green- bank 1999	Un- clear	55	Multiple manufac- turing	<10 employees	Qualita- tive in- terviews	Pricing deci- sions of micro firm owner- managers	Pricing decisions are dependent on internal and situational factors. For instance, internal factors such as economic context, cost structure, management back- ground and experience influence the pricing decision making. Authors recom- mend conducting further studying of the individual, economic and social con- texts of pricing decision making.
Schmidt and Gary 2002	U.S.	1	Semicon- ductor manufac- turer	\$5.3 million	Qualita- tive in- terviews	Use of system dynamics and conjoint analy- sis	The SME do not have extensive market data and managerial resources to ad- dress pricing challenges. The strategy development process is difficult for SME management teams due to a lack of available information.
Doole, Grimes, and Demack 2006	U.K.	250	Unclear	<250 employ- ees	Survey	Antecedents of export perfor- mance	SMEs with a high level of export capability embraced the importance of pricing as an important management tool. High-performing SMEs paid significant atten- tion to observing and adjusting their pricing strategy in order to achieve a com- petitive advantage in their exporting markets.
Banterle, Carraresi, and Cava- liere 2011	Italy	130	Food prod- uct manu- facturers	<250 employ- ees	Survey	Antecedents of SME price setting ability	Advanced marketing capabilities in the areas of product differentiation and mar- ket research positively influence the SMEs' price-setting ability and success in exerting higher control on the prices during negotiations with customers.
Kaiser 2011	Ger- many	379	Multiple manufac- turing, service	< 500 employ- ees, < € 500 mil- lion annual turnover	Survey	Antecedents of pricing strate- gy and success implications of pricing deci- sions	Venture-, offer-, customer- and competitive characteristics influence the choice of pricing strategy in technology-based new ventures. The performance influ- ence of different strategic pricing decisions varies depending on the type of offer (product vs. service) of the studied SMEs. The results suggest the pricing prac- tices of service firms versus manufacturing firms as distinctive objects of study.
Roach 2011	Cana- da	63	Multiple manufac- turing and	<250 employ- ees, <CDN\$ 50 million	Survey	Marketing practices as antecedents of	Considers pricing as a central aspect and activity of SME product management and finds that a greater extent of product pricing practices is correlated with SME firm performance, thus, providing some evidence for the importance of the

Author(s) Year	Coun- try of study	Sam- ple size	Industrial sector	Firm size	Data collec- tion method	Focus of the study	Relevant findings
			profession- al/technical services	annual turno- ver		SME firm performance	pricing function in SMEs.
Cant 2012	South Africa	801	Unclear	<100 employ- ees	Survey	Marketing challenges of SMEs	Pricing is viewed as a task with a high pressure to act by SME managers. As compared to several other marketing and managing practices, the largest number of SME managers perceived pricing to be a critical management issue. Thirty-seven per cent reported considerable problems in establishing prices of products and service, which points towards shortcomings and weaknesses in SMEs' managerial pricing knowledge and skills.
Pérez- Cabañero, González- Cruz, and Cruz-Ros 2012	Spain	550	Multiple manufac- turing	<250 employ- ees	Survey	Marketing practices as antecedents of SME firm performance	Among the investigated marketing practices, marketing planning and pricing capabilities had a clear and significant positive impact on financial SME performance. Effective pricing policies are regarded as a very important cornerstone of firm success, which should receive considerable attention from researchers and practitioners.
Ahmad 2013	Ma- laysia	237	Agricultur- al manu- facturers	<50 employ- ees, < MYR 5 million	Survey	Marketing capabilities of SMEs	Ninety percent of the surveyed SMEs reported to consider the current market and competitors' price and eighty-seven percent involved the manufacturing cost in the price setting process.

As Table 2.2 reveals, SME-focused pricing research has drawn attention by researchers and, thus, appears to be a legitimate and established research area. Table 2.2 summarises the main findings of SME pricing studies with a clear empirical contribution, beginning with the study by Haynes (1964) and ending with Ahmad (2013). The majority of the studies focus on pricing strategy and pricing techniques in SMEs (Banterle, Carrare-si, and Cavaliere 2011; Cunningham and Hornby 1993; Hankinson 1995; Haynes 1964; Kaiser 2011; Meziou 1994; Skinner 1970). Some studies investigate success consequences of SMEs' pricing practices (Doole, Grimes, and Demack 2006; Pérez-Cabañero, González-Cruz, and Cruz-Ros 2012; Roach 2011) and scattered research deals with single price setting methods (Schmidt and Gary 2002), the added value concept in the SME context (Gilmore et al. 1999) and the descriptive analysis of pricing as a marketing challenge (Ahmad 2013; Cant 2012).

If one analyses the prior literature from the process-oriented perspective of pricing, it becomes obvious that the existing research, presented in Table 2.2, can be deemed un-balanced, because the large majority of the studies focus on the second step of the pricing process, which is pricing strategy and pricing systems.<sup>7</sup> No studies focus explicitly on the first crucial step in pricing, that is, pricing analysis including the acquisition and utilisation of pricing-related information to inform the formulation of pricing strategies.

In addition, evidence is conflicting regarding the professionalism of SME pricing. One group of researchers reports that SME pricing is relatively cost-oriented, intuitive and largely based on experimentation and gut feeling (Greenbank 1999; Hankinson 1995; Meziou 1994; Skinner 1970). Findings of other researchers contradict these results. They suggest that SME pricing is ultimately more flexible, demand-oriented, market-oriented and more effective than had previously been suggested (Carson et al. 1998; Cunningham and Hornby 1993; Doole, Grimes, and Demack 2006; Gilmore et al. 1999). It is likely that research addressing the question of how SMEs gather and use pricing-related information could shed additional light on why some SMEs rely on gut

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<sup>7</sup> Cf. the adapted conceptual pricing framework of Homburg and Totzek (2011) in Section 2.2.3.

feeling and experimentation when setting prices while others conduct a more demand- and value-oriented effective pricing (Roach 2011).

Summarising, pricing has been highlighted as an important driver of SME performance, which deserves considerable attention by researchers and practitioners (Doole, Grimes, and Demack 2006; Pérez-Cabañero, González-Cruz, and Cruz-Ros 2012; Roach 2011). Pricing information has been pointed out as an interesting and promising research field by SME researchers (Carson et al. 1998; Cunningham and Hornby 1993; Gilmore et al. 1999; Meziou 1994; Roach 2011). However, the scant amount of research focusing on pricing information practices in SMEs is surprising. No study concentrates explicitly on this important issue in the context of SMEs. This is a significant obstacle to the development of effective pricing practices in SMEs.

## **2.4 Review of pertinent management theories**

The purpose of this section is to consider key management theories that build the theoretical fundament of this research. More specifically, this work addresses two important management theories: organisational theory and the theory of the firm. With regard to the organisational theory, this research builds upon the Information Economics theory and Contingency theory; with regard to the theory of the firm, the Resource-based View will be examined.

### **2.4.1 Information Economics theory**

This research deals with the antecedents and consequences of pricing information behaviour. Structural approaches to pricing suggest that firms need to conduct proactive decisions and analysis regarding the informational fundament of their pricing activities (Homburg and Totzek 2011; Ingenbleek 2007; Wiltinger 1998). Homburg and Totzek (2011) summarise these informational decisions under the term *price analysis* and regard it as the first step in the pricing process. In this section, a differentiated theoretical light is shed on the mechanisms and processes underlying this essential first process step of pricing management.

### 2.4.1.1 Scope of the theory

The Information Economics theory<sup>8</sup> is an important cornerstone in the theoretical foundation of this research, because it deals with information in the context of decision making (Akerlof 1970; Spence 1973; Stigler 1961). The central question addressed by the modern Information Economics theory is how information influences economic decision making in firms (Hult 2011). Applied to a marketing discipline, the theory concentrates on “[...] how information generation and dissemination affect resource allocation and marketing decisions” (Hult 2011, p. 527). The object of study of the Information Economics theory is in its essence the information behaviour of individuals ex ante to their decision making (Adler 1996). The theory holds that economic entities make decisions and interact with each other based on imperfect and incomplete information (Hult 2011; Macharzina and Wolf 2008; Wolff and Picot 2012). The information asymmetries and the incompleteness of information in the context of complex marketing decisions are the main reason for the uncertainty faced by economic entities in a market (Weiber and Adler 1995).

In addition, uncertainty arises from the bounded rationality assumption first identified by Simon (1955). Decision making in organisations takes place within the confines of the bounded rationality of the decision makers. For them it is virtually impossible to incorporate all information potentially relevant to a specific decision problem (March and Olsen 1976). The immense complexity of specific strategic management decisions leads to sometimes simplifying techniques and operating procedures to cope with the experienced uncertainties (Hult 2011). The constraints in the information processing capacities of the individual can thus lead to fragmented and incomplete information or, in other words, uncertainty (Wolff and Picot 2012). To sum up, uncertainty is viewed as a core barrier to optimal decision making by the Information Economics theory; however, the theory assumes that economic entities can and must deal with this uncertainty. The Information Economics theory posits the main premise that the economic entities

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<sup>8</sup> Also called the theory of Information Economics.

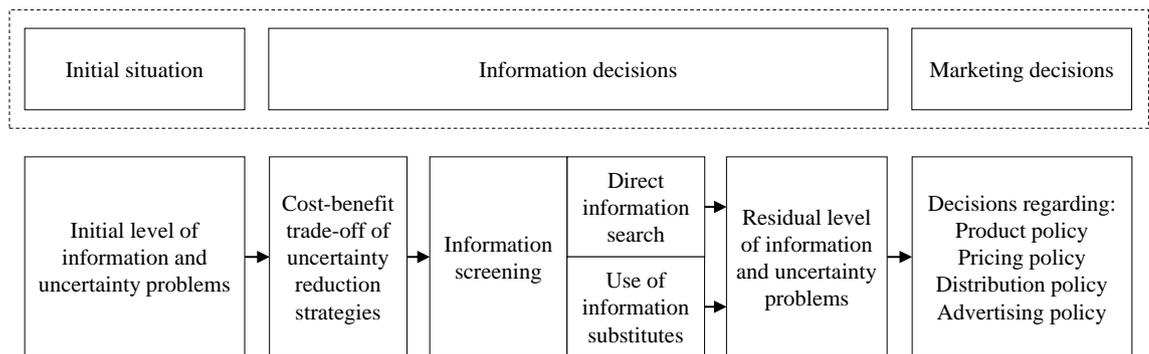
can actively change, influence and control their level of information by means of an *informational action* prior to decision making in the *terminal action* (Adler 1996; Hult 2011; Schuppar 2006; Wolff and Picot 2012).

Informational actions refer to two key strategies that can be used to cope with asymmetric and incomplete information: the information screening strategy, also referred to as information acquisition strategy and the information signalling strategy (Adler 1996). Hult (2011) has recently summarised the core contribution of both strategies in a marketing context. In a situation of uncertainty caused by information asymmetries, “marketing organizations can signal to the marketplace what type of organization they are (e.g., an organization dedicated to sustainability practices), thus transferring information to the organization’s stakeholders (most notably its customers in the marketplace) and resolving the information asymmetry” (Hult 2011, p. 518). For example, if a marketing organisation labels their products with prices, this price signals information to customers that resolves information asymmetries (Judd 2000; Lichtenstein 2005; Völckner and Hofmann 2007). The information is transferred from the marketing organisation to its stakeholders. Conversely, the information acquisition strategy is used to screen relevant economic entities and individuals and to induce these stakeholders to reveal more information about data, attitudes and strategies (Hult 2011). The underlying research focuses on the information behaviour of firms prior to price setting. Consequently, the screening aspect of the Information Economics theory is of fundamental importance for shedding light on the research question addressed in this study.

Figure 2.4 visualises the process of active information screening based on the work of Weiber and Adler (1995) and Adler (1996). Their work has been selected, because it is, to the best of my knowledge, the only work that has analysed the buying process from an Information Economics theory perspective using a sequential process model of information behaviour. It illustrates well the core notion of influencing and changing information levels through a proactive decision making process with regard to information generation. The authors investigated the buying process from the perspective of the customer. However, the same processes are also applicable for the decisions of the

selling organisation because selling decisions and buying decisions are essentially two sides of the same coin.<sup>9</sup> Figure 2.4 is based on Weiber and Adler (1995) but has been modified and adapted to the firm's perspective.

**Figure 2.4: Information Economics theory perspective on uncertainty and information problems prior to decision making**



Source: Adapted and modified from Weiber and Adler 1995, p. 65, Adler 1996, p. 86

Figure 2.4 condenses key aspects of information decisions prior to decision making. Induced by an initial level of information and uncertainty problems, for example prior to setting prices of a new product or adjusting the current pricing strategy, firms decide based on a cost-benefit trade-off the scope and scale of information screening<sup>10</sup> activities. Regarding information screening activities, the Information Economics theory differentiates two potential alternatives (Adler 1996; Weiber and Adler 1995): direct information search and use of information substitutes. The first refers to the search of information directly relevant to a pricing decision, for example, specific information on the consumers' willingness-to-pay for a specific product or a competitor's price for an analogous product. However, if this direct information search is not possible, firms can

<sup>9</sup> Also cf. Schuppar (2006) and Adler (1996).

<sup>10</sup> Other terms commonly used in the literature as a substitute for information screening are information acquisition (Belich and Dubinsky 1995; Day 1994; Moorman 1995; Souchon and Diamantopoulos 1999; Yeoh 2000; Zahra and George 2002), intelligence generation (Kohli and Jaworski 1990), information search (Cooper, Folta, and Woo 1995; Johnson and Kuehn 1987; McGee and Sawyerr 2003; Pineda et al. 1998; Yeoh 2005), information collection (Festervand, Grove, and Reidenbach 1993), information gathering (Williams 2006) and information scanning (Brush 1992; Daft, Sormunen, and Parks 1988; Daft and Weick 1984; Franco et al. 2011; Mohan-Neill 1995; Peters and Brush 1996; Sawyerr, Edbrahimi, and Thibodeaux 2000; Smeltzer, Fann, and Nikolaisen 1988). These terms are used interchangeably in the following.

use information substitutes. In other words, if the needed information is not directly available, firms could acquire and assess indirect information and make reasonable conclusions for decision making purposes (Adler 1996; Schuppar 2006). For instance, firms can analyse customer publications and brochures or market statistics and reports to gain indirect information about determinants of pricing decisions. After the information acquisition, a residual level of uncertainty remains. This is due to bounded rationality of decision-makers and the ambiguity of decision problems (Cohen, March, and Olsen 1972; March and Olsen 1976). Finally, after the informational action has taken place, the terminal marketing action in the different mix elements can follow. Daft and Weick (1984, p. 285) summarise this as follows: “The environment contains some level of uncertainty, so the organization must seek information and then base organizational action on that information. Organizations must develop information processing mechanisms capable of detecting trends, events, competitors, markets, and technological developments relevant to their survival.”

### **2.4.1.2 Key insights for current research**

What is the impact of the Information Economics theory for the current research? How can the insights gained from the Information Economics theory help to understand the pricing information behaviour in SMEs? Four significant issues come to mind.

First, the Information Economics theory suggests that information decisions must be made actively prior to setting marketing strategies and making marketing decisions. This notion is very similar to structural pricing approaches by Homburg and Totzek (2011) and Ingenbleek (2007). Both authors agree that pricing information acquisition is the crucial first step in the pricing process of the firm. Pricing information practices are the starting point of optimal pricing. The Information Economics theory also highlights that the activities associated with information generation are a separate and distinctive task in the pricing decision process. They are an important prerequisite for optimal pricing decisions. As a result, the Information Economics theory illuminates the significance and importance of the subject under investigation in this research.

Second, the discussion has clearly demonstrated that pricing decisions are closely linked to considerations and decisions regarding information generation. This reduces the uncertainties caused by multidimensional pricing problems to an acceptable, cost-benefit optimal level. Information decisions are significant, because they directly influence the overarching marketing decisions, in other words, they provide the fundament for superior pricing decisions. Without appropriate uncertainty reduction strategies, adequate information is lacking and, in these cases, pricing decisions might be more gut-based and guided by intuition. According to the Information Economics theory the acquisition of information for marketing decision is an essential prerequisite. From this one can infer that firms that are very active and skilful in information generation have better information at their disposal and can in turn make better decisions, which can lead to better firm performance. Applied to the pricing context, this would mean that according to the Information Economics theory, pricing information acquisition practices might be linked to a firm's pricing performance. Therefore, the Information Economics theory produces important insights into the potential consequences of pricing information behaviour.

Third, the Information Economics theory provides important insights into what constitutes pricing information behaviour. In the case of imperfect information, firms can take action to reduce the existing uncertainties (cf. Figure 2.4). The process of active information acquisition is deemed very effective as long as the information is potentially available (Weiber and Adler 1995). Firms' screening activities can include, for instance, eliciting customers' willingness-to-pay via market research, gathering data on competitors' list prices or getting cues in talks with customers (Ingenbleek 2007; Schuppar 2006). To conclude, the Information Economics theory indicates that firms' information acquisition activities are an important construct that must be investigated to understand the information behaviour of firms. Related literature can help to identify the different possible screening sources in the pricing context.

Fourth, the Information Economics theory provides insights into the determinants of firms' information behaviour. The initial level of information and uncertainty problems

is always a result of the subjective perceptions of the person responsible for a decision (Weiber and Adler 1995). In the case of pricing, the responsible manager has a specific level of experience and knowledge, a specific educational background and a subjective perception of risk that might determine the propensity to engage in screening activities. These specific management-related attributes and resources are determinants of information behaviour according to the Information Economics theory.

## **2.4.2 Resource-based View**

Information is a strategic resource that affects resource allocation and management decisions (Barney 1991; Hult 2011). Information generation capabilities are dependent on the collection of resources and capabilities, which are distributed in the firms. Acquiring information involves cost (March, Simon, and Guetzkow 1958; Weiber and Adler 1995; Wolff and Picot 2012), and thus the available resources and capability configurations can influence the modus and scope of information acquisition. Consequently, the Resource-based View (RBV) is used to gain further theoretical insight into the research question addressed in the underlying study.

### **2.4.2.1 Scope of the theory**

The RBV is clearly among the most influential theories of the firm (Hieke 2009; Hult 2011; Lockett 2005; Lockett, Thompson, and Morgenstern 2009; Newbert 2007) and has drawn a large amount of interest in the past decades (Acedo, Barroso, and Galan 2006). Rooted in the theory of the Growth of the Firm developed by Penrose (1959), Wernerfelt (1984) and Barney (1986) established the RBV as a key theory of the firm. After years that were strongly influenced by the structure-conduct-performance (SCP) paradigm of the Industrial Organisation theory of economics and more specifically by Porter's framework (1980; 1985) (Rothfuss 2009; Spanos and Lioukas 2001) it was not until 1991 that the RBV was fully established as a theoretical alternative to the SCP paradigm by Barney (1991). He summarised the fragmented research in an integrated theoretical framework, which initiated the dominance of the RBV in modern manage-

ment theory. Since then the RBV has drawn large amounts of interest among scholars in different research domains (Armstrong and Shimizu 2007).

The RBV is a key strategic management theory that attempts to answer the central question: Why does the competitiveness of market participants vary systematically over time (Hieke 2009)? In other words, what explains the differing success of firms in the marketplace? In trying to answer these questions, the “RBV (Wernerfelt 1984) is based on the premise that firms differ, even within an industry. The differences occur in the firms’ resources, and the main theory is that a firm’s strategy should depend on its resources— if a firm is good at something, the firm should try to use it” (Wernerfelt 2005, p. 17). The RBV views firms’ internal resources as the most important source of competitive advantage (Barney 1991). These resources enable firms to gain a competitive advantage in the marketplace (Wernerfelt 1984). The RBV contends that firms’ resources are the reason for the performance advantages compared to its competitors.

Applied to the research domain of strategic marketing, marketing resources can be defined “as the assets available to marketers and others within the organization that – when transformed by the firm’s marketing capabilities – can create valuable outputs” (Morgan 2012, p. 104). Information itself can be regarded as an asset or resource (Barney 1991), but it is closely associated with the capability of information acquisition. A capability is a “*high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type*” (Winter 2000, p. 983).<sup>11</sup> Against this background, the acquisition capability leads to the accumulation of informational assets (Zahra and George 2002). Thus, in the context of this research, pricing information is regarded as a resource, but this resource can only occur through various interactions between individuals, groups and organisational systems in the acquisition process. This can be regarded as the information acquisition capability (Grant 1996; Morgan 2012; Zahra and George 2002).

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<sup>11</sup> In the literature, high-level routines are referred to as capabilities, whereas at the individual level the term competencies is used (Morgan 2012).

The RBV is of great importance for the research field of strategic marketing and has been used, for instance, to study effective positioning strategies and international marketing strategies (Hieke 2009). The idea of studying pricing from a RBV perspective is rather new. A very important contribution to the RBV is the one by Dutta, Zbaracki, and Bergen (2003), because the authors introduced pricing to the RBV. Value creation through superior products and the value appropriation of potential rents through market-based exchange are regarded as two sides of the same coin (Dutta, Zbaracki, and Bergen 2003; Mizik and Jacobson 2003). Consequently, firms must build capabilities to create superior products. However, it is equally important that they build pricing capabilities to extract the value in the customer interactions in the marketplace. The importance of studying pricing from a RBV perspective has been emphasised and confirmed recently and pricing management is nowadays recognised as a specialised marketing capability (Morgan 2012). However, empirical contributions investigating the different components of the overall pricing capability are still scarce (Dutta, Zbaracki, and Bergen 2003; Ingenbleek 2007; Liozu et al. 2011). Against this background, further investigation of pricing from an RBV perspective could add valuable new insights for this stream of this research. Apart from the pricing context, the RBV works well in the field of information systems research. The RBV is used to analyse and understand the role of information systems in firms (Caldeira and Ward 2003; Hieke 2009; Santhanam and Hartono 2003; Wade and Hulland 2004) and can thus be regarded as an essential theoretical perspective for the investigation of the pricing information practices of firms, which is the main objective of this research.

The RBV also provides a solid and recognised fundament to the understanding of influencing factors of performance-related constructs (Baldauf, Cravens, and Wagner 2000; Caldeira and Ward 2003; Dutta, Zbaracki, and Bergen 2003; Hart and Tzokas 1999; Hooley et al. 2005; Ingenbleek 2007; Man, Lau, and Chan 2002; Santhanam and Hartono 2003; Sousa, Martínez-López, and Coelho 2008; Wheeler, Ibeh, and Dimitratos 2008; Zou and Stan 1998). More specifically, the RBV is used to structure and classify *internal* determinants of performance-related constructs because the nature of the RBV is to focus on firms' internal resources and capabilities (Sousa, Martínez-López, and

Coelho 2008). One objective of this research is to investigate the pricing information practices in firms by exploring and understanding relevant influencing factors. The RBV provides important insights into main groups of influencing factors that specify and decrease the vast array of potential influencing factors. Based on the RBV, the following main groups of antecedent factors can be identified (cf. Hult 2011; Morgan 2012; Sousa, Martínez-López, and Coelho 2008; Wade and Hulland 2004; Wheeler, Ibeh, and Dimitratos 2008; Yeoh 2005; Zou and Stan 1998):

First, the RBV posits that human resources, such as marketing personnel including their knowledge, experience and skills are critically related to marketing capabilities (Dutta, Zbaracki, and Bergen 2003; Morgan 2012). These management-related attributes and resources might be connected to the information acquisition capability. Second, organisational resources, such as the scale and scope of operations, organisational culture, systems and structure are inputs to marketing capabilities and thus potentially to the information acquisition capability (Ingenbleek 2007; Morgan 2012). Finally, strategic factors that reflect competencies and prior management decisions might be linked to resources and capabilities (Hult 2011; Morgan 2012). Strategic factors are modelled as antecedents of marketing capabilities and the marketing function (e.g., Dutta, Zbaracki, and Bergen 2003; Homburg, Workman, and Krohmer 1999; Yeoh 2000, 2005). Hence, the extent of information acquisition capabilities might be dependent on the firm's principal strategic orientation.

### **2.4.2.2 Key insights for current research**

The discussed insights gained from the RBV can help to understand pricing information behaviour in SMEs. The following three issues are important to note.

First, the RBV highlights the fundamental importance of information resources and the information processing capability. It views information processing as an antecedent of competitive advantage and firm performance (Barney 1991; Ketchen, Hult, and Slater 2007). Against the background of the fundamental significance of the pricing information capability, it becomes obvious that decisions regarding the informational fun-

dament of pricing decisions must be made proactively. Like The Information Economics theory, the RBV underlines the significance of information for pricing purposes in the decision process. Therefore, the RBV supports the notion of Homburg and Totzek (2011) who suggested pricing analysis, in other words, the information processing practices as the initial first step in the pricing process. This first step builds the fundament of superior pricing practices.

Second, the RBV has successfully been applied and carried forward to the field of pricing management and nowadays, pricing management is viewed as a key marketing capability (Morgan 2012). Based on the RBV and associated pricing literature (Dutta, Zbaracki, and Bergen 2003; Inglebleek 2007), one can infer that superior pricing information acquisition practices are a sub-capability within the meta-capability of pricing management. This capability-based view on the information practices of firms is a major drawback from the RBV and has implications for the conceptualisation of pricing information practices. In addition, this perspective leads to the notion that if marketing capabilities are linked to firm performance (Dutta, Zbaracki, and Bergen 2003; Merriam, Rundle-Thiele, and Lye 2011; Morgan 2012), then it might also hold that the pricing information processing capability is positively related to the success in pricing management or, to put it another way, to pricing performance (Barney 1991; Inglebleek 2007; Smith 1995).

Third, the RBV gives insights into the potential mechanisms behind pricing information capability. There has only been a very limited investigation of the antecedents of pricing information behaviour as will be shown in the next sections of the literature review. This is a significant obstacle to the understanding of the construct. Insights into which factors influence the extent of pricing information behaviour in SMEs might be of great interest for theory and practice. The previous discussion has demonstrated that the RBV provides a strong theoretical fundament to structure the determinants of pricing information behaviour into organisation-related, management-related and strategy-related factors. These insights will help to find a way to structure the vast array of potential antecedents in an information search. Therefore, the RBV provides important insights

for the conceptualisation of the determinants of pricing information behaviour. Applied to the pricing context, the intra-firm determinants, namely, organisational factors, managerial factors and strategic factors could be regarded as central resources that influence the pricing information practices and, ultimately, pricing performance (Dutta, Zbaracki, and Bergen 2003; Ingenbleek 2007; Smith 1995).

### **2.4.3 Contingency theory**

The discussion of the RBV in the last section has yielded valuable insights into the significance of the firm's internal information resources and its information processing capability as well as potential determinants of information practices. However, the question arises whether the solitary incorporation of internal resources as an influencing factor is sufficient to explore the mechanisms behind firms' pricing information practices. Contingency theory suggests that the specific context in terms of environmental factors influences the process of marketing decision making (Hult 2011).

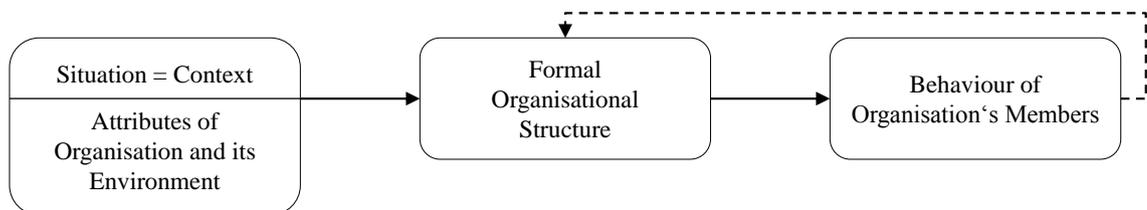
#### **2.4.3.1 Scope of the theory**

Contingent variables have been studied in the past to analyse the external determinants of marketing practices in the research field of pricing (Forman and Lancioni 2002; Ingenbleek et al. 2003; Myers, Cavusgil, and Diamantopoulos 2002; Schuppar 2006; Totzek and Alavi 2010; Wiltinger 1998), SME marketing (Gaur, Vasudevan, and Gaur 2011; Simpson et al. 2006; Walsh and Lipinski 2009) and marketing information (Belich and Dubinsky 1995; Wright and Ashill 1998). These studies have revealed valuable insights on the situational context of marketing decision making. In addition, researchers have explicitly emphasised that information is context-specific, depending on the situational environment (Glazer 1991; Nonaka and Takeuchi 1995). Therefore, it is necessary to analyse the potential contribution of Contingency theory for this research.

Contingency theory is one of the most important organisational theories (Kieser and Walgenbach 2007; Zeithaml, Varadarajan, and Zeithaml 1988) and posits that the marketplace as the environment of all business operations influences the marketing organi-

sation. In addition, with “increased variation in the market conditions faced by the marketing organization, the more differentiated its structure needs to be to face all potential challenges in the marketplace” (Hult 2011, p. 516). As an illustration, Contingency theory suggests that organisations operating in a dynamic environment need to implement other structures than organisations operating in a static environment (Höhne 2009; Kieser 2006). This notion of Contingency theory is based on the works of Stalker and Burns (1961) and Lawrence, Lorsch, and Garrison (1967) that were later picked up by Daft (1980) and Daft and Weick (1984). These authors introduced and established relationships between the environment and the organisational structure and processes and established the Contingency theory research stream focusing on the external environment in the literature. Given the vast array of empirical contingency contributions in the literature over the past decades, it seems appropriate to summarise and structure the basic model of Contingency theory based on Kieser and Walgenbach (2007) as one of the major contributors to this branch of theory. Figure 2.5 summarises the central hypothesis of the theory and delimits what constitutes the Contingency paradigm.

**Figure 2.5: Influencing factors of organisational structure**



Source: Adapted from Kieser and Walgenbach 2007, p. 215

Figure 2.5 depicts the central hypothesis that organisational structure is a function of external contingency determinants (Walsh and Lipinski 2009). It delimits two important questions that can be answered with a Contingency approach (Kieser 2006): Which external situational factors explain hypothesised differences between organisational structures? and What is the impact of different situation-structure configurations on the behaviour of the organisation’s members and ultimately an organisation’s efficiency? Important external marketing contingency categories suggested in the literature include market characteristics as well as customer behaviour characteristics (Gaur, Vasudevan,

and Gaur 2011; Ghobadian et al. 2008; Myers, Cavusgil, and Diamantopoulos 2002; Sousa, Martínez-López, and Coelho 2008; Verhoef and Leeflang 2009; Wright and Ashill 1998; Zeithaml, Varadarajan, and Zeithaml 1988). Although firms cannot directly influence the external contingency factors, they can try to cope by developing adequate strategies depending on the level of the influencing factors observed in the marketplace (Sousa, Martínez-López, and Coelho 2008). This is reflected in Figure 2.5 by the dashed arrow. Organisation members can adjust their behaviour and change organisational structures and try to implement strategies to cope with differing levels of the external influencing factors.

#### **2.4.3.2 Key insights for current research**

Contingency theory focuses on the influence of the external environment on organisations. It is suggested that different environmental situations cause different organisational structures and behaviours. The input of Contingency theory for the modelling and analysis of pricing information behaviour is twofold.

First, applied to this study, the theory suggests that the organisational structure and the related behaviour of the organisation's members might be influenced by the situational context in the environment. According to the Contingency theory, there is no single best way of managing the pricing task. If one looks at the pricing practices of firms within the broader context of the overall pricing process, it becomes apparent that firms ultimately have to set up and provide adequate organisational structures. Additionally, firms must determine who is responsible for the acquisition of pricing information who will actually carry out this acquisition process. The basic model of Contingency theory and prior empirical investigations suggest that the influence of external factors on pricing information behaviour cannot be neglected if one intends to comprehensively explore these practices. Consequently, external contingency determinants have been determined to be important factors that influence firms' pricing information practices.

Second, Contingency theory provides insights into how to limit the vast array of potential external determinants. The first research objective refers to structuring and concep-

tualising relevant antecedent factors. If it is important to analyse the external situational environment, the question arises as to which groups of external factors could be investigated with regard to pricing information practices. The previous discussion yielded market characteristics and customer behaviour characteristics as groups for external contingency determinants. These can be applied to this study and used for the conceptualisation of antecedent factors in the next chapter.

To sum up, the Information Economics theory, the RBV and the Contingency theory constitute a strong basis for developing the theoretical framework for the empirical investigation in the next chapter.

## **2.5 Pricing information practices and its antecedents and consequences**

### **2.5.1 Pricing information practices and its dimensions**

The objective of this section is to give an overview of the pertinent conceptual and empirical pricing research in order to answer the important question: What is the contribution of pricing research on the role of pricing information gathering and processing in firms? In other words, what are the informational prerequisites of price decision making? The focus in the next section will be on *conceptual* research. The pertinent *empirical* literature relevant to the issue of pricing information processing is reviewed in the following sections. Empirical contributions stem from different research fields and streams and not only from pricing research.

#### **2.5.1.1 Overview of conceptual research**

Smith (1995) presents an important conceptual work, in which he defines managerial pricing orientation “as consisting of four dimensions: information gathering and processing; pricing objectives, policies and beliefs; organizational decision processes; and organizational responsiveness [...]” (Smith 1995, p. 31). Accordingly, he suggests information processing as one dimension of managerial pricing orientation. It is defined as including “the type of information that business units focus on, the way information

is processed, and how organisations gather, store, track and disseminate the information” (Smith 1995, p. 31). This definition focuses on what constitutes the pricing information orientation of a firm. According to Smith (1995), pricing information orientation consist of gathering information elements from different sources.

This view has largely been confirmed by the work of Ingenbleek (2007). In support of Smith’s (1995) argument, Ingenbleek (2007) also conceptualises pricing information activities as comprising the information acquisition from sources as an important component. They are differentiated into relationships, market research and internal sources. By contrast, he does not refer to specific information elements, such as variable costs, sales by market segment or competitors’ prices like Smith (1995). However, both authors agree that the acquired information must be processed internally to facilitate decision making. Drawing on the RBV, Ingenbleek (2007) asserts that information behaviour is related to strategic pricing decision making and performance outcomes (cf. Figure 2.2). Surprisingly, his broad conceptual review of pricing studies yielded no specific empirical studies dealing with the issue of pricing information acquisition.

The recent conceptual contribution of Meehan et al. (2011) uses the term pricing diagnostic when referring to pricing information processing activities. Very similar to Ingenbleek (2007), the authors highlight the information sources from which pricing information can be obtained. These are internal data, surveys, interviews and external benchmarks. Therefore, according to the authors, pricing information has an internal and external component. However, the authors do not refer to any information elements like Smith (1995). Information use is referred to as a consolidation of findings and comprises, for instance, pricing gap analysis, pricing reports, calculations or the development of a pricing roadmap.

The conceptual contribution of Homburg and Totzek (2011) explains the firms’ pricing information activities from a different perspective. The authors speak of pricing information collection methods and do not focus explicitly on the term sources of pricing information like Meehan et al. (2011), Ingenbleek (2007) and Smith (1995). This method-oriented perspective is also put forward by the recent conceptual contributions of

Roll, Pastuch, and Buchwald (2012), Docters et al. (2012) and Düssel (2005) and is reflected in a large body of pricing research focusing on methods to elicit willingness-to-pay (e.g., Backhaus et al. 2005; Hofstetter and Miller 2009; Jedidi and Jagpal 2009; Roll et al. 2010; Sattler and Nitschke 2003; Völckner 2006). However, agreeing with Smith (1995), Homburg and Totzek (2011) also address information elements that are acquired by means of the pricing information methods as a component of firms' pricing information activities.

Having just discussed the potential constituents of firms' pricing information activities, another possibility is to differentiate the issue into an internal and an external perspective. Specifically, Nagle and Hogan (2006, p. 26) addresses what constitutes the informational dimension of price decision making when they state that pricing "requires analysing data on costs, customers, and the competition, and integrating that analysis into prices that lead to long-term profitability." This reveals that pricing information comprises internal cost information and external information of the competitors' prices and on the perceived value of the customer. These dimensions are also suggested by other pricing researchers (Avlonitis and Indounas 2006; Düssel 2005; Homburg and Totzek 2011; Ingenbleek et al. 2003, 2003; Simon and Fassnacht 2009; Smith 1995; Wiltinger 1998; Winer 2005). This differentiation is highly relevant to understanding the challenges that confront firms if they intend to adapt a structured approach to the issue of pricing information. That is, firms need to provide internal pricing information on, for example, variable costs, fixed costs and contribution margins (Indounas 2009; Tzokas et al. 2000). Still, many firms have significant problems with this internal component of pricing information (Weber and Florissen 2005). Additionally, firms need to provide external market, customer and competitive information. This has been suggested by Kohli and Jaworski (1990) and Narver and Slater (1990) and confirmed by other researchers (Beal 2000; Ganeshasundaram and Henley 2007; Garg, Walters, and Priem 2003; Maltz and Kohli 1996; Slater and Narver 1994; Totzek and Alavi 2010).

To sum up, the issue of pricing information practices still seems to present a significant research gap. Researchers have identified this conceptual and empirical gap in the litera-

ture and explicitly state that future research should focus on “organizational practices in information acquisition, distribution, interpretation, and use, and examine which roles different organizational members fulfill in these processes” (Ingenbleek 2007, p. 454).

### **2.5.1.2 Analysis of empirical research**

The purpose of this section is to analyse in detail the pertinent empirical literature on pricing information practices. An extensive search of scientific databases (e.g., ABI INFORM Complete/ProQuest, Business Source Complete/EBSCO) and references of pertinent articles yielded a remarkably small amount of empirical research dealing with the research question addressed in this study. The scant empirical literature focusing on pricing information processing is summarised in Table 2.3.

Table 2.3 summarises the main findings of the few existing studies with a clear focus on pricing information, beginning with the study by Wiltinger (1998) and ending with Totzek and Alavi (2010). None of the studies focuses on the important SME sector. The studies provide incomplete information on the size characteristics of investigated firms (Avlonitis and Indounas 2006; Indounas 2009; Tzokas et al. 2000). This hinders the deduction of clear recommendations for SMEs. The studies only yield scattered insights into the important first step of the pricing process. Nevertheless, these studies underline the importance of studying the issue of pricing information. They have initiated an important theoretical discussion that serves as the starting point for further deeper empirical investigation in this research field. In the following, relevant findings are discussed and challenges of the current body of knowledge are identified.

The existing studies explored firms with a clear focus on the first step of information acquisition. This is in line with the Information Economics theory suggestions that regard information screening activities as the first crucial step in the information processing model (Adler 1996; Hult 2011). Before information dissemination and utilisation can occur, firms must acquire the necessary pricing information (Wiltinger 1998). Authors regard firms’ information gathering activities as “the most important step in the

**Table 2.3: Summary of pertinent empirical studies on pricing information activities**

<b>Au- thor(s) Year</b>	<b>Information process com- ponents inves- tigated</b>	<b>Context</b>	<b>Firm size</b>	<b>Sample size</b>	<b>Coun- try of study</b>	<b>Data collec- tion method</b>	<b>Industrial sector</b>	<b>Relevant findings</b>
Wiltinger 1998	Acquisition, distribution, utilisation	Product pricing	2 firms > 10 bn. DM, 4 firms < 1 bn. DM	6	Germa- ny	Case studies	5 manufac- tures and service firm from differ- ing industry sectors	<ul style="list-style-type: none"> <li>• Pricing information activities in LEs comprise the acquisition, distribution and utilisation of information</li> <li>• Pricing information activities are an antecedent of optimal pricing decisions</li> <li>• Pricing information comprises the external market, customer and competitive information and internal information provided by the management accounting department</li> <li>• It is essential to gather information from the groups of sources in a balanced manner</li> </ul>
Tzokas et al. 2000	Acquisition	Export product pricing	Unclear	178	U.K.	Survey	Three manu- facturing sectors	<ul style="list-style-type: none"> <li>• Exporters gathered pricing information elements that were related to competition, distribution, product strength, customer behaviour/needs and productivity</li> <li>• Cost-related information was found to be of the highest importance for export pricing decisions</li> </ul>
Avlonitis and In- dounas 2006	Acquisition	Service pricing	Unclear (> € 1.5 mil. turnover)	170	Greece	Survey	Six service sectors	<ul style="list-style-type: none"> <li>• Exporters gathered pricing information elements that were related to customers, competition, corporate objectives and profit-margins, cost and sales</li> <li>• The most important information elements were competitors' prices, corporate objectives, and customers attitudes to prices</li> <li>• Firms considered market-based information more important than firm-internal information elements</li> </ul>
Indounas 2009	Acquisition	Service pricing	Unclear	177	Greece	Survey	Two service sectors	<ul style="list-style-type: none"> <li>• Exporters gathered pricing information elements that were related to customers, competition, profit-margins and cost</li> <li>• Competitors prices and cost information are the most important factors in the service sector</li> <li>• The least important factors were the sales in different periods and markets as well as competitors' market share</li> </ul>
Totzek	Acquisition	Industrial	50% of the	230	Germa-	Survey	Multiple	<ul style="list-style-type: none"> <li>• Pricing information acquisition is a strong driver of the market-</li> </ul>

<b>Author(s) Year</b>	<b>Information process com- ponents inves- tigated</b>	<b>Context</b>	<b>Firm size</b>	<b>Sample size</b>	<b>Coun- try of study</b>	<b>Data collec- tion method</b>	<b>Industrial sector</b>	<b>Relevant findings</b>
and Alavi 2010		product pricing	sample <200 empl.		ny		manufactur- ing and ser- vice sectors	oriented information processing construct <ul style="list-style-type: none"> <li>• Pricing information acquisition is a vital part of the market orientation of pricing management</li> <li>• Findings suggest a positive relationship between pricing information acquisition and pricing performance pointing toward the great importance of information acquisition</li> </ul>

information processing model” (Yeoh 2005, p. 165). Empirical research answers the question of which part of the information processing model needs investigation in the first place in this emerging field of study. The limited studies with a quantitative focus, support Yeoh’s (2005) assertion and study the first step of pricing information acquisition (Avlonitis and Indounas 2006; Indounas 2009; Totzek and Alavi 2010; Tzokas et al. 2000). The existing empirical studies support the notion that investigation of the latter stages of the information processing model is difficult and may be not advisable unless the first crucial step of information acquisition is explored and investigated to a minimum degree.

In his qualitative exploration based on five large firm case studies, Wiltinger (1998) finds empirical support for the conceptual suggestions of pricing theorists who state that pricing information comprises external market, customer and competitive information as well as various internal information. Interestingly, Wiltinger (1998) highlights a need for firms to acquire pricing information sources from these different groups in a balanced manner. He asserts that pricing information is crucial for increased pricing decision quality. Wiltinger’s (1998) qualitative contribution is important because it paves the way for further quantitative investigation in the field of pricing information research.

Building on prior research on export information processing (cf. e.g., Hart and Tzokas 1999; Leonidou and Adams-Florou 1999; McAuley 1993; Souchon and Diamantopoulos 1997, 1999), Tzokas et al. (2000) studied the strategic export pricing of 178 U.K. firms (cf. Table 2.3). Although export pricing information was only considered as a predictor of strategic export pricing and not the focal variable in the study, findings were insightful, showing that exporters gathered pricing information elements that were related to competition, distribution, product strength, customer behaviour/needs and productivity. Cost-related information was found to be of highest importance for export pricing decisions. This work built the foundation for quantitative pricing information research focusing on different pricing information elements, which was suggested in the conceptual contribution of Smith (1995). The conceptual approach adopted by Tzokas et

al. (2000) was subsequently replicated in two service sector studies (Avlonitis and Indounas 2006; Indounas 2009). In sum, there are first studies investigating the acquisition of pricing information elements in the manufacturing and service sectors. Totzek and Alavi's (2010) study is insightful in that it sheds light on the significance of pricing information generation. The authors found a positive relationship between pricing information generation and pricing performance pointing toward the great importance of the first step of the pricing information processing model. The results indicate that pricing information acquisition is a vital driver of market-oriented pricing management. Consequently, further investigation seems highly relevant.

The analysis of the literature also points toward several shortcomings and limitations. First, the overall amount of research is scarce and fragmented. Very few pricing studies address the important issue of pricing information. Second, studies are somewhat limited to the exporting context (Tzokas et al. 2000) or focus specifically on the service sector (Avlonitis and Indounas 2006; Indounas 2009). There is a need for more investigation in the manufacturing sector. Third, the scant studies rely on LE samples and tend to neglect the specific characteristics and necessities of the SME sector (Totzek and Alavi 2010; Wiltinger 1998). Fourth, conceptual studies have revealed pricing information sources and pricing information elements as important constituents of information acquisition (Ingenbleek 2007; Meehan et al. 2011; Smith 1995). The existing research has produced insights into the acquisition of pricing information elements (Avlonitis and Indounas 2006; Indounas 2009; Tzokas et al. 2000). However, pricing information sources have to date not been investigated. Fifth, the existing studies tend to lack a broad and solid conceptual foundation drawing upon leading management theories (Avlonitis and Indounas 2006; Indounas 2009; Tzokas et al. 2000). A reason for this might be that prior studies have no explicit focus on pricing information practices modelling pricing information acquisition as predictors, but not as focal variable. There is considerable knowledge in the research streams of environmental scanning (e.g., Brush 1992; Daft, Sormunen, and Parks 1988; Garg, Walters, and Priem 2003; McGee and Sawyerr 2003; Mohan-Neill 1995), export information (e.g., Belich and Dubinsky

1995; Descotes and Walliser 2011; Köksal 2008; Souchon and Diamantopoulos 1999; Williams 2006; Yeoh 2000), entrepreneurial marketing information (e.g., Hart and Tzokas 1999; Keh, Nguyen, and Ng 2007; McGee and Sawyerr 2003) and information systems research (e.g., Caldeira and Ward 2003; Li 1997; Santhanam and Hartono 2003; Wade and Hulland 2004) that could assist in deducing a more informed and solid conceptual foundation of SME pricing information acquisition activities.

Summarising, the issue of pricing information acquisition seems to be a largely ignored topic in the area of pricing research and in the context of SMEs. No broad quantitative empirical study focusing in detail on the pricing information behaviour of manufacturing SMEs, including its antecedents and consequences, could be identified in the literature.

### **2.5.2 Antecedents and consequences of pricing information practices**

In this section, the antecedents and consequences of pricing information practices will be analysed. The reasons for doing this are twofold. First, prior research has highlighted the importance of studying relevant influential factors and consequences to understand and explain pricing practices and decisions (e.g., Dutta, Zbaracki, and Bergen 2003; Forman and Lancioni 2002; Ingenbleek 2007; Schuppar 2006).

Second, the discussed management theories yielded the result that information processing-related practices might be dependent on internal resources and characteristics and external situational factors. In addition, the reviewed management theories have also highlighted the need to study the consequences of information processing-related practices. Consequently, the purpose of this section is to provide an in-depth analysis and discussion of the contributions of prior research on the antecedents and consequences of information processing-related constructs.

An extensive search of scientific databases (e.g., Abi Inform Complete/ProQuest, Business Source Complete/EBSCO) and references of pertinent articles was conducted to identify the studies. There were only few existing studies on pricing information acquisition practices, which yielded limited insights into potential influencing factors and consequences of information acquisition. Consequently, the scope of the search was broadened covering also contributions from environmental scanning, exporting information, entrepreneurial marketing information, marketing research practices and information systems literature.

The remainder of this section is structured as follows. First, the pertinent literature on the antecedents of pricing information practices is presented and discussed. Subsequently, literature illuminating the potential consequences of pricing information practices is analysed.

### **2.5.2.1 Antecedents**

Table 2.4 summarises the pertinent empirical studies on antecedents of information activities. The table is structured as follows. The contributions are listed in chronological order and information is provided on the sample, study object and data collection procedures. In addition, the analytical approach including investigated variables and a summary of relevant findings is provided.

The table facilitates a structured in-depth analysis of potential determinants of information acquisition practices. According to Rao and Kartono (2009, p. 13), pricing determinants refer “to the various company/product conditions, market and customer (consumer) conditions, and competitive conditions that may influence the pricing strategies adopted”.

**Table 2.4: Summary of pertinent empirical studies on antecedents of information activities**

Author(s) Year	Country of study	Sample size	Industrial sector	Firm size	Data collection method	Analytical approach	Dependent variable(s)	Influencing factor(s)	Findings
Deshpande and Zaltman 1982	U.S.	176	Large consumer- product- oriented firms	Large firms, exact size unclear	Survey	Path analysis	Instrumental marketing research use	Organisational structure, research report characteristics, surprise, life-cycle maturity, researcher-manager interaction	<ul style="list-style-type: none"> <li>Organisational-related variables are strongly related to the instrumental use of information. Decentralised and less formalised firms make greater use of market research</li> <li>In large firms the interaction of decision maker and market researcher affects the use of information</li> <li>Product-related factors (life cycle stage) seem not to influence the extent of information use</li> </ul>
Johnson and Kuehn 1987	U.S.	168 firms, 626 interviews	Finance, retail, manufacturing and technology firms	132 small firms < 100 empl., <\$3.5 million annual sales; 36 large firms	Semi-structured face-to-face interviews, including rating questions	Group comparisons	Information acquisition	Firm size	<ul style="list-style-type: none"> <li>Small business owners/managers spend one-fourth of the day in environmental search</li> <li>Large businesses spend one-sixth of their time on information acquisition</li> <li>The majority of the investigated information sources is more frequently acquired by small business owner/managers</li> <li>Firm size is a predictor of external information acquisition</li> </ul>
Daft, Sormunen, and Parks 1988	U.S.	50	Various manufacturing sectors	Annual sales mean \$65 million; 100 to 6000 employees	Face-to-face survey method	Univariate, correlation, group comparison hypotheses testing	Scanning frequency and mode	Perceived strategic uncertainty	<ul style="list-style-type: none"> <li>Customer, economic and competitive sectors produced greater uncertainty than technological, regulatory and sociocultural sectors</li> <li>High perceived uncertainty led to greater frequency of information acquisition</li> <li>High-performing firms conducted more information acquisition in response to strategic uncertainty</li> </ul>
Weinrauch et al. 1991	U.S.	99	Retail, service and manufacturing	Unclear, small businesses	Survey	Correlation analysis, chi-square	Information acquisition	Marketing resources, firm size, firm age	<ul style="list-style-type: none"> <li>No significant correlations between the independent variables and information acquisition were found</li> </ul>

Author(s) Year	Country of study	Sample size	Industrial sector	Firm size	Data collection method	Analytical approach	Dependent variable(s)	Influencing factor(s)	Findings
									<ul style="list-style-type: none"> <li>Findings indicate that information behaviour is not influenced by management factors and financial resources</li> </ul>
Belich and Dubinsky 1995	U.S.	108	Various manufacturing firms	Ten to 500 employees	Survey	Group comparison hypotheses testing, correlation analysis	Information acquisition	Sales revenue regarded as indicator of firm size, organisational structure, objectives, strategic orientation, product-related, environmental-related, managerial-related	<ul style="list-style-type: none"> <li>Groups of antecedent factors possibly influencing information acquisition fall into the categories: strategic-, organisational-, management-, objectives-, strategic-, environmental- and product-related</li> <li>Strategic, product and management factors were positively associated with information acquisition</li> </ul>
Cooper, Folta, and Woo 1995	U.S.	1176	Various sectors	Average size is fewer than 3 employees	Survey	Correlation and regression analysis	Information search	Management experience, management familiarity with industry sector, managerial confidence	<ul style="list-style-type: none"> <li>Entrepreneurs with higher levels of management experience sought information more intensely</li> <li>Unfamiliarity with the business domain only led to greater information search if the entrepreneur had prior management experience</li> </ul>
Mohan-Neill 1995	U.S.	68	unclear	<\$10 million annual sales	Survey	Group comparisons, correlation analysis, cross-tab analysis	Information acquisition	Firm size, firm age	<ul style="list-style-type: none"> <li>Older and larger firms conduct more information acquisition</li> <li>Older firms are more likely to use formal methods of information collection</li> <li>Small ventures are not as informed about the macro-environment as their larger counterparts</li> </ul>
Pelham and Wilson 1996	U.S.	68	Manufacturers, wholesalers, service firms and con-	Small firms (Ø 23 employees, Ø \$2.9 million	Telephone panel	SEM	Market orientation	Firm strategy	<ul style="list-style-type: none"> <li>Firm strategy seems to exert influence on market orientation including its information processing component</li> <li>The data confirmed a positive relationship between a differentiation strategy and market orientation</li> </ul>

Author(s) Year	Country of study	Sam- ple size	Industri- al sector	Firm size	Data collection method	Analytical approach	Depend- ent vari- able(s)	Influencing factor(s)	Findings
Pineda et al. 1998	U.S.	131	struction firms Various manufacturing firms	annual sales) 25% < 5 empl.; 50% 5-25 empl.; 25% > 25 empl.	Survey	Principal component analysis, group comparison hypotheses testing	Information search	Decision type, perceived decision effectiveness	<ul style="list-style-type: none"> <li>• Greater perceived own effectiveness in decision making and higher importance of decisions lead to more information search</li> <li>• Strategic factors such as the type of decision and management-related factors, such as managerial effectiveness influence information behaviour</li> </ul>
Wright and Ashill 1998	Unclear	3	Two manufacturers and one retailer	Two SMEs and one large firm	Multiple in-depth interviews in each firm	Inductive case study method	Information need	Environmental uncertainty, management experience	<ul style="list-style-type: none"> <li>• Evidence suggests that environmental uncertainty in terms of volatility and complexity lead to greater information gathering</li> <li>• The three case studies provided only slight evidence that experience of managers influences their information behaviour</li> </ul>
Homburg, Workman, and Krohmer 1999	U.S., Germany and many	514	Three manufacturing sectors	\$25 million to more than \$1.3 billion	Survey	Regression analysis	Role of marketing	Market growth, market-related complexity, technological turbulence, differentiation strategy, customer concentration, CEO with marketing background	<ul style="list-style-type: none"> <li>• Study sheds light on potential antecedents of information activities within the marketing function</li> <li>• Antecedent factors can be grouped into external determinants such as market growth, market-related uncertainty, internal strategic factors such as the competitive strategy and internal management-related factors such as the educational background of managers</li> </ul>
Souchon and Diamantopoulou 1999	U.K.	12 interviews, 198 questionnaires	Various industries	Unclear	In-depth interviews	Qualitative inquiry in combination with survey research	Export information acquisition	Source awareness Company size Export experience Export dependence Export specificity	<ul style="list-style-type: none"> <li>• Qualitative interviews shed light on potential antecedent factors of information acquisition</li> <li>• Organisational-related antecedent factors positively influence export information acquisition behaviour of SMEs</li> </ul>

Author(s) Year	Country of study	Sample size	Industrial sector	Firm size	Data collection method	Analytical approach	Dependent variable(s)	Influencing factor(s)	Findings
Yeoh 2000	U.S.	180	Five manufacturing sectors	Unclear (47% < 50 empl., 49% > \$10 mil.)	Survey	Factor analysis, regression analysis, group comparisons	Information search	Exporting entrepreneurialism, perceived usefulness, environmental complexity, environmental uncertainty, uncertainty avoidance, firm size	<ul style="list-style-type: none"> <li>• Study shows that strategic, organisational, management-related and environmental factors might be important predictors of information acquisition</li> </ul>
Caldeira and Ward 2003	Portugal	12	Mould, apparel and wine	58 to 450 employees, £4 to £20 million	In-depth case studies	Inductive case study method	Information systems adoption	Management competence, management attitude, availability of financial and human resources, type of information system, quality of software and processes	<ul style="list-style-type: none"> <li>• The two most critical factors for information system adoption are management's competence and attitude, in other words, managerial antecedent factors</li> <li>• Other important influencing factors include organisational factors such as resources and existing processes</li> </ul>
McGee and Sawyerr 2003	U.S.	153	High technology manufacturing	>2 employees, <\$20 million	Survey	Correlation, regression analysis	Information acquisition	Perceived uncertainty, firm age	<ul style="list-style-type: none"> <li>• In high technology sectors, younger firms faced with higher levels of strategic uncertainty use more personal and external information</li> <li>• Conversely, older firms make greater use of internal and impersonal information to cope with uncertainty</li> </ul>
Stoica, Liao, and Welsch 2004	U.S.	284	Diverse distribution of industries	SMEs with more than 50 employees	Mail survey	Factor analysis, ANOVA, group comparison hypotheses testing	Information processing	Organisational culture	<ul style="list-style-type: none"> <li>• Vigilance, search scope and responsiveness are dependent on organisational culture</li> <li>• SMEs with a market-driven culture have greater external information acquisition</li> <li>• Individuals form the information culture in firms and therefore managerial-related characteristics might influence information behaviour</li> </ul>
Richbell, Watts, and Wardle 2006	U.K.	70	Metal manufacturing	< 50 employees	Survey	Chi-square hypotheses testing	Business planning	Management-related attributes such as age and experience, firms'	<ul style="list-style-type: none"> <li>• In SMEs, education level and prior work experience in large firms positively influences business planning, which itself comprises an</li> </ul>

Author(s) Year	Country of study	Sam- ple size	Industri- al sector	Firm size	Data collection method	Analytical approach	Depend- ent vari- able(s)	Influencing factor(s)	Findings
			firms					strategic orientation	information acquisition component
Sciascia, Naldi, and Hunter 2006	Swe- den	1123	Manufac- turing, whole- sale and service firms	<= 250 employees	Survey	Regression analysis	Entrepre- neurial orienta- tion	Management attributes, organisational factors, strategic factors, market orientation, market factors	<ul style="list-style-type: none"> <li>• Growth-oriented firm strategies were positive-ly associated with business planning in SMEs</li> <li>• The study sheds light on antecedent factors investigated together with the market orientation construct, which itself comprises an in-formation acquisition component</li> <li>• Antecedent factors falling into the groups individual-related, organisation-related and environment-related were all positive predic-tors of entrepreneurial orientation</li> </ul>
Williams 2006	U.K.	376	Two manufac- turing sectors	Ten to 250 empl.	Survey	ANOVA, Kruskall- Wallis tests, Mann- Whitney tests, Spearman correla- tions, cluster analysis	Export infor- mation sources, data col- lection methods and use	Export commitment, export experience, export involvement	<ul style="list-style-type: none"> <li>• Export experience is not strongly related with high levels of export information collection</li> <li>• Export involvement and commitment influence on data collection vehicles and use is moderate to strong</li> <li>• It is important to investigate influencing fac-tors of information behaviour to derive useful practical implications for managers</li> </ul>
Keh, Ngu- yen, and Ng 2007	Singa- pore	294	Multiple manufac- turing, services	< 100 empl.	Survey	SEM	Marketing infor- mation acqui- sition, mar- keting infor- mation utilisation	entrepreneurial orienta- tion	<ul style="list-style-type: none"> <li>• Entrepreneurial orientation is significantly and positively related to both information acqui-sition and utilisation</li> <li>• Information acquisition might be a moderator of the relationship between entrepreneurial orientation and firm performance</li> </ul>

Author(s) Year	Country of study	Sam- ple size	Industri- al sector	Firm size	Data collection method	Analytical approach	Depend- ent vari- able(s)	Influencing factor(s)	Findings
Peltier, Schibrowsky , and Zhao 2009	U.S.	386	Hardware and varie- ty retail- ers	Ø 15.5 employees	Survey	Logistic regression	Infor- mation system adoption (CRM)	Market uncertainty, environmental hostility, relative advantage, switching cost, product class knowledge, per- sonal risk orientation, business change orien- tation, interpersonal information seeking, company size, age of owner, education of owner	<ul style="list-style-type: none"> <li>• Environmental factors such as market uncer- tainty and hostility affected information sys- tem adoption</li> <li>• The owner characteristics of knowledge, risk orientation and business change orientation in- fluenced information system adoption</li> <li>• Firm characteristics in terms of organisational size did not influence information systems adoption</li> </ul>
Ingenbleek, Frambach, and Verhallen 2010	Bel- gium	145	Manufac- turing firms and service providers	41%: <50 empl.; 20%: 50- 100 empl.; 39%>100 empl.	Survey	SEM	Value- based pricing strategy	Market orientation	<ul style="list-style-type: none"> <li>• Market orientation comprises amongst others the generation of information on competitors and customers</li> <li>• Customer orientation is positively linked to the value-based pricing strategy. The link between competitor orientation and the value-based pricing strategy was non-significant</li> <li>• Research indicates that the adopted pricing strategy might be a predictor of information acquisition activities</li> </ul>
Totzek and Alavi 2010	Ger- many	230	Multiple manufac- turing and service sectors	50% of the sample <200 empl.	Survey	SEM, regression analysis	Infor- mation behaviour	Competitive orientation	<ul style="list-style-type: none"> <li>• The competitive orientation of corporate cul- ture has a positive impact on pricing infor- mation behaviour</li> </ul>
Gaur, Vasudevan, and Gaur 2011	India	315	Various manufac- turing firms	< \$2.5 million of total capi- tal in- vestment	Survey	SEM	Market orienta- tion	Moderators: firm re- sources, environmental variables	<ul style="list-style-type: none"> <li>• The study sheds light on antecedent factors investigated together with the market orienta- tion construct, which itself comprises an in- formation acquisition component</li> <li>• Firm resources and competitive intensity were significant moderators of the relationship be-</li> </ul>

Author(s) Year	Country of study	Sam- ple size	Industri- al sector	Firm size	Data collection method	Analytical approach	Depend- ent vari- able(s)	Influencing factor(s)	Findings
Descotes and Walliser 2011	France, Roma- nia	18	Textile and steel manufac- turing firms	< 250 employees	Semi- structured interviews	Inductive case study method	Export infor- mation behaviour	Managers' experience, informal information acquisition	tween market orientation and performance <ul style="list-style-type: none"> <li>Managers international experience and informal information sources promote information acquisition processes</li> </ul>
Franco et al. 2011	Portu- gal	165	Manufac- turing (43%), the rest is unclear	Ø 481 employees	Survey	Principal component analysis, ANOVA	Scanning practices, scanning sources	Firm size	<ul style="list-style-type: none"> <li>The study confirms a positive relationship between information acquisition and firm size</li> <li>Larger firms' information acquisition is broader and more frequent as in smaller firms</li> </ul>
Haase and Franco 2011	Portu- gal	165	Manufac- turing (43%), services (26%), retail trade (18%)	80% of firms < 250 em- ployees	Survey	Descrip- tive analy- sis, MAN- OVA	Infor- mation scanning sources	Industry, firm size	<ul style="list-style-type: none"> <li>The industry type exerts certain effects on information acquisition</li> <li>Results suggest a size effect on information acquisition activities</li> </ul>

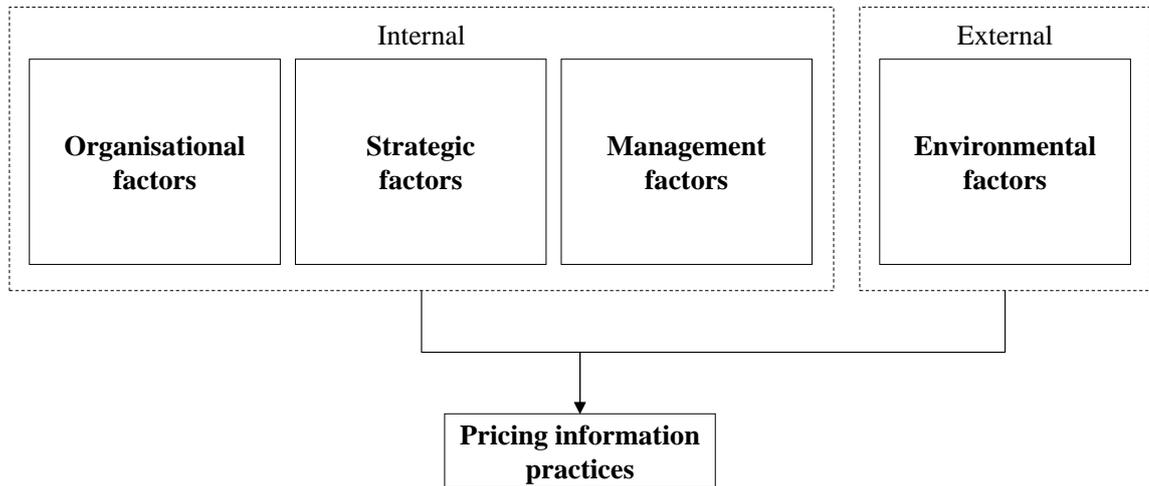
The extensive analysis of the literature yields important insights into the relationships between different influencing factors and information processing constructs. The summary of the literature presented in Table 2.4 suggests the following four categories for the antecedents that influence firms' pricing information practices. These groups help to structure the potential antecedent factors and support further conceptualisation.

- (1) Organisational factors (Caldeira and Ward 2003; Deshpande and Zaltman 1982; Franco et al. 2011; Gaur, Vasudevan, and Gaur 2011; Haase and Franco 2011; Johnson and Kuehn 1987; McGee and Sawyerr 2003; Mohan-Neill 1995; Moorman 1995; Souchon and Diamantopoulos 1999; Stoica, Liao, and Welsch 2004; Weinrauch et al. 1991; Williams 2006),
- (2) Strategic factors (Belich and Dubinsky 1995; Homburg, Workman, and Krohmer 1999; Ingenbleek, Frambach, and Verhallen 2010; Keh, Nguyen, and Ng 2007; Pelham 2000; Pelham and Wilson 1996; Pineda et al. 1998; Richbell, Watts, and Wardle 2006; Sciascia, Naldi, and Hunter 2006; Totzek and Alavi 2010; Tzokas et al. 2000; Yeoh 2000),
- (3) Management factors (Caldeira and Ward 2003; Cooper, Folta, and Woo 1995; Descotes and Walliser 2011; McGee and Sawyerr 2003; Peltier, Schibrowsky, and Zhao 2009; Pineda et al. 1998; Richbell, Watts, and Wardle 2006; Sciascia, Naldi, and Hunter 2006; Souchon and Diamantopoulos 1999; Verhees and Meulenbergh 2004; Williams 2006; Wright and Ashill 1998), and
- (4) Environmental factors (Belich and Dubinsky 1995; Homburg, Workman, and Krohmer 1999; Pelham 2000; Peltier, Schibrowsky, and Zhao 2009; Sawyerr, Edbrahimi, and Thibodeaux 2000; Slater and Narver 2000a; Slater and Narver 2000b; Wright and Ashill 1998; Yeoh 2000).

The first three groups refer to firm-internal factors and the fourth group refers to the external environment (cf. Figure 2.6). The combination of an internal and external com-

ponent of antecedent factors is also suggested by other empirical pricing research (Rao and Kartono 2009; Schmidt and Gary 2002; Stöttinger 2001).

**Figure 2.6: Influencing factors of pricing information practices**



Source: Own illustration

However, the analysis of the literature focusing on antecedents of information processing practices also reveals a starting point for this study. The most noticeable fact is that there is no study that has illuminated the underlying mechanism of pricing information acquisition. The few existing studies that have shed some light on pricing information acquisition model it as predictor of other constructs, but disregard studying antecedents of the information behaviour itself. They are therefore not included in Table 2.4. This can be regarded as a significant obstacle to a deeper understanding of this important construct. In addition, only very limited conceptual development on the antecedents of pricing information acquisition can be found in the literature. This inhibits theory development regarding the first step in the process of making pricing decisions. Although studies on information practices without explicit pricing focus have helped to structure the large amount of possible antecedents into four groups, there is still a tendency to neglect the study of information-related constructs in an integrative manner.

The literature comes to conflicting conclusions regarding how to illuminate information acquisition practices. Many studies focus on one or a few antecedents of information

practices (e.g., Daft, Sormunen, and Parks 1988; Johnson and Kuehn 1987; McGee and Sawyerr 2003; Mohan-Neill 1995; Pelham and Wilson 1996; Weinrauch et al. 1991). However, other researchers stress the importance of studying multiple antecedents simultaneously to facilitate a deeper understanding of the underlying mechanisms (e.g., Belich and Dubinsky 1995; Deshpande and Zaltman 1982; Homburg, Workman, and Krohmer 1999; Peltier, Schibrowsky, and Zhao 2009; Sciascia, Naldi, and Hunter 2006; Souchon and Diamantopoulos 1999; Yeoh 2000). Against the backdrop of missing empirical evidence on pricing information acquisition antecedents, a study focusing on an integrative analysis of multiple influencing factors is important to facilitate an initial broad understanding of pricing information acquisition. Such a study could contribute significant value to literature and close the existing gaps.

Summarising, this section has identified important groups of antecedents that might influence firms' pricing information practices. In this context, the review of the literature has revealed that an analysis of external and internal factors could provide deeper insight into the main construct under investigation in this study. In addition, the analysis of the literature in this section has revealed a significant gap in the literature. Although the necessity of studying influencing factors is an important issue, no detailed study on the antecedents of firms' pricing information behaviour could be identified. This could be a starting point for this study. In the next section, pertinent empirical literature on the consequences of pricing information practices will be analysed.

### **2.5.2.2 Consequences**

Table 2.5 summarises the pertinent empirical studies on consequences of information activities. The table is structured in the same way as the preceding Table 2.4. The in-depth analysis of the literature facilitates a detailed overview of the possible implications of pricing information practices. Pricing researchers call for investigation into the consequences of pricing practices (Ingenbleek 2007; Kaiser 2011; Schuppar 2006). In the remainder of this section, the contributions to the existing body of knowledge are analysed and existing challenges are exposed.

**Table 2.5: Summary of pertinent empirical studies on consequences of information activities**

Author(s) Year	Country of study	Sample size	Industrial sector	Firm size	Data collection method	Analytical approach	Dependent variable	Independent information variable(s)	Findings
Brush 1992 #2071 /nopar}	U.S.	66	Various manufacturing sectors	<100 employees (Ø 29); \$0.09-12 million (Ø \$3 million)	Survey	Descriptive and correlation analysis	Firm performance	Information acquisition	<ul style="list-style-type: none"> <li>Few highly-significant correlations point toward some relationship between information activities and performance measures in small firms</li> </ul>
Moorman 1995	U.S.	300	Service, durable, non-durable, industrial	Large firms, exact size unclear	Survey	Regression analysis	New product performance	Information acquisition, information distribution, information utilisation	<ul style="list-style-type: none"> <li>Non-significant relationships between information acquisition, distribution and new product performance</li> <li>The non-significant results might be caused by information overload and absence of information systems</li> </ul>
Peters and Brush 1996	U.S.	120	61% service sector and 39% manufacturing sector	Ø employees 11, \$0.95 million sales (mode)	Survey	Regression analysis	Business performance	Market scanning	<ul style="list-style-type: none"> <li>High-performing manufacturing ventures conducted more market scanning than low-performing firms</li> <li>High-performing firms collected more competitive information and engaged more intensely in networking activities</li> </ul>
Hart and Tzokas 1999	U.K.	50	Three manufacturing sectors	< 200 empl.	Survey	Factor analysis, Kruskal-Wallis tests	Export performance	Collection of export marketing research	<ul style="list-style-type: none"> <li>The use of marketing information in SMEs is related to export success</li> <li>It is especially important to do external research about customers' perceptions</li> <li>More research is needed to understand the complexities of the relationships between information behaviour and performance</li> </ul>
Pelham 2000	U.S.	235	Multiple manufacturing	Annual sales \$12-	Survey	Correlation, Anova	Firm performance	Market orientation	<ul style="list-style-type: none"> <li>Market orientation including sub-dimension information acquisition is positively related to</li> </ul>

Author(s) Year	Country of study	Sample size	Industrial sector	Firm size	Data collection method	Analytical approach	Dependent variable	Independent in- formation varia- ble(s)	Findings
			turing sectors	200 mil- lion)		va			firm performance <ul style="list-style-type: none"> <li>It is important to gather information on customer satisfaction and competitive activities to create superior value and achieve higher performance</li> </ul>
Sawyer, Edbrahimi, and Thibodeaux 2000	Nigeria	47	Various manufacturing sectors	63% of sample < 500 employees	Survey	Group comparison hypotheses testing, correlation analysis	Organisational performance	Environmental scanning	<ul style="list-style-type: none"> <li>Scanning frequency was not related to profit margins and return on equity</li> <li>Further investigation of the relationship is demanded</li> </ul>
Slater and Narver 2000a	U.S.	53	53% product, 47% service firms	Unclear	Face-to-face survey method	Correlation and regression analysis	Business profitability	Market orientation	<ul style="list-style-type: none"> <li>Market orientation including sub-dimension information acquisition is positively related to business profitability</li> <li>Market intelligence generation is likely to lead to improved business profitability</li> </ul>
Yeoh 2000	U.S.	180	Five manufacturing sectors	Unclear (47% < 50 empl., 49% > \$10 mil.)	Survey	Factor analysis, regression analysis, group comparisons	Export performance	Information search	<ul style="list-style-type: none"> <li>Firms actively seeking information are likely to have higher export performance levels</li> <li>In an exporting context, information search intensity is of critical importance for success</li> </ul>
Verhees and Meulenber 2004	Netherlands	152	Rose manufacturers	Unclear; small firms run by owner	Mail survey	Regression analysis	Relative product price	Customer market intelligence	<ul style="list-style-type: none"> <li>Customer market intelligence is positively associated with firm performance; it is an important informational asset that contributes to optimal price setting</li> <li>Intelligence generation might be a predictor of pricing performance</li> </ul>
Kara, Spillan, and	U.S.	153	Various service	SMEs with an-	Survey	SEM	Business perfor-	Market information processing	<ul style="list-style-type: none"> <li>Information processing, which consists of the acquisition, distribution and utilisation of in-</li> </ul>

Author(s) Year	Country of study	Sam- ple size	Industri- al sector	Firm size	Data collection method	Analytical approach	Dependent variable	Independent in- formation varia- ble(s)	Findings
DeShields 2005			retailers	nual sales <\$100.000			mance		formation, is related positively to overall busi- ness performance in the context of SMEs
Toften 2005	Norway	125	Seafood industry	Unclear (Ø 25 empl., Ø €18 mil. turnover)	Survey	SEM	Export perfor- mance	Instrumental infor- mation utilisation, symbolic infor- mation utilisation, export knowledge	<ul style="list-style-type: none"> <li>• Instrumental information use is positively asso- ciated with performance in export activities</li> <li>• The distortion of information for individual purposes (symbolic use) is not connected to performance</li> <li>• Although the use of information affects knowledge, knowledge does not influence per- formance</li> </ul>
Keh, Ngu- yen, and Ng 2007	Singa- pore	294	Multiple manufac- turing, services	< 100 empl.	Survey	SEM	Firm per- formance	Marketing infor- mation acquisition, marketing infor- mation utilisation	<ul style="list-style-type: none"> <li>• Reveals conflicting results whether information acquisition is related to performance; infor- mation utilisation is positively related to firm performance</li> <li>• Information acquisition might be a moderator of the relationship between entrepreneurial ori- entation and firm performance</li> </ul>
Köksal 2008{	Turkey	102	Mainly textile, metal, chemical, food manufac- turing industries	62%<150 empl.; 25%<500 empl.;	Survey	Principal component analysis, regression analysis	Export perfor- mance	Information acquisi- tion, information utilisation	<ul style="list-style-type: none"> <li>• Internal sources positively influence perfor- mance while there is a non-significant effect for externally provided secondary information</li> <li>• Decisions based on marketing research have a strong effect on export sales and growth</li> </ul>
Indounas 2009	Greece	177	Two service sectors	Unclear	Survey	Factor analysis, group compari- sons	Pricing perfor- mance	Pricing information elements	<ul style="list-style-type: none"> <li>• Cost-related pricing information elements were more important in high performing service firm</li> <li>• Non-significant relationships were found for customer- and competitor information elements</li> </ul>
Morgan, Vorhies, and	U.S.	230	Service and man-	Unclear	Mail survey	Regression analysis,	Business perfor-	Market information processing	<ul style="list-style-type: none"> <li>• Overall, market orientation in terms of intelli- gence generation, dissemination and utilisation</li> </ul>

Author(s) Year	Country of study	Sample size	Industrial sector	Firm size	Data collection method	Analytical approach	Dependent variable	Independent in- formation varia- ble(s)	Findings
Mason 2009			ufacturing firms in various durable and non- durable industries			SEM	mance		is related positively to firm performance <ul style="list-style-type: none"> <li>The data only gave evidence for a significant relationship between objective firm performance and information processing, but not between subjectively perceived firm performance</li> </ul>
Totzek and Alavi 2010	Germa- ny	230	Multiple manufac- turing and service sectors	50% of the sample <200 empl.	Survey	SEM, regression analysis	Pricing perform- ance	Pricing information processing	<ul style="list-style-type: none"> <li>Information processing is related positively to pricing performance indicating that information generation leads to better pricing decisions and better overall pricing success</li> </ul>

Table 2.5 reveals that researchers regard studying the outcomes of information processing activities as an important issue that deserves investigation. Several studies deal with the consequences of organisational information practices. Against this background, the extensive analysis of the literature yields important insights into the consequences of information processing constructs. As Table 2.5 indicates, there seems to be a consensus among researchers that information processing activities are related to performance-related constructs. Researchers have studied organisational information practices as predictors, such as overall firm performance (Brush 1992; Garg, Walters, and Priem 2003; Kara, Spillan, and DeShields 2005; Keh, Nguyen, and Ng 2007; Morgan, Vorhies, and Mason 2009; Pelham 2000; Peters and Brush 1996; Sawyerr, Edbrahimi, and Thibodeaux 2000; Slater and Narver 2000a), export performance (Hart and Tzokas 1999; Köksal 2008; Toften 2005; Yeoh 2000), new product performance (Moorman 1995), relative product price (Verhees and Meulenbergh 2004) and pricing performance (Indounas 2009; Totzek and Alavi 2010). Table 2.5 gives a detailed overview of the variables studied, the study contexts, data basis and important findings. In spite of the existing studies that examine the relationship between performance consequences and information processing constructs, it can be noted that there are several starting points for further research with a view to the research question addressed in the present study.

The analysis reveals a significant research deficit regarding the consequences of pricing information practices. Although there are some studies investigating the relationship between information acquisition practices and performance in the research fields of entrepreneurship (e.g., Keh, Nguyen, and Ng 2007), exporting (e.g., Hart and Tzokas 1999; Yeoh 2000) and environmental scanning (e.g., Brush 1992; Garg, Walters, and Priem 2003) only two quantitative studies dealing with the specific issue of pricing information performance consequences could be identified in the literature, and the results remain somewhat incomplete (Indounas 2009; Totzek and Alavi 2010). Totzek and Alavi's (2010) findings suggest a positive influence of pricing information processing on pricing performance, corroborating the findings of studies in the research fields of exporting and environmental scanning (Garg, Walters, and Priem 2003; Peters and

Brush 1996; Yeoh 2000). Indounas (2009) reveals mixed empirical support. Although cost-related pricing information elements were related to higher pricing performance, no significant relationships could be confirmed to customer-based and competition-based pricing information elements. These results seem to corroborate the findings of Brush (1992) who also found few significant correlations between environmental scanning sources and performance. In addition, findings are quite limited because Indounas (2009) investigates only two service sectors. Neither Totzek and Alavi (2010) nor Indounas (2009) focus on the SME sector. Furthermore, Indounas (2009) focuses only on pricing information elements. There is no study that explores the link between the acquisition of pricing information sources and pricing performance. In sum, the existing studies tend to overlook the SME sector and tend to use differing SME definitions. The existing findings remain somewhat inconclusive. There is no study focusing on the consequences of pricing information acquisition practices in a manufacturing SME context. Specifically, the relationship between pricing information acquisition sources and pricing performance has to date not been investigated.

Summarising, researchers have suggested relationships between information processing practices and performance constructs, but there is limited or no empirical evidence in a pricing and SME context. Research into the consequences of pricing information practices remains incomplete. A study presenting more evidence on the significance of the first step of pricing information acquisition in relation to a firm's performance would close another major gap in the literature.

### **2.6 Synthesis**

To sum up, the research on pricing information practices in SMEs remains inconclusive. The review of prior research has identified several challenges. Consequently, this section structures the various shortcomings and weaknesses and condenses them into several research challenges. Based on this information, five research objectives will be formulated, which aim to alleviate the identified challenges and lead to the formulation of five research questions. Finally, the resulting research gap will be stated.

### **2.6.1 Identification of research challenges**

Most of the existing knowledge has a rather normative character stemming from pricing textbooks. Dedicated and specifically focused conceptual contributions on pricing information practices are somewhat missing. There is considerable ambiguity regarding the components of pricing information practices. For instance, a wide variety of terms is used and the literature lacks clear definitions and sharp delimitations of concepts. Clear conceptual development is absent. In addition, the existing conceptual studies that deal to some extent with pricing information mostly lack a rigorous theoretical foundation drawing upon leading organisational and management theories. Furthermore, the applicable pricing research tends to overlook existing conceptual knowledge on information systems, marketing research practices and the marketing knowledge and learning literature. The conceptual pricing literature on information practices lacks a clear process-oriented perspective that could clarify conceptual development and structure the existing literature. The result is a fragmented understanding that hinders theoretical development, exacerbates empirical measurement and impedes practical improvement of pricing practices in firms. In the case of SMEs, to the best of my knowledge, no studies exist that contribute to coherent conceptual development of pricing information practices. Against the background of the practical significance of the informational dimensions of pricing decision making, the aforementioned conceptual shortcomings create a critical gap in the existing literature.

Research Challenge 1: Limited conceptual overview, clarity and understanding of pricing information acquisition practices; even less so in the case of SMEs.

There is a dearth of conceptual and empirical research on the subject of gathering and processing pricing information. The literature stream dealing with the specific research field of SME pricing tends to completely overlook the first crucial step in the process of making pricing decisions. To the best of my knowledge, research investigating pricing information practices of manufacturing SMEs in an integrative manner does not exist. Only a handful of studies have shed initial light on the important question of how firms should collect and use pricing information to make profitable pricing decisions. Pricing

research seems to ignore the first step in the pricing process, which deals with the gathering and use of pricing information. Before any information processing can occur, firms must acquire the necessary pricing information. Authors regard firms' information gathering activities as "the most important step in the information processing model" (Yeoh 2005, p. 165). Ingenbleek (2007, p. 450) states, "At the foundation of value-informed pricing in its organizational context are [...] the information sources that may inform managers about the customer's value perception". However, the existing scattered studies investigate large businesses (Totzek and Alavi 2010; Wiltinger 1998), focus on export pricing (Tzokas et al. 2000) and service pricing (Avlonitis and Indounas 2006; Indounas 2009), and only study external pricing information (Totzek and Alavi 2010) or rely on small qualitative samples (Wiltinger 1998). The studies do not focus explicitly on firms' pricing information practices, embracing only isolated parts of the underlying cause-and-effect relationships (Indounas 2009; Tzokas et al. 2000). This inhibits a detailed and broad understanding of the underlying influencing mechanisms. In addition, conceptual contributions have suggested pricing information sources and elements as important components of pricing information processing (Ingenbleek 2007; Meehan et al. 2011; Smith 1995). However, the existing contributions only focus on pricing information elements (Avlonitis and Indounas 2006; Indounas 2009; Tzokas et al. 2000). Thus, the current understanding is rather narrow. No study has investigated different pricing information sources.

**Research Challenge 2: Limited empirical analysis and knowledge of pricing information acquisition practices actually applied by SMEs.**

There is little to no conceptual and empirical research on antecedents of pricing information practices. Specifically, there is no quantitative study analysing antecedents of pricing information acquisition in an integrative manner. The situation is even more critical for SMEs. This is a significant obstacle to knowledge generation and theory development regarding the important issue of pricing information acquisition. Pricing researchers call for identification and analysis of factors causing variation in pricing-related behaviour (Diamantopoulos and Mathews 1995; Ingenbleek 2007; Rao and Kar-

tono 2009; Schuppar 2006). In addition, the Information Economics theory, RBV and Contingency theory explicitly highlight the need to study antecedents. Existing research provides little guidance in regard to the internal resources and capabilities and situational external factors that influence pricing information practices.

Research Challenge 3: Limited knowledge and integrative analysis of antecedents of pricing information acquisition practices; even less so in the case of SMEs.

Pricing researchers call for more research on the consequences of pricing practices (Ingenbleek 2007; Schuppar 2006) and even more in the case of SMEs (Kaiser 2011). The review of the literature on outcomes of information processing practices suggest performance-related constructs as a key consequence. The empirical literature seems to corroborate the RBV and the Information Economics theory suggestion that information processing related activities might be related to success. Information acquisition is a key means of reducing uncertainty and improving decision quality and performance respectively. However, the literature review revealed that there is little empirical research on the implications of the pricing information practices on performance. While some evidence points toward information processing as a driver of success, for instance, in the research fields of environmental scanning, exporting and entrepreneurship, the research is rather narrow and almost non-existent in the case of manufacturing SMEs. This is surprising given the background that pricing information plays a fundamental role in designing professional pricing strategies.

Research Challenge 4: Limited investigation of success implications of pricing information acquisition practices; even less so in the case of SMEs.

Although a considerable amount of literature has been published about pricing in general, most of the theory and cases are based on LEs and multinationals (e.g., Dutta, Zbaracki, and Bergen 2003; Hinterhuber 2004; Kossmann 2008; Schuppar 2006; Wiltinger 1998). Hills, Hultman, and Miles (2008, p. 100) recently stated that marketing research “has predominately focused on large, resource-abundant corporate organizations and ignored small, entrepreneurial organizations. This myopic perspective has

tended to overlook the resource constraints, capability limits, business objectives, and contexts of more entrepreneurial firms [...]”. Given the distinct characteristics in managerial and organisational structures in SME marketing (e.g., McCartan-Quinn and Carson 2003), the dearth of research on the subject of SME pricing is critical. Although gathering and processing pricing information is especially relevant, it is largely overlooked in an SME context. Confronted with the complexities of pricing, many SME managers feel overwhelmed (Banterle, Carraresi, and Cavaliere 2011; Cant 2012; Carson et al. 1998; Schmidt and Gary 2002). They are aware of the powerful impact of pricing as a profit lever. However, at the same time, prior research indicates that SME managers admit that pricing decisions are frequently guided by gut feelings, as they lack an effective information basis when making such decisions (Carson et al. 1998; Hankinson 1995; Meziou 1994). This deficiency is a significant obstacle in professional pricing practices and profitable pricing decisions in SMEs. Given this background, the increased vulnerability and the high economic significance of the SME sector, the necessity of studying the pricing information acquisition behaviour in SMEs becomes evident.

Research Challenge 5: Limited investigation of SME pricing practices.

Another research challenge relates to an important firm characteristic. Firms producing physical products and intangible services are regarded as distinctive objects of study in pricing research (Hoffman, Turley, and Kelley 2002). Pricing researchers recommend investigating product pricing and service pricing separately (Avlonitis, Indounas, and Gounaris 2005). Service pricing is idiosyncratic because of specific service characteristics, such as perishability, heterogeneity, intangibility, and simultaneity (Avlonitis and Indounas 2005; Shoemaker and Mattila 2009). The literature review yielded the result that the already scant amount of pricing research dealing with the issue of pricing information processing tends to focus on service pricing (Indounas 2009). Although much of the general pricing research has considered manufacturing firms (Ingenbleek 2007), product pricing has not been given the necessary attention in the context of the specific issue of pricing information processing. This is surprising given the economic im-

portance of the SME manufacturing sector (Palmieri 2007). A closer look at the pricing information practices of manufacturing firms would add considerable value to the existing pricing information literature.

Research Challenge 6: Limited examination of the information practices of manufacturing firms.

### **2.6.2 Deduction of research questions**

Six key research challenges were identified and discussed in detail in the preceding section. Based on these challenges, five research objectives will be formulated in this section. These objectives aim to alleviate the described research challenges and lead to the formulation of five research questions.

First, this research aims to introduce the construct pricing information acquisition into the SME pricing literature and to contribute to theory building regarding this issue. Relevant antecedent factors and the performance consequences will be conceptualised to understand in detail the pricing information practices of SMEs. Regarding the first objective, this study investigates Research Question 1, which addresses the Research Challenges 1 and 5.

Research Question 1: How should the pricing information acquisition practices and their antecedents and consequences be conceptualised in an SME context?

Second, this research sets out to explore empirically the level of pricing information acquisition in SMEs. This will give initial insights into how pricing information acquisition is carried out by SME practitioners. This objective is summarised in Research Question 2, which will help to address the Research Challenges 2, 5 and 6.

Research Question 2: What is the current status quo of pricing information acquisition in SMEs?

Third, this research aims to investigate the influence of selected internal contextual determinants on firms' pricing information acquisition. More specifically, as suggested by

the RBV and the Information Economics theory and related empirical research, this study focuses on the influence of the organisational-related factors and resources, the strategic orientation and the influence of managerial-related factors on SMEs' pricing information acquisition. This objective is summarised in Research Question 3, which sets out to close the gaps in the literature reflected in the Research Challenges 3, 5 and 6.

Research Question 3: Which internal factors drive the pricing information acquisition practices in SMEs?

Fourth, this study intends to study the influence of important external situational determinants on SME pricing information acquisition practices as suggested by Contingency theory contributions. Research Question 4 was formulated to address the fourth research objective, which targets Research Challenges 3, 5 and 6.

Research Question 4: Which external situational factors drive the pricing information acquisition practices in SMEs?

Fifth, this study looks at the relationship between firms' pricing information acquisition and the success of SMEs in order to shed light on the performance impact of the main construct. Consequently, the study addresses the following Research Question 5, which targets Research Challenges 4, 5 and 6.

Research Question 5: What is the success impact of SME pricing information acquisition practices?

### **2.6.3 The research gap**

The review of the literature revealed that the acquisition of pricing information in SMEs including its antecedents and consequences is a promising area for further study. The identified research challenges underline that conceptual development and empirical research are needed to build theory in the area of SME pricing information acquisition. Although research on SME pricing is not new, no research has explicitly focused on the

informational prerequisites of pricing decisions in SMEs including its determinants and implications. Therefore, it is legitimate to address this critical research gap. Given the high theoretical and practical relevance of this issue, this thesis will critically investigate and explore in detail the role of pricing information acquisition in SMEs, and structure and model the antecedents and consequences of SMEs' pricing information acquisition practices as crucial constituents of market-oriented pricing management.

## **2.7 Summary**

This chapter presented an in-depth discussion of the pertinent literature. Specifically, the chapter gave a structural overview of pricing and provided a detailed analysis of the SME sector and the current state of SME pricing research. Subsequently, it considered three key management theories as the theoretical fundament of the underlying thesis. After having analysed in detail the pertinent conceptual and empirical literature on pricing information practices, including the determinants and implications, several research challenges were identified, which led to the deduction of the research questions and the research gap. The next chapter will introduce the theoretical framework of this study. This is the first step in answering the aforementioned research questions. An extensive conceptual discussion will illuminate and clarify key model variables investigated in this research. Based on this, the research model will be determined, and subsequently the research hypotheses investigated in this research will be developed.

## **3 Theoretical Framework**

### **3.1 Introduction**

The previous chapter addressed the theoretical foundations of this research and identified five research questions that require investigation:

1. How should the pricing information acquisition practices and their antecedents and consequences be conceptualised in an SME context?
2. What is the current status quo of pricing information acquisition in SMEs?
3. Which internal factors drive the pricing information acquisition practices in SMEs?
4. Which external situational factors drive the pricing information acquisition practices in SMEs?
5. What is the success impact of SME pricing information acquisition practices?

The aim of this chapter is to present an in-depth discussion about the development of the theoretical framework employed in this research. The chapter is divided into three parts. First, it provides an in-depth discussion of key model variables investigated in this research. In doing so, it will answer the first research question. Second, this chapter comprises the research framework investigated in this thesis. Third, it incorporates all factors and develops hypotheses regarding the relationships between the selected constructs. The chapter concludes with a summary of the hypotheses put forward in the research framework.

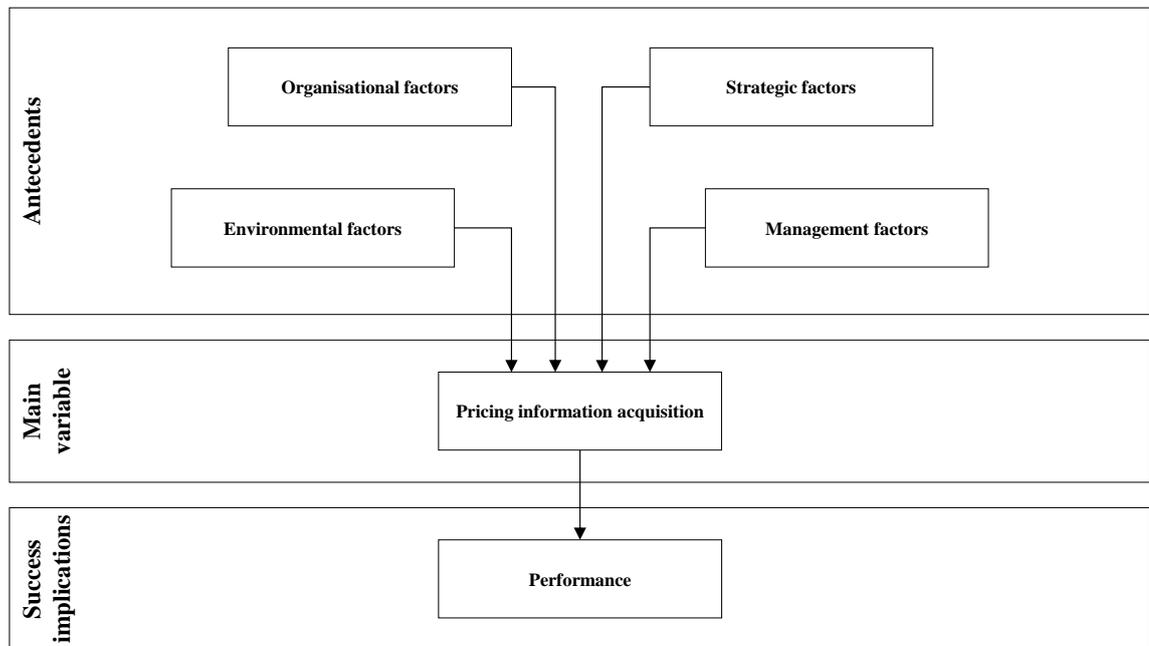
### **3.2 Conceptual background and foundation**

#### **3.2.1 Overview**

Section 3.2 will develop a conceptual framework that is capable of closing the research gaps identified in the literature review. It will address the conceptualisation of variables

and consider the links among the main variables. Figure 3.1 consists of an overview of the conceptual approach pursued in this study.

**Figure 3.1: Conceptual framework for investigating pricing information acquisition**



Source: Own illustration

The conceptual framework of this study is a chain of effects that lead from the internal and external antecedent factors via pricing information acquisition to performance. Pricing information acquisition is the focal variable of this study. The preceding chapter has revealed a significant research deficit regarding this issue in the SME pricing literature. This has led to the first research question: How should pricing information acquisition behaviour and its antecedents and consequences be conceptualised in an SME context. Section 3.2 will answer this question and is structured accordingly.

Since pricing information acquisition is the focal variable of this study, the first step is to review prior theories regarding information acquisition behaviour in order to develop a clear understanding of the main variable under investigation. Subsequently, supported by the RBV and Contingency theory, internal factors and external factors are considered as explanatory antecedents of a firm’s pricing information acquisition behaviour. This is

a necessary step because the previous chapter identified a need to understand which firms acquire pricing information and what might be the potential causes for varying degrees of this behaviour. Finally, performance is considered to be a key consequence of pricing information acquisition; this is indicated by the theoretical considerations and prior empirical contributions in the previous chapter.

### **3.2.2 Conceptualisation of pricing information acquisition**

#### **3.2.2.1 Prior conceptualisations of information acquisition behaviour**

The literature review has demonstrated that the acquisition of pricing information is an important research issue. Firms can reduce uncertainty in pricing decision making by means of appropriate information acquisition. The acquired information itself can be regarded as a core asset, and the related information acquisition capability can be a rich source of competitive advantage and business performance. The relevance of the issue under study becomes even more apparent if one adopts the process perspective to pricing. The activities associated with pricing information acquisition are the first crucial step toward professional pricing management. Without an appropriate information fundament, optimal pricing decisions are hindered. However, existing conceptualisations in the pricing literature are scarce, and the issue of pricing information acquisition has not been investigated in detail in an SME context. The analysis of the pricing literature has revealed substantial conceptual confusion, and empirical studies focusing on pricing information are very scarce. As a result, theory building and further conceptualisation of pricing information acquisition is of fundamental relevance. The first step in pursuing this objective is to answer the question of what constitutes information acquisition.

Souchon and Diamantopoulos (1999, p. 145) view information acquisition “as the generation of information relevant for decision making.” Another definition of information acquisition stems from Moorman (1995). She defines information acquisition as processes referring “to the collection of primary or secondary information from organizational stakeholders” (Moorman 1995, p. 319). Additionally, Moorman (1995) suggests

that these collection processes comprise the search for external as well as internal information. Interestingly, Moorman (1995) highlights the process aspect of information acquisition. If one looks at the general definition of a capability, which is a “*high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type*” (Winter 2000, p. 983), it becomes obvious that Moorman’s (1995) view is very close to the RBV definition of a capability. A set of routines forms a process, and organisational processes related to information collection are said to form the firm’s information acquisition capability. Based on the aforementioned explanation and drawing on the RBV, information acquisition can be defined as a set of organisational routines and processes by which individuals gather and accumulate informational assets for business decision making.

In the context of this definition, it is important to note that the underlying research embarks on an information acquisition definition that is situated at the level of general business decision making. This is because a comprehensive theoretical body and conceptualisation focusing specifically on the issue of pricing information acquisition is still missing in the existing pricing literature, as the literature review has demonstrated. Therefore, the conceptualisation process of pricing information acquisition is approached at the meta-level of organisational decision making (Souchon and Diamantopoulos 1999).

The next two sections are structured as follows. First, prior conceptualisations and operationalisation approaches will be analysed in detail. Second, the findings of this analysis will be further condensed, summarised and evaluated against the background of the research question. This approach lays the foundation for a new conceptualisation of pricing information acquisition.

#### **3.2.2.1.1 Conceptualisation issues and measurement approaches**

Previous arguments have clearly shown that the pricing information acquisition construct is of fundamental importance to firms, yet this has scarcely been investigated in

the pricing literature or in the SME literature. Consequently, this research will contribute significantly to theory development in the areas of pricing theory and SME marketing theory by structuring the existing conceptualisation and measurement approaches and developing a distinctive construct that is able to capture the pricing information acquisition behaviour of firms.

Table 3.1 comprises relevant prior approaches to information acquisition conceptualisation. The table is structured as follows. The contributions are listed in chronological order, and information is provided on the unit of analysis, the nature of the sample and data. To enable effective theory building, the theoretical lenses have been summarised and presented for each study. Another important step was to analyse the modelling approach of prior studies. This facilitates a broader picture regarding the context in which information acquisition has been studied in the past. Lastly, Table 3.1 offers insights into prior measurement approaches to enable a deeper understanding of previous operationalisation methods to the important construct information acquisition.

Table 3.1 clearly demonstrates the existing conceptual complexity of information acquisition and pricing information acquisition, respectively. Conceptual complexity arises from the fact that the different conceptualisation approaches are dispersed over different research streams and topics. Information acquisition has been studied in the research fields of marketing research (e.g., Hart and Tzokas 1999; Köksal 2008), marketing intelligence (e.g., Brush 1992; Slater and Narver 2000b), international marketing (e.g., Belich and Dubinsky 1995; Descotes and Walliser 2011), product pricing (Tzokas et al. 2000; Wiltinger 1998), service pricing (Avlonitis and Indounas 2006; Indounas 2009), environmental scanning (e.g., Beal 2000; Daft, Sormunen, and Parks 1988), market orientation (e.g., Stoica, Liao, and Welsch 2004; Verhees and Meulenbergh 2004) and SME research (e.g., McGee and Sawyerr 2003; Yeoh 2000). In the current research, the limited body of pricing studies focusing on information acquisition has been a significant obstacle.

**Table 3.1: Approaches to information acquisition conceptualisation**

Author(s) Year	Sample/data	Unit of analysis	Theoretical lenses	Modelling	Approaches to measurement
Johnson and Kuehn 1987	Empirical: 168 U.S. firms	Managers and owners	Using environmental scanning literature information acquisition is viewed as the gathering of external data to guide and improve general decision-making	Firm size is modelled as a predictor of information acquisition	Information acquisition is operationalised by means of percentage of time allocated to 5 information elements and frequency of use of 17 information sources
Daft, Sormunen, and Parks 1988	Empirical: 50 U.S. manufacturers	Managing directors	Draws on the general Information Economics theory argument that economic entities seek information when confronted with high uncertainty to improve decision quality	Perceived uncertainty as a predictor of information acquisition	Information acquisition is measured in terms of the frequency of use of different information sources. These can be characterised as personal/impersonal and internal/external
Smeltzer, Fann, and Nikolaisen 1988	Empirical: 88 U.S. service and retail firms	Managing directors and owners	Drawing on the theory of environmental scanning and resource-dependence theory information acquisition is viewed as practice paving the way to decision-making and ultimately performance	External information acquisition is modelled as a function of environmental stability	22 personal and impersonal sources of information were ranked according to their perceived importance
Brush 1992 #2071 {/nopar}	Empirical: 66 U.S. manufacturing firms	Mostly managing directors	Drawing on the theory of environmental scanning, information acquisition practices are an important way to reduce uncertainty and guide better decision-making	Information acquisition as a predictor of business performance	Environmental market scanning is measured in terms of 25 information sources, 12 information elements and 8 scanning methods
Belich and Dubinsky 1995	Empirical: 108 U.S. small firms	Decision- makers	Uses a contingency approach that integrates influencing factors of transaction cost analysis and traditional organisational theory to study information behaviour	Information acquisition as a function of organisational structure, company objectives, product aspects and external environment	Information acquisition is operationalised in terms of 14 external export market information elements that can be sourced from external agents
Cooper, Folta, and Woo 1995	Empirical: 1176 U.S. micro firms	Venture founder	Uncertainty arises from the bounded rationality of decision-makers. Following Information Economics theory arguments information behaviour will depend on the perceived level of	The intensity of information acquisition is modelled as a consequence of management-related characteristics and perceptions	Study measures information acquisition by means of the extent of use of 6 information sources

Author(s) Year	Sample/data	Unit of analysis	Theoretical lenses	Modelling	Approaches to measurement
Mohan- Neill 1995	Empirical: 68 U.S. firms	Owners, general managers, marketing managers	uncertainty Drawing on general Information Economics theory arguments and environmental scanning literature, information acquisition is viewed as the process of seeking and collecting external information	Firm size and firm age are modelled as predictors of information acquisition methods	Information acquisition is measured in terms of 12 information elements and 7 information acquisition methods
Moorman 1995	Empirical: 300 U.S. LEs	Marketing vice presidents	Drawing on RBV arguments, information acquisition is regarded as an asset or resource that leads to competitive advantage	Information acquisition processes as a function of organisational factors and a predictor of new product performance	5 items measuring the degree of use of sources of information acquisition
Smith 1995	Conceptual	Organisation	Expands the concept of market orientation to the area of pricing. Managerial pricing information orientation is viewed as one dimension of the overall pricing orientation. The author adopts an implementation-oriented view on pricing	Pricing information acquisition as a distinctive competence within pricing management	Pricing information orientation is conceptualised as comprising the aspect of gathering information from different sources. In addition, one part of pricing information orientation is the type of information, or in other words, the different information elements
Peters and Brush 1996	Empirical: 120 U.S. manufacturing and service firms	Managers at individual level	Using environmental scanning literature and Information Economics theory arguments, information acquisition is viewed as a behaviour that reduces uncertainty and improves firms' decision quality and likelihood of success	Information acquisition as a predictor of business growth performance	Environmental market scanning is measured in terms of 13 information sources, 6 information elements and 4 scanning methods
Wiltinger 1998	Empirical: Six German LE case studies	Organisation	Drawing on general organisation research, pricing information is viewed as the basis for high-quality pricing decisions	Not available due to the inductive approach of the study	Due to the qualitative nature of the study measurement items are not developed. However, based on the inductive approach, pricing information acquisition is conceptualised as comprising external and internal sources as well as methods of market

Author(s) Year	Sample/data	Unit of analysis	Theoretical lenses	Modelling	Approaches to measurement
Wright and Ashill 1998	Empirical: Three case studies	Organisation	Drawing on Contingency theory, the authors assume that information acquisition is dependent on the environment with which the organisation interacts	Environmental uncertainty caused by volatility and complexity is viewed as an antecedent of information acquisition	research Due to the qualitative nature of the study measurement items are not developed. However, based on the inductive approach, pricing information acquisition is conceptualised as a set of methods that generate information from formal and informal investigations, regular reporting and routine encounters
Hart and Tzokas 1999	Empirical: 50 U.K. SMEs	SME managing directors	The information sensing activities are viewed as a capability. This capability incorporates taking into account information from many sources simultaneously	Marketing research activity as a predictor of performance	Frequency of use of 10 export information sources and 16 export information elements
Souchon and Diamantopoulos 1999	Empirical: 198 U.K. firms	Managing/export/marketing/finance directors	Acquired information is viewed as a strategic resource and an important prerequisite of decision making	Export marketing research activities as a consequence of organisational-related antecedent factors	16 information sources related to market intelligence, marketing research and associations/organisations offering export assistance
Beal 2000	Empirical: 101 U.S. firms	Chief executive officers	Using environmental scanning literature, information acquisition is regarded as a necessity for business decisions in terms of strategy formulation	Information acquisition as a predictor of competitive strategy determination	Information acquisition is operationalised in terms of whether 16 internal and external information elements from the operating environment and eight information elements related to the general environment are used to determine competitive strategy
Slater and Narver 2000b	Empirical: 66 U.S. firms	Managing director	The information generation activities are regarded as a distinctive capability that can lead to superior competitive advantage	Intelligence generation as a predictor of superior customer value. Intelligence generation is influenced by market dynamism and the competitive situation	18 statements related to market-focus, collaboration, experimentation and experience. The items implicitly comprise the dimensions sources and methods
Tzokas et	Empirical: 178	Marketing	Applies the concept of managerial	Pricing information as a predictor of	Importance of 15 pricing information

Author(s) Year	Sample/data	Unit of analysis	Theoretical lenses	Modelling	Approaches to measurement
al. 2000	U.K. manufacturers	directors	pricing orientation (Smith 1995) in an export pricing context. Pricing orientation is viewed as a driver of competitive advantage and performance	strategic pricing factors	elements
Yeoh 2000	Empirical: 180 U.S. start-up exporters	Managing directors	Draws on the general Information Economics theory argument that economic entities seek information when confronted with high uncertainty to improve decision quality	Strategic, environmental, organisational and management-related factors as predictions of information acquisition. Information acquisition as a predictor of export intensity and export sales growth	10 types of information sources associated with environmental scanning in exporting firms
McGee and Sawyerr 2003	Empirical 153 U.S. SME chief executive officers	Managing directors	Uses Information Economics core idea that firms are confronted with uncertainty and acquire information to cope and to enable adequate decision making	Information acquisition as a consequence of perceived uncertainty	Frequency of use of the four sources types: external, internal, personal and impersonal sources
Williams 2006	Empirical: 376 U.K. SMEs	SME managing directors	Knowledge gained from information acquisition activities enhances competitive advantage and success in the export market	Market information gathering activities are linked to commitment, involvement and experience	58 activities associated with information acquisition and decision making. Information activities comprised information sources and methods
Stoica, Liao, and Welsch 2004	Empirical: 284 U.S. SMEs	Managers at the individual level	Expand the concept of market orientation to the information processing in SMEs. SME development and effectiveness results from the ability and extent of information search	Information acquisition as a function of firm culture	Based on a Likert scale, Information acquisition is measured with four statements referring to the search scope and three statements that capture the degree of vigilance of the firm
Verhees and Meulenber 2004	Empirical: 152 Dutch small firms	Owner-managers	View information processing as a central aspect of the market orientation concept and highlight its impact on competitive advantage and performance	Information acquisition as a function of management-related characteristics and predictor of performance	4 statements measuring the information acquisition from customers and three statements capturing the level of information acquisition from suppliers
Keh, Nguyen, and	Empirical: 294 SMEs in Singa-	Small business	Information as a powerful knowledge resource that enhances	Information acquisition as a predictor of firm performance and function	Frequency of collection of 18 information sources to know about cus-

Author(s) Year	Sample/data	Unit of analysis	Theoretical lenses	Modelling	Approaches to measurement
Ng 2007	pore	owners	competitive advantage	of antecedents (in this case entrepreneurial orientation)	tomers and competitors
Ingenbleek 2007	Conceptual	Organisation	Drawing on the RBV, pricing information is viewed as a strategic resource used in the process of price setting	Value-based pricing is viewed as an outcome of information resources on customer value perceptions. Adequate pricing processes must be implemented	Pricing information acquisition is conceptualised as comprising information sources related to relationships, market research and internal sources
Köksal 2008	Empirical: 102 manufacturing firms from various sectors	Decision-makers in different positions	Views information acquisition as a capability that enables successful marketing planning.	Information acquisition as a predictor of export performance in terms of sales, market share and profitability	Export information acquisition is measured in terms of 15 information sources, 15 information elements and 9 marketing research methods
Indounas 2009; Avlonitis and Indounas 2006	Empirical: 2009: 177 (2006: 170) service firms in Greece	Managing directors, marketing/sales/financial managers	Absent high-level theoretical foundation. The study expands the approach of Tzokas et al. (2000) to service pricing	Pricing information as a predictor of pricing performance	Importance of 2009: 15 (2006: 19) pricing information elements
Morgan, Vorhies, and Mason 2009	Empirical: 230 U.S. firms	Top marketing executives	Drawing on the RBV information acquisition is directly connected to firm performance because it enables superior decision making	Market information acquisition and marketing capabilities are viewed as predictors of overall firm performance	Information acquisition is measured by means of six statements on a 7-point Likert scale referring to practices associated with the generation of market intelligence
Totzek and Alavi 2010	Empirical: 230 German manufacturing and service firms	Managing directors, sales/marketing/product managers	Drawing on Information Economics theory arguments and the RBV information acquisition is viewed as a strategic resource that reduces strategic uncertainty in pricing decisions	Information acquisition as a consequence of a firm's competitive orientation and predictor of pricing performance	5 statements capturing the acquisition of market-related pricing information
Descotes and Walliser 2011	Empirical: 18 manufacturing firms in Romania and France	Export managers	Information acquisition activities are viewed as a dynamic capability, drawing on aspects of the RBV. Information acquisition paves the way to competitive advantage and	Not available due to the inductive approach of the study	Information acquisition involves the collection of data from formal and informal sources and bringing it into the organisation

Author(s) Year	Sample/data	Unit of analysis	Theoretical lenses	Modelling	Approaches to measurement
Franco et al. 2011	Empirical: 165 Portuguese firms from various industry, service and trade sectors	Senior managers	performance Drawing on the theory of environmental scanning and resource-dependence theory information acquisition is viewed as practice paving the way to decision making and ultimately performance	Firm size is modelled as a predictor of information acquisition	Information acquisition is measured in terms of the use of 11 scanning practices/methods as well as in terms of the use of 12 external information sources
Haase and Franco 2011	Empirical: 165 Portuguese manufacturing, service and trade firms	Owner-manager or CEO	Using environmental scanning literature information acquisition is viewed as the gathering of external data to guide general decision making	Firm size and industry sector as predictors information acquisition	Frequency of use of 12 external information sources at the source-level and at the aggregate level
Meehan et al. 2011	Conceptual	Organisation	The authors adopt an implementation-oriented view on pricing and view information acquisition as a core component of a diagnostic review of existing pricing systems and procedures	Pricing information acquisition is a central competence and antecedent of strategic pricing decision making	Pricing information acquisition is conceptualised as comprising four main groups of sources, namely, internal data source, survey sources, interview sources and external benchmark sources

The pertinent body of knowledge predominantly consists of empirical studies (e.g., Brush 1992; Cooper, Folta, and Woo 1995; Descotes and Walliser 2011; Keh, Nguyen, and Ng 2007; Morgan, Vorhies, and Mason 2009; Smeltzer, Fann, and Nikolaisen 1988; Verhees and Meulenbergh 2004; Wright and Ashill 1998; Yeoh 2000) and few conceptual contributions (Ingenbleek 2007; Meehan et al. 2011; Smith 1995). The different contributions stem from various country contexts and therefore mirror different cultural perspectives. A large number of conceptualisations (15 studies) have been conducted based on U.S. samples. In Europe, the most frequently studied country context is the U.K (four studies), and Portugal and Germany follow with two studies each. This sheds light on an imbalance in that European studies of information acquisition have been underrepresented.

Table 3.1 shows that researchers have investigated information acquisition at different levels of analysis (see column ‘Unit of analysis’). A minority of five studies approaches the topic at the organisational level (Ingenbleek 2007; Meehan et al. 2011; Smith 1995; Wiltinger 1998; Wright and Ashill 1998). These studies indicate, in line with Organisation theory arguments, that information acquisition is a process that takes place within the boundaries of the firm and involves different groups of employees. Interestingly, the studies adopting this perspective use either a conceptual or a case study approach. Conversely, the majority of quantitative empirical studies investigate the information acquisition construct at the individual level. The prevalent unit of analysis in these studies are managing directors and owners (cf. Table 3.1). Apparently, information acquisition is an important strategic task that is situated at the top management level. This fact is also in line with Information Economics theory. Substantial information screening is conducted to reduce uncertainty regarding important strategic decisions, and these decisions are mainly determined by the top manager. Therefore, according to leading researchers in the field, managing directors, owners and chief marketing executives seem to coordinate and develop the information acquisition capability (e.g., Descotes and Walliser 2011; Haase and Franco 2011; Indounas 2009; Keh, Nguyen, and Ng 2007; Morgan, Vorhies, and Mason 2009; Slater and Narver 2000b; Stoica, Liao, and Welsch 2004;

Totzek and Alavi 2010; Tzokas et al. 2000; Verhees and Meulenbergh 2004; Williams 2006; Yeoh 2000).

From a theoretical point of view, prior conceptualisations invoke different theoretical lenses. The analysis of Table 3.1 reveals that researchers have drawn upon the RBV and Information Economics theoretical perspectives. With regard to the latter, many studies draw on the Information Economics theory argument that economic entities seek information to improve decision quality by minimizing uncertainty (Cooper, Folta, and Woo 1995; Daft, Sormunen, and Parks 1988; McGee and Sawyerr 2003; Wiltinger 1998; Yeoh 2000).<sup>12</sup> These studies investigate how organisations cope with incomplete and asymmetric information by means of information screening strategies to guide and improve economic decision making. A look at the modelling approaches reveals that managements perceptions, attributes and resources are used as predictors of information acquisition behaviour (e.g. Cooper, Folta, and Woo 1995; McGee and Sawyerr 2003; Yeoh 2000). With regard to the RBV, pertinent empirical and conceptual research focusing on information acquisition operationalisation indicates that information acquisition is an important firm capability, one which leads to a competitive advantage and firm performance (Descotes and Walliser 2011; Hart and Tzokas 1999; Köksal 2008; Morgan, Vorhies, and Mason 2009; Slater and Narver 2000b; Tzokas et al. 2000; Williams 2003). Other researchers highlight information as a strategic resource and an important prerequisite of decision making (Ingenbleek 2007; Keh, Nguyen, and Ng 2007; Moorman 1995; Souchon and Diamantopoulos 1999; Totzek and Alavi 2010). A look at the related modelling approaches confirms the findings from the literature that information acquisition activities are studied as predictors of performance-related constructs (e.g., Hart and Tzokas 1999; Keh, Nguyen, and Ng 2007; Morgan, Vorhies, and Mason

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<sup>12</sup> In Table 3.1, some studies refer to environmental scanning literature as a theoretical perspective. Environmental scanning refers to the routines of monitoring the external environment, gathering information and providing the information to managers for use in strategic decision making (Aguilar 1967; Daft and Weick 1984; Sawyerr, Edbrahimi, and Thibodeaux 2000). This body of literature has a distinctive character because it focuses on the scanning of external information. However, as Mohan-Neill (1995, p. 11) puts it: “Environmental scanning is the general process of information acquisition”. This broader definition makes it clear that this body of literature is closely interwoven and connected with the information screening strategy put forward by the overarching Information Economics theory. Consequently, these studies can be summarised under the frame of Information Economics theory in the context of this research.

2009; Totzek and Alavi 2010) and as an outcome of organisational-related antecedent factors (e.g., Moorman 1995; Souchon and Diamantopoulos 1999; Williams 2003). Lastly, Belich and Dubinsky (1995) and Wright and Ashill (1998) both use a contingency approach assuming that the firms' information acquisition activities are dependent on the external environment with which the firm interacts. This is important evidence that sheds light on the relationships through which information acquisition is studied.

In addition, Table 3.1 summarises prior operationalisation and measurement approaches. The value of an analysis of prior operationalisation approaches is that it illuminates conceptual components and potential facets of pricing information acquisition and unveils the underlying implicit definitions of the construct. Regarding this point, the analysis reveals conflicting results. Table 3.1 indicates that some researchers invoke *sources* of information to operationalise the information acquisition construct in their quantitative studies (e.g., Haase and Franco 2011; McGee and Sawyerr 2003; Souchon and Diamantopoulos 1999). A second group of researchers refers to information *elements* when approaching the operationalisation issue (e.g., Avlonitis and Indounas 2006; Beal 2000; Hart and Tzokas 1999). Third, some researchers invoke *methods* of data collection to approach information acquisition operationalisation (e.g., Köksal 2008; Mohan-Neill 1995; Wright and Ashill 1998). Lastly, another group of researchers uses integrative *statements* to measure information acquisition (Morgan, Vorhies, and Mason 2009; Slater and Narver 2000b; Stoica, Liao, and Welsch 2004; Totzek and Alavi 2010; Verhees and Meulenbergh 2004). These studies refer to the latter three components implicitly and with varying degrees. For example, the statements can refer to sources and methods, but the elements perspective is rather neglected in the statements (Slater and Narver 2000b). As a result, it can be asserted that there seems to be an implicit dissent as to what exactly constitutes information acquisition.

The resulting conceptual confusion is regarded as a significant obstacle to developing a clear understanding of information acquisition and pricing information acquisition, respectively. Prior research points toward an implicit consensus that information acquisition needs to be understood in relation to its antecedents and consequences and that In-

formation Economics theory, the RBV and Contingency theory are relevant and valid theoretical perspectives on information acquisitions. However, in spite of these views, several conceptual problems remain.

First, Table 3.1 reveals that there is only scarce, fragmented and dispersed research focusing on the issue of *pricing* information acquisition (Avlonitis and Indounas 2006; Indounas 2009; Ingenbleek 2007; Meehan et al. 2011; Smith 1995; Totzek and Alavi 2010; Tzokas et al. 2000; Wiltinger 1998). In pricing research, there seems to be an imperfect understanding of how to comprehensively understand pricing information acquisition. Second, definitions vary substantially if one takes into account the different operationalisations and measurement approaches of the construct. The analysis has revealed three different measurement approaches: pricing information methods, elements and sources. Others use integrative statements that implicitly comprise one or more of the three constituents just mentioned. Therefore, the fragmented research seems to measure different things and to create varying evidence. It is necessary to investigate the latter notion in greater depth in the next section before it is possible to deduce a new conceptualisation of pricing information acquisition. This approach will increase conceptual clarity and shed more light on the varying definitions of information acquisition in the existent fragmented body of research.

### **3.2.2.1.2 Approaches to information acquisition conceptualisation**

This section summarises the varying understanding of information acquisition in more depth to increase conceptual clarity and to shed light on the implicit definitions of information acquisition existent in the fragmented body of research. This step is necessary in order to develop a new conceptualisation of pricing information acquisition. Table 3.2 consists of a description, suggested dimensions and illustrative sources for the three approaches identified in the literature. Table 3.2 illustrates these main approaches to information acquisition conceptualisation: source-oriented, element-oriented and method-oriented information acquisition.

**Table 3.2: Summary of past information acquisition conceptualisations**

Description	Suggested dimensions	Illustrative sources
<b>Source-oriented information acquisition</b>		
Information acquisition is understood in terms of the extent of use of different information sources	Internal/external; Personal/impersonal	Daft, Sormunen, and Parks 1988; Ingenbleek 2007; Keh, Nguyen, and Ng 2007; Köksal 2008; Peters and Brush 1996; Smith 1995; Williams 2006; Yeoh 2000
<b>Element-oriented information acquisition</b>		
Information acquisition is understood in terms of the type of data that is gathered and used in decision making	Wide array of thematic categories depending on the research field	Avlonitis and Indounas 2006; Beal 2000; Belich and Dubinsky 1995; Indounas 2009; Mohan-Neill 1995; Oxenfeldt 1973; Smith 1995; Tzokas et al. 2000
<b>Method-oriented information acquisition</b>		
Information acquisition is understood in terms of externally-focused market research techniques and tools	Formal/informal	Brush 1992; Homburg and Totzek 2011; Köksal 2008; Mohan-Neill 1995; Wiltinger 1998; Wright and Ashill 1998

Researchers who invoke sources view information acquisition in terms of the extent of use of different information sources. These can consist of people, items and activities (Wiltinger 1998). A varying amount of sources are used to measure the construct (Keh, Nguyen, and Ng 2007; Köksal 2008). Generally, the extent to which the sources are used can be viewed from the perspectives of the frequency of use (e.g., McGee and Sawyerr 2003) or the assigned importance (e.g., Smeltzer, Fann, and Nikolaisen 1988). Suggested dimensions are the location of the source, in other words, the differentiation into internal and external sources (Köksal 2008; Souchon and Diamantopoulos 1999) and personal and impersonal sources (Keh, Nguyen, and Ng 2007; Peters and Brush 1996).

Researchers who adopt an element-oriented conceptualisation view information acquisition in terms of the pieces of information that are accumulated to support a decision in a specific strategic field. In other words, information acquisition is understood in terms of the type of data (e.g., international market sizes for exporting decisions, contribution margins for price setting or specific competitors' technologies for competitive strategy formulation).

Some researchers use methods of data collection to approach information acquisition operationalisation (e.g., Köksal 2008; Mohan-Neill 1995; Wiltinger 1998; Wright and Ashill 1998). For instance, this approach involves the frequency of use of market research methods, such as focus groups, surveys or reading of magazines and periodicals (Mohan-Neill 1995). In a pricing context, it contains specialised methods such as conjoint analysis or auctions (Homburg and Totzek 2011) to elicit the preferred information. Information acquisition is understood in terms of externally focused market research techniques and tools. With regard to the underlying dimensions, these methods can be differentiated as either formal (e.g., structured surveys) or informal (e.g., open analysis of professional journals and periodicals) methods (Köksal 2008; Mohan-Neill 1995).

Against this background, the question arises as to which of the existing approaches should be chosen for the conceptualisation of information acquisition in the context of SME pricing. Only a clear circumscription of the construct avoids ambiguity and fosters generalizability. A conceptualisation based on the source perspective is most valuable for theory development in view of the current expansion of pricing information literature.

The reason for this is because researchers agree that the acquisition of information from sources is the first logical step in information processing (Carson et al. 2002; Day 1994; Moorman 1995; Yeoh 2005; Zahra and George 2002). Without a clear understanding of the modes of SMEs' information sourcing, it is difficult to study pricing information elements because information elements are generated in a second step based on information acquired from different sources. Thus, in a first step there must be a clear understanding of the use of pricing information sources before it is possible to investigate the generation of pricing information elements from the sourced information (cf. Carson et al. 2002; Smith 1995). The conceptual pricing framework of Ingenbleek (2007) supports this notion. Ingenbleek highlights explicitly the importance of the source perspective to pricing information acquisition and views information sources as the foundation of professional pricing practices. His extensive review also shows that there is limited empiri-

cal evidence available to date that indicates how firms acquire pricing information from different sources (Ingenbleek 2007). Closing this gap would therefore contribute significantly to theory building.

The method-oriented perspective on information acquisition is deemed important by many researchers because it focuses on specific techniques and tools of market research. These methods are used to elicit external information. There is a great deal of discussion about the advantages and disadvantages of many different methods that can provide information for determining prices (cf. e.g., Backhaus et al. 2005; Hofstetter and Miller 2009; Jedidi and Zhang 2002; Roll et al. 2010; Sattler and Nitschke 2003; Völckner 2006). Non-pricing related market research (e.g., customer satisfaction surveys) as well as specific pricing-related market research (e.g., conjoint analysis, price sensitivity meter) can aid in decision making. The method-oriented perspective is viewed as mutually exclusive in the information acquisition literature (Brush 1992; Köksal 2008; Peters and Brush 1996). However, other researchers acknowledge that there might be an overlap between the source and the method perspective on information acquisition. For instance, Keh, Nguyen, and Ng (2007) and Souchon and Diamantopoulos (1999) view methods, such as surveys, test marketing or focus groups as information sources. Köksal (2008) views ‘participation in fairs and exhibitions’ as an information acquisition method and ‘fairs and exhibitions’ as an information source. A certain degree of overlap seems to be inevitable and requires careful wording in the operationalisation process. However, one issue seems to hinder the adoption of this perspective in the underlying research. The method-oriented perspective on information acquisition in the identified studies clearly has an external focus. This is critical, since the research question addressed in this research focuses on pricing decisions. Practical price setting requires information from external as well as internal sources (Ingenbleek 2007). For instance, cost information gained from into the firm is crucial in price setting (Raju and Zhang 2010; Roll, Pastuch, and Buchwald 2012). The methods-oriented perspective in the discussed literature tends to overlook this important part of pricing information.

Thus far, the analysis has revealed that information acquisition is understood in very different ways. Different research streams deal with this issue, and very different operationalisations are used. The use of various definitions and understandings of information acquisition can be problematic, because it makes comparing results and findings difficult (Menon and Varadarajan 1992). Thus, emerging research into pricing information behaviour must start with a clear circumscription of pricing information acquisition to avoid ambiguity and foster generalizability. Based on the preceding argument, it can be concluded that a source-oriented perspective on information collection is most likely capable of capturing all necessary aspects of pricing information gathering. Since such a source-oriented conceptualisation of pricing information acquisition is lacking in the literature to date, such an approach would also contribute significantly to theory building in the SME pricing literature. A clear focus on one aspect assists in developing a coherent understanding in the emerging stream of pricing information research. Consequently, in the next section, a conceptualisation of pricing information acquisition based on the *source* perspective on information collection will be developed.

### **3.2.2.2 A new conceptualisation of information acquisition for pricing management**

An analysis of prior conceptualisations has shown that a conceptualisation focusing on the sources of pricing information could contribute important and valuable new insights for pricing research and practice. In the pricing research stream, there is insufficient research contributing to theory building regarding this important aspect of information acquisition. In the literature, the following two principal components of information acquisition are considered important (Daft, Sormunen, and Parks 1988; Moorman 1995; Souchon and Diamantopoulos 1999; Yeoh 2005):

- (1) Mode – the basic mechanisms through which firms gather pricing information
- (2) Degree – the frequency or intensity with which pricing information is sought.

The conceptualisation of pricing information acquisition has been developed using these two components. The remainder of this section is structured as follows. In the next sec-

tion, three different modes of pricing information acquisition are developed and justified. Subsequently, the degree of information search is considered to be an important second component of the understanding of the pricing information acquisition construct.

#### **3.2.2.2.1 Typology of pricing information acquisition modes**

Yeoh (2000, p. 37) defines information sources “as cues to which users attach a level of confidence in their ability to aid in decision making.” Drawing on Yeoh’s (2000, p. 37) definition, pricing information sources are defined accordingly and are viewed “as cues to which users attach a level of confidence in their ability to aid” in pricing decision making. To the best of my knowledge, no quantitative study has operationalised pricing information modes with a source focus. However, Wiltinger (1998) has shed light on the basic mechanisms through which firms gather pricing information based on a qualitative sample of six case studies, and Ingenbleek (2007) has suggested an conceptual classification of pricing information sources.

Based on Wiltinger’s (1998) qualitative pricing study, pricing information sources refer to all people, items and activities that lead to the extraction of information. Thus, pricing information sources can be very distinct. They can be personal or impersonal and they can incorporate tangible items such as market sector reports or intangible sources such as talks with people (Wiltinger 1998). They might also incorporate formal activities, such as surveys, or less formal activities, such as face-to-face talks with customers (Wiltinger 1998). These three dimensions are also suggested in other studies dealing with general marketing information acquisition (Daft, Sormunen, and Parks 1988; Hart and Tzokas 1999; Keh, Nguyen, and Ng 2007; Köksal 2008; Moorman 1995; Peters and Brush 1996; Souchon and Diamantopoulos 1999)

From the perspective of pricing research, the conceptual contribution of Ingenbleek (2007) sheds additional light on different pricing information acquisition modes. Ingenbleek (2007) suggests three different modes of pricing information sources: (1) relationships, (2) market research and (3) internal. This typology largely corroborates the aforementioned theoretical contributions. The typology used in this

research is based on Ingenbleek's (2007) conceptual contribution. However, taking into account existing quantitative information acquisition measurement approaches, it is believed that some amendments are necessary. Here the underlying research departs from prior conceptual contributions and develops a more differentiated perspective on pricing information acquisition (cf. Table 3.3).

First, prior research suggests that relationship sources can be internal and external (Keh, Nguyen, and Ng 2007; Wiltinger 1998). Relationship sources consist of informal talks with competitors or customers or talks with the immediate operating environment such as sales staff and accounting staff (Keh, Nguyen, and Ng 2007; Wiltinger 1998). Consequently, in this research the internal mode suggested by Ingenbleek (2007) is viewed as part of the relationship mode similar to the approach suggested in the quantitative information acquisition study by Keh, Nguyen, and Ng (2007).

Second, researchers agree that marketing research is an important mechanism through which firms gather information (Aaker, Kumar, and Day 2007; Iacobucci and Churchill 2010; Ingenbleek 2007; Köksal 2008). However, it comprises a very heterogeneous set of activities. The literature has identified primary market research sources and secondary market research sources as the two important constituents of marketing research (Kotler et al. 2009; Souchon and Diamantopoulos 1999). Primary market research sources refer to "data freshly gathered for a specific purpose" (Kotler et al. 2009, p. 193), such as customer surveys and interviews, focus groups or market experiments (Homburg and Totzek 2011; Ingenbleek 2007; Wiltinger 1998). Secondary data refers to data that "already exist somewhere" (Kotler et al. 2009, p. 193). Information sources discussed in this group include market reports, trade magazines, trade shows, customer publications or internal information such as sales records and financial data (Iacobucci and Churchill 2010; Keh, Nguyen, and Ng 2007; Köksal 2008; Kotler et al. 2009; Moorman 1995; Peters and Brush 1996). Ingenbleek (2007) acknowledges this subtype by including desk research in his conceptualisation of market research. Secondary market research and intelligence can be internal and external, whereas primary market research is elicited from external sources (Aaker, Kumar, and Day 2007). Consequently,

both are included as separate modes of pricing information acquisition to differentiate among marketing research related pricing information acquisition sources.

Based on the preceding argument, three modes of pricing information acquisition are distinguished in this research: (1) People and relationships, (2) primary market research and (3) secondary market research and intelligence. Table 3.3 presents a short description of each pricing information acquisition mode, including its role and importance for pricing decision making and selected sources. The three modes provide a solid and comprehensive specification of pricing information acquisition and are consistent with the previous typologies suggested in the literature.

**Table 3.3: Conceptualisation of pricing information acquisition behaviour**

Mode	Description	Role and importance	Selected sources
People and relationships	Includes external and internal personal contacts. The external contacts can include customers and suppliers. The internal contacts can include sales and accounting staff. Information can be gained directly during talks with people or by reports or memos requested in these talks.	This dimension has a high relevance for pricing because informal information actively extracted from personal relationships enables the pricing decision-maker to gain deep knowledge and understanding about the current situation and requirements.	Daft, Sormunen, and Parks 1988; Ingenbleek 2007; Keh, Nguyen, and Ng 2007; Williams 2006; Wiltinger 1998
Primary market research	Includes external sources of primary data gained from the public, potential buyers or customers. It consists of methods of primary market research, such as surveys or focus groups, and sources used to acquire knowledge about these market research mechanisms.	High relevance because primary market research sources are the only possibility for gaining representative, formal and objective insights into the current pricing situation.	Hart and Tzokas 1999; Homburg and Totzek 2011; Ingenbleek 2007; Wiltinger 1998
Secondary market research and intelligence	Includes internal and external sources of secondary information previously gathered by other institutions (chambers of commerce, associations) and information available in publications of customers or competitors that are readily available in the marketplace.	The use of secondary information and marketing intelligence activities provides valuable information about the environment and customers' and competitors' behaviours.	Daft, Sormunen, and Parks 1988; Ingenbleek 2007; Keh, Nguyen, and Ng 2007; Moorman 1995

Drawing on Zahra and George (2002, p. 189), the pricing information acquisition capability is regarded as “idiosyncratic in the specific ways firms pursue, develop, and em-

ploy them”. This is important to note because in spite of similarities among firms’ acquisition behaviour, firms have a great variability in designing the pricing information acquisition capability, which can lead to very different types of informational and competitive advantages (Zahra and George 2002).

#### **3.2.2.2.2 Degree of pricing information acquisition**

The second important component of pricing information acquisition is the degree of the screening activities. Degree is understood in terms of the frequency with which pricing information is sought from different sources. It is also suggested in prior conceptual and empirical contributions (cf. Daft, Sormunen, and Parks 1988; Moorman 1995; Yeoh 2005). The person with primary responsibility for pricing decisions may acquire pricing information with a higher or lower frequency. This leads to different amounts of available information (Daft, Sormunen, and Parks 1988; Yeoh 2000). For example, small amounts of information are more likely to occur if managers are rather passive, i.e., they observe and view the pricing environment, and larger amounts of information occur if managers actively seek and gather the information they perceive as valuable (Daft, Sormunen, and Parks 1988). In short, the degree component of the pricing information acquisition conceptualisation reflects the scale of the information search.

It is important to note that the degree of pricing information acquisition can be taken at different levels. First, the degree of pricing information acquisition can occur at the source level (e.g., Daft, Sormunen, and Parks 1988; Köksal 2008; Peters and Brush 1996). The person with the primary responsibility for pricing decisions can gather pricing information from a specific source with a high or low frequency. Second, the literature suggests that information acquisition can be captured at an aggregate level (Belich and Dubinsky 1995; Cooper, Folta, and Woo 1995; Haase and Franco 2011; Keh, Nguyen, and Ng 2007; Pineda et al. 1998). This refers to the question of whether or not firms acquire a broader range of sources (Köksal 2008) and captures the overall amount of information acquisition (Yeoh 2000). Hart and Tzokas (1999, p. 65) expresses this idea concisely by suggesting that this involves “taking information from many sources

simultaneously on multiple dimensions.” At the aggregate level, information acquisition implicitly captures what Day (1994, p. 44) has described as “open-minded inquiry”. Firms with a high overall amount of information acquisition are likely to acquire information actively, be self-critical and be guided by continuous experimentation and informed imitation (Day 1994). Consequently, degree is conceptualised by drawing on both of the two preceding perspectives.

Based on the preceding theoretical discussion, this thesis defines pricing information acquisition as

*a set of organisational routines and processes by which individuals gather and accumulate informational assets for pricing purposes from internal and external information sources, which include relationship sources, primary market research sources and secondary market research and intelligence sources.*

The degree of pricing information acquisition accrues from the use of a preferably broad set of sources and from the frequency with which the information is gathered and accumulated from these sources.

### **3.2.3 Conceptualisation of influencing factors of pricing information acquisition**

Having discussed the conceptualisation of pricing information acquisition, the next step is to look at potential antecedent factors. There is a need to understand which firms acquire pricing information and what might be potential causes for varying degrees of information acquisition behaviour. Adequate pricing information acquisition is of fundamental importance for optimal pricing decision making. Without appropriate information, pricing decisions might be gut-based and haphazard. It is important to understand the factors driving the acquisition behaviour to improve theory development and facilitate practical recommendations for firms. This approach will shed light on the underlying mechanisms behind pricing information acquisition.

As shown in Table 3.4, two broad sets of influencing factors can be identified as the antecedents of pricing information acquisition: internal influencing factors and external influencing factors. The firm internal environment is conceptualised as comprising the three antecedent groups (1) organisational characteristics and resources, (2) firm strategic orientation and (3) management-related attributes and resources. This research draws on the RBV as an underpinning theory to justify the group selection and to provide expected associations between the internal antecedent groups and the pricing information capability. In addition, the group selection is justified by the review of the empirical literature, which has shown that information-processing constructs are studied frequently in association with organisational-related factors, strategy-related factors and management-related factors. Similar typologies can be found in a variety of marketing studies (Baldauf, Cravens, and Wagner 2000; Belich and Dubinsky 1995; Katsikeas, Leonidou, and Morgan 2000; Leonidou, Katsikeas, and Samiee 2002; Myers, Cavusgil, and Diamantopoulos 2002; Sousa, Martínez-López, and Coelho 2008; Stöttinger 2001; Wheeler, Ibeh, and Dimitratos 2008). Thus, prior research provides a solid foundation for the conceptualisation of the internal antecedent groups' relationships with pricing information acquisition as shown in Table 3.4.

**Table 3.4: Antecedent factors relationships and theory sources**

<b>Internal environment</b>	<b>External environment</b>
Organisational characteristics and resources → pricing information acquisition Firm strategic orientation → pricing information acquisition Management-related attributes and resources → pricing information acquisition	Market-related factors → pricing information acquisition
Underpinning theory: <b>Resource-based View</b>	Underpinning theory: <b>Contingency theory</b>
<i>Sources:</i> Barney 1991; Dutta, Zbaracki, and Bergen 2003; Morgan 2012; Wernerfelt 1984	<i>Sources:</i> Diamantopoulos and Mathews 1995; Kieser 2006; Lawrence, Lorsch, and Garrison 1967; Stalker and Burns 1961; Wiltinger 1998

Regarding the external environment, this research draws upon the Contingency theory to justify the investigation of market-related factors as potential influencing factors of pricing information acquisition. Internal factors provide an important explanation of

which and why firms search, however, there is also a need to study how external situational factors affect information acquisition and decision behaviour (Kieser and Walgenbach 2007). It is important to incorporate the internal and external perspective into an exploratory investigation of pricing information acquisition. Indeed, the review of the pertinent literature has yielded the result that external factors are studied frequently in association with information-processing constructs. This study focuses on market-related factors that are deemed important to investigate through Contingency theory and prior empirical investigations. Variables capturing the internal and external perspective are shown in Table 3.5.

**Table 3.5: Development of a typology of pricing information acquisition antecedents**

<b>Antecedents</b>	<b>Illustrative studies</b>
<i>Organisational characteristics and resources</i>	
Resources of the firm	Caldeira and Ward 2003; Gaur, Vasudevan, and Gaur 2011; Meziou 1994; Sciascia, Naldi, and Hunter 2006; Weinrauch et al. 1991; Williams 2006
Size of the firm	Belich and Dubinsky 1995; Franco et al. 2011; Haase and Franco 2011; Ingenbleek 2007; Johnson and Kuehn 1987; Mohan-Neill 1995; Souchon and Diamantopoulos 1999; Yeoh 2000
<i>Firm strategic orientation</i>	
Competitive strategy	Belich and Dubinsky 1995; Ingenbleek 2007; Pelham 2000; Pelham and Wilson 1996; Richbell, Watts, and Wardle 2006
Pricing strategy	Ingenbleek 2007; Ingenbleek, Frambach, and Verhallen 2010
<i>Management-related attributes and resources</i>	
Education	Hankinson 1995; Hausman and Neufeld; Sciascia, Naldi, and Hunter 2006; Yeoh 2005; Richbell, Watts, and Wardle 2006
Experience	Cooper, Folta, and Woo 1995; Descotes and Walliser 2011; Ingenbleek 2007; Souchon and Diamantopoulos 1999; Williams 2006; Wright and Ashill 1998; Yeoh 2005
Perceived usefulness	McAuley 1993; Menon and Varadarajan 1992; Yeoh 2000, 2005
<i>Market factors</i>	
Complexity	Belich and Dubinsky 1995; Daft, Sormunen, and Parks 1988; Ingenbleek 2007; Wade and Hulland 2004; Wright and Ashill 1998; Yeoh 2000
Dynamism	Daft, Sormunen, and Parks 1988; Garg, Walters, and Priem 2003; Peters and Brush 1996; Slater and Narver 1994; Wright and Ashill 1998; Yeoh 2000
Customer power	Carson 1993; Totzek and Alavi 2010; Schuppar 2006; Slater and Narver 1994

Apart from the aforementioned theoretical reasons, the selection of the key variables presented in Table 3.5 is also based on the results of the extensive literature review. This is indicated by the illustrative studies depicted in Table 3.5. Studies investigating influencing factors from different research streams have been analysed systematically in the previous chapter. This allows for a well-balanced and rich compilation of key variables that may influence pricing information acquisition behaviour. The issue of pricing information acquisition behaviour in SMEs has heretofore been a rather overlooked research subject. Therefore, a rather exploratory approach investigating a broader set of influencing variables is necessary and appropriate to gain a more holistic picture of potential drivers of pricing information acquisition and to identify emerging relationships. In the following four sections, an in-depth discussion of the influencing factors investigated in this research is provided. The selection of the constructs is justified and each construct is conceptualised and defined.

### **3.2.3.1 Organisational characteristics and resources**

Prior argumentation has demonstrated that organisational characteristics and resources are an important group of influencing factors of organisational information behaviour. To enable a deep and detailed understanding of pricing information acquisition and facilitate theory development in this research stream, it is necessary to investigate how variables pertaining to this group affect the pricing information acquisition behaviour in firms. What are the most important variables that need to be investigated in this group? The two key variables are *pricing resources* and *firm size*, both of which are conceptualised and justified in this section.

Firm resources are a central determinant used in explaining the information acquisition behaviour of firms. In the literature, they are generally understood in terms of the availability of capital, human resources and material supplies (Caldeira and Ward 2003; Gaur, Vasudevan, and Gaur 2011). The RBV highlights the fact that a firm's resources are critically related to marketing capabilities (Morgan 2012; Wernerfelt 1984). As argued above, the pricing information acquisition capability is a sub-capability of the spe-

cialised pricing management capability (Day 1994; Dutta, Zbaracki, and Bergen 2003; Morgan 2012). Therefore, drawing upon the RBV, it is inferred that available firm resources might affect the pricing information acquisition capability, including its related routines and processes (Morgan 2012). However, in a pricing context, it is questionable whether capital and material supplies, as types of suggested firm resources (Gaur, Vasudevan, and Gaur 2011), are relevant facets in the conceptualisation of organisational resources for the specific research question addressed in this study because they are not directly related to the pricing function. By contrast, the seminal pricing contribution of Dutta, Zbaracki, and Bergen (2003) provides evidence that the pricing capability as a specialised task within marketing strongly depends on the allocated human resources dealing with pricing tasks. Indeed, human resources are highlighted as “one of the most critical inputs to a firm’s marketing capabilities” (Morgan 2012, p. 105). Consequently, *pricing resources* are conceptualised in this research with a focus on human resources. Pricing resources are defined as comprising the quantity of well-qualified marketing and non-marketing personnel that provide input to pricing routines, processes and decisions (Aufreiter, George, and Lempres 1996; Möller and Anttila 1987; Morgan 2012). It can be noted that this definition also implicitly includes the financial component of firms’ resources since human resources are directly linked to the available financial budgets for employee salaries. Because of the aforementioned information, it is necessary to select pricing resources as a determinant of pricing information acquisition and investigate the aforementioned relationship.

A further important determinant in this antecedent group is the *firm size*. The study objects of this research are SMEs. Thus, firm size is defined according to the three size classes suggested by the EC: micro firms, small firms and medium-sized firms (European Commission 2005; Günterberg 2012; Stokes and Wilson 2010). The discussion of the pertinent SME theory has shown that SMEs are characterised frequently by a dynamic, evolutionary process caused by the development from small ventures to medium-sized firms (Carson 1993; Churchill and Lewis 1983; Greiner 1972). This theoretical finding calls for investigation into the specific context of this study. In the different stages of their growth process, SMEs are endowed with different levels of organisation-

al resources (Yeoh 2005). Their scale and scope of operations, organisational systems and structures might be subject to significant variation in that process. This might affect information acquisition activities. From a RBV perspective, organisational resources, in terms of the scale and scope of operations, are viewed as important inputs to marketing capabilities, such as the information acquisition capability (Ingenbleek 2007; Morgan 2012). Consequently, firm size is included as a central determinant of information acquisition behaviour. In short, the variable has been selected as an antecedent because its significance is highlighted by the RBV and SME theories. Finally, an investigation is highly valuable because first empirical findings would shed light on the question as to whether SMEs of different sizes should receive differentiated recommendations regarding their pricing information acquisition practices.

### **3.2.3.2 Firm strategic orientation**

The strategic orientation of an SME is supposed to be an important and insightful predictor of information acquisition practices. Firms can adopt different strategies to achieve market success. These strategies reflect competencies and prior management decisions that might be linked to resources and capabilities, such as the pricing information acquisition capability (Hult 2011; Morgan 2012). To gain an initial understanding of pricing information acquisition in SMEs, strategic variables will be addressed in this research. The two key variables studied in this antecedent group are *differentiation strategy* and *value pricing strategy*. In the following, the selection of these variables is justified in detail, and both constructs are conceptualised.

*Differentiation strategy* is included as an important antecedent of pricing information acquisition. From the perspective of pricing theory, a firm's strategic orientation in terms of Porter's (1980) generic competitive strategies is highlighted as exerting influence on pricing information acquisition (Ingenbleek 2007). In addition, Belich and Dubinsky (1995) highlight the importance of Porter's (1980) competitive strategies to understand firms' information acquisition practices. Although the general business strategy could be conceptualised in many different ways, Porter's (1980) approach is used

because prior empirical analysis has shown that it adequately reflects the practitioners' way of thinking about competitive strategy (Homburg, Workman, and Krohmer 1999). Porter's (1980) typology has also been adopted in recent SME research, which underlines the continued relevance of the approach (Walsh and Lipinski 2009).

Porter's (1980) widely accepted typology suggests the following two generic strategies: differentiation strategy and low-cost strategy. Firms pursuing a differentiation strategy are characterised as placing stronger emphasis on the development of new, unique products and services, superior brand images and brand loyalty. They aim for price-inelasticity, which facilitates the extraction of higher margins from their customers (Baldauf, Cravens, and Wagner 2000; Belich and Dubinsky 1995; Pelham 1999). The aim is to set premium prices for the superior customer value offered. In this research, the differentiation strategy is understood in terms of these attributes.

The opposite strategy is the low-cost strategy, according to Porter's (1980) framework. Here, the focus is on pursuing operating efficiencies, economies of scale and lowering manufacturing cost (Baldauf, Cravens, and Wagner 2000; Homburg, Workman, and Krohmer 1999; Narver and Slater 1990; Pelham 1999). From a pricing perspective, the main aim is to gain market share by setting the lowest price possible. So far, the question of whether the adoption of a differentiation strategy influences pricing information practices remains largely unanswered but is important against the backdrop of the preceding discussion. The adoption of a differentiation strategy has strong implications for pricing decisions that are accompanied by a pricing information search. Consequently, a differentiation strategy is included as an antecedent of pricing information acquisition.

The importance and necessity of studying the construct *value pricing strategy* as an antecedent of pricing information acquisition originates in pricing theory and the RBV. From a pricing theory perspective, the value pricing strategy is among the most discussed pricing approaches in recent times. One reason for this is that the value pricing strategy is regarded as a superior approach to set prices (Hinterhuber 2008a, 2008b). Its relevance for practical pricing is documented by a great variety of discussions in the pertinent literature (cf. e.g., Hinterhuber 2004; Monroe 2003; Nagle and Hogan 2006;

Raju and Zhang 2010; Roll, Pastuch, and Buchwald 2012; Smith and Nimer 2012). The pioneering work of Inglebleek et al. (2003) has established a first empirical proof that the value pricing strategy is the best strategy overall for the pricing of new products, and subsequently it was empirically shown that the value pricing strategy is related to greater market and financial performance (Inglebleek, Frambach, and Verhallen 2010). The preceding notions are in accordance with the RBV. In his seminal article on the RBV, Barney (1991, p. 102) highlighted that a competitive advantage arises when a firm “is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors”. The value pricing strategy can be defined “as the extent to which a firm uses information in the process of price determination on the perceived relative advantages that it offers and on how customers will trade off these advantages against the price (which has yet to be determined)” (Inglebleek 2007, p. 442). Inglebleek (2007) suggests a direct connection between different pricing information sources and the value pricing strategy, underlining the relevance of the construct. In light of the preceding argument, this research conceptualises value pricing strategy as a key variable of pricing information acquisition.

### **3.2.3.3 Management-related attributes and resources**

A further important antecedent group that must be noted in an initial study of pricing information practices in SMEs are the management-related attributes and resources. It is necessary to understand which factors related to the managers actually carrying out the practices are critically associated with the main construct under investigation in this study. The three key variables investigated in the third antecedent group are *managerial education*, *managerial experience* and *perceived usefulness*. The variables are justified and defined in the following.

The first construct that has been selected as a potential predictor of pricing information acquisition is *managerial education*. Theorists have suggested that better educated managers “exhibited greater abilities in developing relevant skill and contacts and were more aware of different resource and information networks” (Yeoh 2005, p. 178). This

is supported by Westhead, Wright, and Ucbasaran (2001, p. 339) who assert in an SME context that entrepreneurs “with more diverse levels of human capital are purported to have the ability to develop relevant skills and contacts and are able to tap into dense resource and information networks.” Morgan (2012, p. 105) views human resources “in many ways as one of the most critical inputs to a firm’s marketing capabilities.” Thus, drawing on the RBV, managerial education is viewed as a critical resource of marketing capabilities and strategic behaviour (Wernerfelt 1984). Another theoretical underpinning for the construct selection is Information Economics theory, which also highlights managerial attributes as influencing factors of information screening activities (Weiber and Adler 1995). Lastly, the selection of the construct is justified with the pertinent SME literature and theory. SME researchers acknowledge that, by tradition, the owner or general manager in SMEs is, in many cases, a technical expert or a craft expert with little expert knowledge in business management (Carson 1993; Carson et al. 2002). In addition, the overall educational background is considered lacking adequate structures and format (McCartan-Quinn and Carson 2003). These shortcomings and the accompanying lack of specialist business management and marketing expertise could impact the marketing and pricing practices in SMEs (Fuller-Love 2006; McCartan-Quinn and Carson 2003; Woods and Joyce 2003).

Regarding managerial education, two possibilities are suggested in the literature. The first stream of literature conceptualises managerial education with regard to the individual’s educational background (Hausman and Neufeld 1989; Homburg, Workman, and Krohmer 1999; van Rossem and van Veen 2011; Verhoef and Leeflang 2009; Walsh and Lipinski 2009). This relates to the subjects studied by the individual (e.g., Hausman and Neufeld 1989). In the second stream of literature, researchers conceptualise managerial education in terms of the level of education completed (Becherer, Halstead, and Haynes 2001; Richbell, Watts, and Wardle 2006; Sciascia, Naldi, and Hunter 2006; Westhead, Wright, and Ucbasaran 2001; Yeoh 2005). For instance, some managers have received academic education, and others have not pursued an academic degree. If one intends to gain a comprehensive understanding of managerial education as a predictor of pricing information acquisition, it is believed that both aspects need to be taken

into account. Consequently, in this research, managerial education is defined in terms of the level and type of managerial education.

In addition to managerial education, *management experience* is regarded as a crucial antecedent of pricing information practices in SMEs. Yeoh (2005, p. 166) acknowledges this viewpoint by stating that entrepreneurs “with limited experience tend to use simplified decision models to guide their [information] search, while the opposite is true for experienced entrepreneurs.” Cooper, Gimeno-Gascon, and Woo (1994) clarify this notion a step further by identifying the managerial skills that are associated with higher levels of experience. They agree with Yeoh’s (2005) view that these attributes are linked critically to decision making and information acquisition. According to Cooper, Gimeno-Gascon, and Woo (1994), experience facilitates better problem awareness, increased monitoring skills and a greater propensity to develop information sources. In addition to these enhanced skills that promote the information search level, experience also connotes a motivational component. Greater managerial experience is suggested to “serve as a proxy for greater motivation and aptitude for solving problems” (Cooper, Gimeno-Gascon, and Woo 1994, p. 377). Solving pricing problems implies decision making, which is related to information search as suggested by Information Economics theory contributions (Weiber and Adler 1995). This understanding of experience makes it clear that the skills and motivation associated with higher managerial experience might foster information acquisition.

Several theoretical underpinnings justify the selection of managerial experience as an antecedent of pricing information acquisition. First, pricing theory provides justification for this notion. Although pricing information is a rather neglected field of study in pricing research, Ingenbleek (2007) suggests a link between managerial experience and pricing information processing practices. However, there is no empirical verification of this hypothesis available. Second, from the perspective of the RBV, managerial experience can be regarded as a valuable asset and an inimitable human resource (Barney 1991; Morgan 2012; Wernerfelt 1984). Thus, similar to managerial education, managerial experience is viewed as a critical resource of marketing capabilities, such as the

pricing information acquisition capability (Wernerfelt 1984). Third, Information Economics theory highlights crucial managerial attributes as influencing factors of information screening activities by Information Economics theory (Weiber and Adler 1995). Fourth, SME-related theoretical contributions explicitly highlight the importance of studying experience as it is deemed to positively influence marketing information competencies in SMEs (Carson et al. 2002; Stokes and Wilson 2010). Given the preceding argument, it can be inferred that different levels of managerial experience will most likely influence pricing information acquisition of SMEs. Managerial experience is defined as the extent to which a manager has worked in a managerial position. Based on the preceding argument, it is included as another key antecedent factor in the underlying research.

In addition to the manager's education and experience, which capture the ability to search for pricing information, another important antecedent of information acquisition are the motivational characteristics of the person responsible for accumulating pricing information. In this context, an important influencing factor of information practices suggested in the pertinent literature is the *perceived usefulness* of the information search (Yeoh 2000, 2005). A person could have the ability to search, but the motivation to carry out an information search could be lacking (Carson et al. 2002). Therefore, in addition to the preceding two constructs, it is important to include motivational aspects in this research to gain a comprehensive understanding of management characteristics that can influence pricing information acquisition.

Perceived usefulness of pricing information acquisition can be defined as the "belief that information search will provide added value or facilitate achievement of higher level goals" (Yeoh 2005, p. 174). This definition suggests that, aside from their abilities, managers responsible for pricing information acquisition must perceive a benefit regarding the information acquisition process or a belief in the utility of the search (Yeoh 2005). In other words, the manager's attitude toward information-based pricing decisions could be a decisive factor and a predictor of pricing information acquisition. Measures designed to improve and develop the pricing information acquisition capabil-

ity in SMEs would have to involve these perceptions and address them adequately. For example, an SME owner delegating pricing tasks related to pricing information acquisition to a specific employee should acknowledge and address these motivational aspects in a briefing. From a RBV perspective, management perceptions and attitudes are discussed as distinctive antecedents of performance-related constructs (cf. e.g., Wheeler, Ibeh, and Dimitratos 2008; Zou and Stan 1998. Drawing from Information Economics theory, which highlights the subjective perceptions of managers as important antecedents of information screening activities, perceived usefulness is conceptualised as the third important management-related antecedent of pricing information acquisition (cf. Weiber and Adler 1995).

#### **3.2.3.4 Environmental market factors**

Drawing on Contingency theory, external factors as antecedents of information practices will be addressed in order to gain a comprehensive understanding of the underlying research question. Firms need to consider the variation in market conditions and align their pricing information practices accordingly. Consequently, three external contextual variables are investigated as antecedents of pricing information acquisition: *market-related complexity, market growth and customer power*. The variables are justified and defined in the following section.

Environmental uncertainty is generally considered to be a central influencing factor of business practices in SMEs (Carson et al. 2002; Stokes and Wilson 2010). This is because SMEs have, in comparison to LEs, smaller customer bases and fewer orders, which leads to a lack of control and therefore to greater uncertainty (Carson 1993; Stokes and Wilson 2010). SME theory explicitly highlights the need to study uncertainty-related constructs. Drawing on Contingency theory, environmental uncertainty is conceptualised as comprising a lack of clarity of information, an uncertainty of causal relationships and a long time span of definitive feedback (Lawrence, Lorsch, and Garrison 1967). This definition of Contingency theory identifies a close relationship between the uncertainty construct and information processing practices. This notion is also sup-

ported by Information Economics theory that highlights uncertainty as a central antecedent of information screening activities (Hult 2011; Ingenbleek 2007; Weiber and Adler 1995; Wolff and Picot 2012). Daft and Weick (1984, p. 285) state that the “environment contains some level of uncertainty, so the organization must seek information and then base organizational action on that information.” Thus, this line of thought needs to be incorporated into the underlying investigation. Duncan (1972) conceptualises environmental uncertainty as consisting of two major sub-components: complexity and dynamism. Thus, the first facet used to investigate uncertainty’s influence on information practices is complexity. The dynamic aspect of uncertainty put forward by Duncan (1972) will subsequently be conceptualised as a separate variable, namely market growth.

Based on the aforementioned, the first external predictor of firms’ pricing information acquisition practices is the *market-related complexity*. According to Child (1972, p. 3), environmental complexity refers “to the heterogeneity and range of environmental activities which are relevant to an organization’s operations.” Complexity arises from the scale and scope of input and output required for a firm’s operations and decisions in specific business areas, such as suppliers, customers or competitors (Wade and Hulland 2004). For the underlying research, market-related complexity is of central importance. Pricing is critically dependent on market factors related to customers and competitors as the review of the pertinent literature has revealed. Wade and Hulland (2004) assert that as complexity increases, firms must develop efficient information capabilities and rely on them for effective decision making. Because of the preceding argument, one cannot ignore market-related complexity as an important predictor of pricing information practices in SMEs. Consequently, it is included in the research.

The second predictor in this antecedent group is *market growth*. Based on the widely accepted conceptualisation Duncan (1972) has put forward, dynamism is another aspect that might be critically related to the pricing information acquisition in SMEs. The aforementioned theoretical considerations have shown that it is important to investigate this aspect to achieve a comprehensive understanding of environmental uncertainty’s

influence on pricing information acquisition. In addition, from a RBV perspective, researchers explicitly highlight the importance of market dynamism as a predictor of firms' capabilities (Cui, Griffith, and Cavusgil 2005; Wang and Ahmed 2007). This is additional support for the selection of the variable, because, in this research, pricing information acquisition has been conceptualised from a RBV perspective viewing it as a marketing capability. Slater and Narver (1994) conceptualise market growth as a crucial constituent of dynamic markets. In addition, they view it as an antecedent of the market orientation concept, which is conceptualised as consisting of information generation and dissemination components (Kohli, Jaworski, and Kumar 1993; Slater and Narver 2000b). Additional support for the relationship between dynamism and information practices can be found in the literature. Daft, Sormunen, and Parks (1988, p. 125) states that in case of a high rate of change, which is an outcome of high market growth, "external activities and events shift rapidly so decision-makers do not have accurate information about them." The literature suggests that market growth might have an impact on pricing information acquisition. Consequently, market growth is selected as a crucial predictor of pricing information acquisition.

Finally, *customer power* has been selected as an important potential predictor of pricing information acquisition. Resource-dependence theory suggests that firms are dependent on customers because they are primary stakeholders of the firm, controlling important resources that are vital for a firm's success (Pfeffer and Salancik 1978). This dependence is a result of the power the stakeholder can command of the firm. Theoretical bases for the selection of customer power as a predictor can be found in the pertinent pricing theory and SME theory. The relevance of studying the construct as a determinant of pricing practices may be best expressed by the following quote: "Powerful buyers exert pressure on prices or force sellers to provide higher quality or more services" (Slater and Narver 1994, p. 49). Customer power is regarded as an important predictor of pricing practices. Schuppar (2006), who conceptualises the variable as a key determinant of pricing management and pricing success, confirms this view.

Furthermore, the importance of the construct is acknowledged in a recent pricing study, which sheds light on the relationship between market orientation of pricing management and pricing success (Totzek and Alavi 2010). Thus, from the perspective of pricing research, there is considerable evidence for the increasing relevance of studying customer power as an antecedent of pricing capabilities. Another important theoretical justification for the selection of the construct customer power stems from SME theory. SMEs, by comparison to LEs, have an especially limited impact on the marketplace (Carson 1993; Carson et al. 2002; McCartan-Quinn and Carson 2003). SMEs are frequently dependent on a smaller customer base (Stokes and Wilson 2010). This can lead to a lack of control in price negotiations. For instance, if an SME automotive supplier is in price negotiations with a very large multinational car manufacturer, it is very likely that the large buyer can impose prices and exert considerable pressure on the SME (Slater and Narver 1994). Customer power can have a strong impact on the pricing decisions made by SMEs. As previously shown, pricing information practices are interwoven with pricing decision making. Therefore, it can be inferred that different levels of customer power will also influence SMEs' pricing information acquisition. Customer power is understood in terms of the extent to which the buyer is more powerful than the seller (Schuppar 2006). In view of the preceding argument, customer power will be investigated as a potential predictor of pricing information acquisition.

### **3.2.4 Conceptualisation of performance consequences**

In this research, performance is considered to be a key consequence of pricing information acquisition in SMEs. This research draws extensively on Information Economics theory and the RBV, which rationalise the notion that pricing information acquisition drives performance. Information Economics theory suggests an important mechanism as to why pricing information acquisition might be related to performance. The central notion is that performance is the result of improved decision quality (Roll, Pastuch, and Buchwald 2012). Superior knowledge based on systematically acquired information will most likely improve the firms' capability to enforce higher prices in their markets, relative to the competitors. According to Information Economics theory, decision makers

are frequently confronted with incomplete and asymmetrically distributed information when making complex marketing and pricing decisions (Hult 2011; Weiber and Adler 1995; Wolff and Picot 2012). The main outcome of this is that pricing decision-makers are uncertain about as to how to make pricing decisions.

This uncertainty most likely has several negative effects on the quality and success of SME pricing decisions. For example, if pricing decision-makers are confronted with high levels of uncertainty, this might lead to simplified and gut-based decision procedures, because the decision-makers lack a sufficient informational fundament. Incomplete information could also lead to the suboptimal and incorrect price determination of list prices and final pocket prices after the deduction of discounts and rebates. Price setting requires the incorporation of demand/customer information, competitive information and internal cost and goal information to narrow the range of the price discretion to an optimal price corridor (Monroe 2003). If firms do not acquire pricing information from a broad range of sources, final prices might be too high or low, respectively. Potential consequences are lost orders, increased likelihood of competitive entry or limited profits because the value offered to buyers cannot be appropriated in an optimum manner (Monroe 2003; Roll, Pastuch, and Buchwald 2012). Low levels of pricing information are likely to lead to a suboptimal appropriation of the created product value from customers. In this context, drawing on Information Economics theory, pricing information acquisition is a key mechanism to reduce uncertainty and to improve decision quality. This is done by incorporating a cost/benefit optimal amount of pricing information that might lead to the extraction of higher margins from customers and to the reduction of the aforementioned negative effects.

The RBV provides another rationale to include performance, and more specifically pricing performance, as a key consequence of pricing information acquisition. Nowadays, it is acknowledged that pricing management is a distinctive high-level marketing capability (Morgan 2012). A key outcome of the pricing capability is the ability to set the right prices (Dutta, Zbaracki, and Bergen 2003). It has been suggested that this leads to better value appropriation and to the generation of economic rents in customer transactions

(Dutta, Zbaracki, and Bergen 2003; Mizik and Jacobson 2003). The pricing capability consists of processes that a firm develops to appropriate rents from customers (Dutta, Zbaracki, and Bergen 2003). One important element of the pricing process is the routine associated with the gathering and interpretation of pricing information. Consequently, pricing information acquisition is a crucial mid-level pricing sub-capability. According to the RBV, these pricing capabilities are the basis for competitive advantage (Dutta, Zbaracki, and Bergen 2003; Wernerfelt 1984). Barney (1991) explicitly establishes a link between information-processing systems and competitive advantage and performance, respectively. Information seems to be viewed as a particularly important antecedent of marketing performance. Although the pricing literature has not explicitly investigated the link between pricing information acquisition sources and pricing performance in the context of SMEs, export marketing studies have shown that information acquisition might be associated with improved export performance (Hart and Tzokas 1999; Köksal 2008; Yeoh 2000).

Both theoretical perspectives provide the rationale for the selection of performance as a key consequence of pricing information acquisition. An additional value of selecting performance as a key consequence is that the significance of the pricing information acquisition capability can be understood as a distinctive constituent of the pricing process. Dutta, Zbaracki, and Bergen's (2003) important contribution, which introduced pricing management to the RBV, has paved the way to a state-of-the-art definition of pricing performance. Pricing is successful if economic rents can be appropriated from customers (Dutta, Zbaracki, and Bergen 2003; Mizik and Jacobson 2003; Simon 2004). Accordingly, pricing performance is understood in terms of the extent to which SMEs are able to enforce intended prices and appropriate adequate value for their products and services from customers (Dutta, Zbaracki, and Bergen 2003; Schuppar 2006; Totzek and Alavi 2010). Based on the aforementioned, the pricing information acquisition capability might cause different levels of pricing performance.

In addition, firm performance is also included as a key variable in the underlying research. Regarding the level of enquiry, firm performance is at the highest level. Pricing

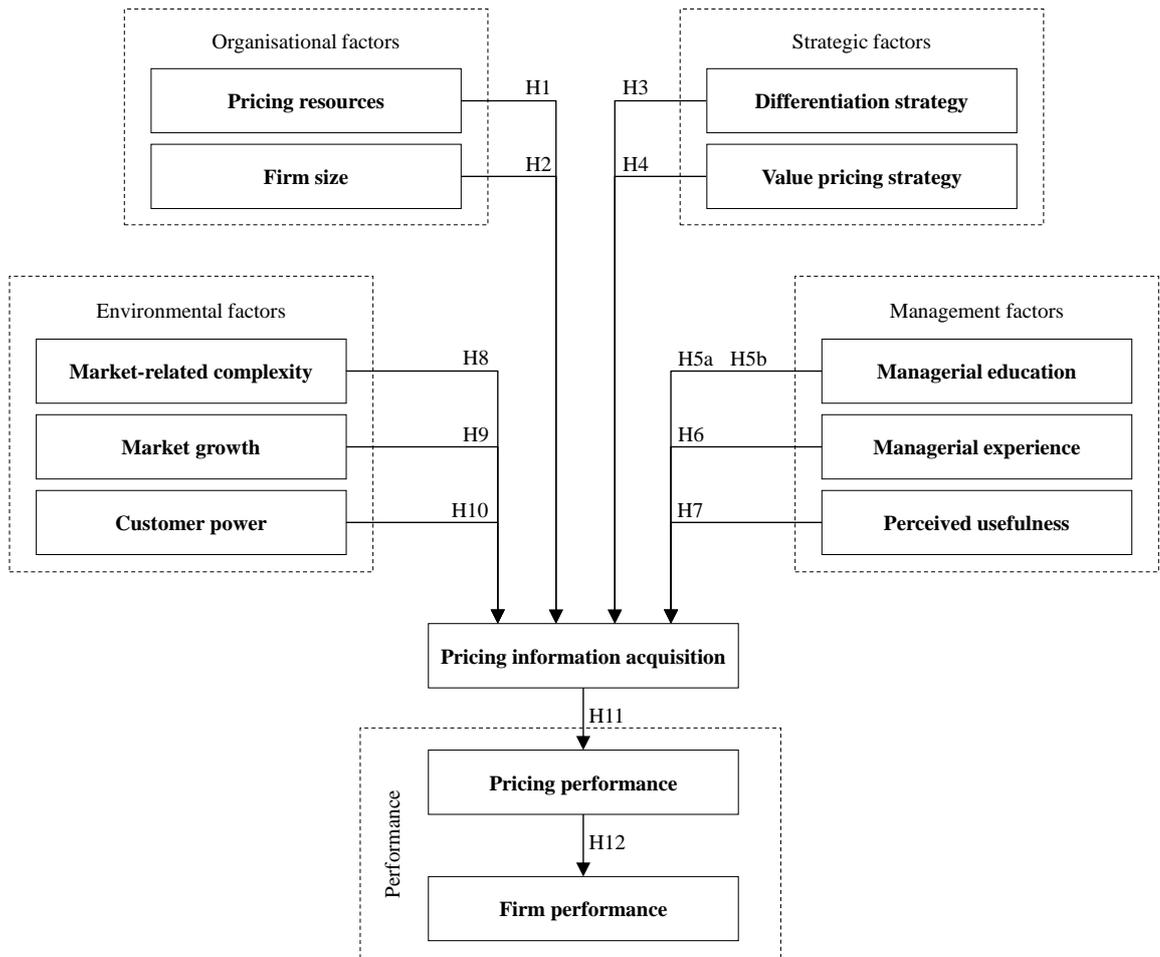
performance is at a lower level of enquiry, capturing the success of the pricing capability/pricing function only. The principal inclusion of firm performance is justified by several studies that suggest a link between information processing related constructs and firm performance (Garg, Walters, and Priem 2003; Gaur, Vasudevan, and Gaur 2011; Kara, Spillan, and DeShields 2005; Keh, Nguyen, and Ng 2007; Pelham 2000; Pelham and Wilson 1996; Peters and Brush 1996; Sawyerr, Edbrahimi, and Thibodeaux 2000; Wade and Hulland 2004; Yeoh 2005) or new product performance (Moorman 1995). The differentiation into two separate performance constructs is common in the pertinent marketing literature and suggested by the RBV (Hooley et al. 2005), SME (Merrilees, Rundle-Thiele, and Lye 2011) and pricing (Totzek and Alavi 2010) theorists. Consequently, it is appropriate to model firm performance as a separate sequence from pricing performance. Based on the aforementioned, the conceptual model developed in this research assumes that pricing information acquisition has a relationship with pricing performance, which in turn should be related to firm performance. Pricing theorists criticise the lack of empirical studies investigating the relationship between pricing performance and firm performance (Schuppar 2006). Firm performance is defined in terms of the success achieved in customer relationships (e.g., customer satisfaction), markets (e.g. market share and sales growth) and profitability (cf. Keh, Nguyen, and Ng 2007; Moorman and Rust 1999; Verhoef and Leeflang 2009).

### **3.3 Research framework**

Figure 3.2 contains the research framework investigated in the underlying research. It is based on the in-depth discussion of the conceptual background and foundations presented in the previous section. It includes the focal variable investigated in this research, namely pricing information acquisition. The previous section conceptualised and justified four groups of antecedent factors. These antecedent groups, including their respective variables, are shown in the research framework. In addition, the research framework includes performance as a key consequence of pricing information acquisition, including the two sub-variables of pricing performance and firm performance. The previous section justified the selection of constructs and shed light on the links and under-

lying mechanisms between the constructs. Figure 3.2 involves the structural path of the hypotheses. In the next section, the hypotheses proposed in this research will be developed.

**Figure 3.2: Research framework to explain pricing information acquisition**



Source: Own illustration

### 3.4 Research hypotheses development

The hypotheses development section is organised as follows. First, the hypotheses regarding the three internal antecedent groups (1) organisational characteristics and resources, (2) firm strategic orientation, (3) management-related attributes and resources and pricing information acquisition will be discussed in Section 3.4.1 (H1-H7). Second, the hypotheses regarding the relationship between external market factors and pricing information acquisition will be developed in Section 3.4.2 (H8-H10). Finally, Section

3.4.3 will deal with the hypotheses development regarding the performance consequences of pricing information acquisition (H11, H12).

### **3.4.1 Relationships between internal factors and pricing information acquisition**

#### **3.4.1.1 Organisational characteristics and resources**

The central theoretical constructs of the organisational dimension are pricing resources and firm size. In the following, hypotheses are formulated regarding their influence on pricing information acquisition.

##### **3.4.1.1.1 Pricing resources**

The RBV suggests that a firm's marketing capabilities are based and dependent on the available amount of resources (Barney 1991; Dutta, Zbaracki, and Bergen 2003; Morgan 2012; Wernerfelt 1984). Greater amounts of assets available to the firm lead to a better potential in building superior capabilities and ultimately valuable firm output (Morgan 2012). In addition, SME theory states that limited resources are a distinctive characteristic that delimits SMEs from larger enterprises (Carson 1993; Stokes and Wilson 2010). Limited resources are a core challenge for SMEs and might be a barrier to marketing information activities that require considerable amounts of resources. SMEs need resources in terms of human capacities allocated to pricing tasks to drive their information acquisition activities.

The aforementioned relationship has scarcely been researched in the empirical literature. Although information systems studies highlight the need to study the influence of marketing resources on information practices, the existing body of knowledge is scant (Caldeira and Ward 2003). An investigation of this relationship with a focus on pricing is, to the best of my knowledge, unavailable. Empirically, firms' resources have been investigated together with information practices in only a few cases, as the literature review has revealed (Gaur, Vasudevan, and Gaur 2011; Sciascia, Naldi, and Hunter 2006; Weinrauch et al. 1991; Williams 2006). Williams (2006) shows that SMEs with

higher levels of firm resources are likely to conduct more information acquisition activities in an exporting context. In addition, Gaur, Vasudevan, and Gaur (2011) established a connection between resources and information practices within the context of the market orientation theory, based on an Indian SME sample. Sciascia, Naldi, and Hunter (2006) show that SMEs' firm resources are positively associated with the owner/manager's entrepreneurial orientation, which is itself strongly related to the amount of information acquisition as Keh, Nguyen, and Ng (2007) have demonstrated, based on a manufacturing SME sample. Weinrauch et al. (1991) asserts that limited firm resources create problems in SMEs' marketing practices and that SMEs do not actively gather marketing assistance from information sources. However, his findings indicate that firm resources are not related to information acquisition, which conflicts with the aforementioned result.

The discussed relationship has not been empirically tested in the SME pricing literature. However, in his SME pricing study, Meziou (1994) speculates that a lack of available resources in SMEs might hinder pricing information acquisition and ultimately lead to suboptimal pricing decisions and haphazard price setting practices. Firms need pricing resources to invest in skilled employees who effectively conduct pricing information acquisition. It can be assumed that in practice there will be differing levels of pricing resources in SMEs. Prior discussions to date have shown that it is unclear whether pricing resources might be a driver of pricing information acquisition. Investigating this relationship would enable clearer recommendations to SMEs with regard to the dedication of human resources capacities for pricing information activities, which are the fundament of pricing decision making as Information Economics theory proposes (Hult 2011; Weiber and Adler 1995). Furthermore, the investigation would contribute to RBV theory building in the pricing context by extending the work of Dutta, Zbaracki, and Bergen (2003), which introduced the RBV to pricing research. Consequently, consistent with prior research, light will be shed on the relationship postulated in the following hypotheses:

H1: SMEs with greater levels of pricing resources are likely to conduct more pricing information acquisition.

#### **3.4.1.1.2 Firm size**

The discussion in Section 3.2.3.1 has shown that firm size is an important construct that should be investigated in detail if one intends to understand the underlying mechanisms behind pricing information acquisition in SMEs. This study investigates firm size, spanning from micro firms with up to nine employees to medium-sized firms with up to 249 employees. Since pricing information acquisition has so far not been investigated in SMEs, the important question arises as to whether the continuum between micro firms and medium-sized firms differs in the amount of pricing information acquisition. The exploratory nature of this research needs to be able to make clear recommendations about whether there are different amounts of pricing information acquisition in the size classes to formulate appropriate practical recommendations. In addition, the relevance of studying this relationship is clearly an outcome of the pertinent theoretical perspectives.

Ingenbleek (2007), drawing on the introduction of pricing to the RBV put forward by Dutta, Zbaracki, and Bergen (2003), suggests connections between firm size and the pricing process. This suggestion is shared and supported by the recent contribution of Morgan (2012). His RBV integrative conceptual marketing framework indeed suggests that organisational resources, such as the scale and scope of operations (firm size) are an antecedent of marketing capabilities, and the pricing capability specifically, including its pricing information acquisition sub-capability (Morgan 2012).

Existing empirical literature has taken this notion into account. The results are mixed because positive, negative and no relationships are reported (Franco et al. 2011; Johnson and Kuehn 1987; Yeoh 2000). However, this issue does not appear to have been investigated in the context of SMEs' pricing information practices. The basis for the next hypothesis derives from the notion that larger SMEs have greater resource stocks to actually carry out pricing information research (Souchon and Diamantopoulos 1999; Yeoh 2000, 2005). A concrete example for this is that larger SMEs are more likely to

have the ability to hire marketing specialists due to increasing budgets and market power (Walsh and Lipinski 2009). These specialists might establish more favourable information processes and structures and generally have a greater propensity for information searching due to their advanced expertise. The greater scale and scope of resources might also lead to the use of a greater variety of information sources and a greater use of more expensive sources like primary market research (Souchon and Diamantopoulos 1999). The consequence of this might be that larger firms possess organisational structures that lead to an overall higher amount of pricing information acquisition. Empirical support for the following hypotheses arises from information studies that report a positive relationship between firm size and amount of information acquisition (Franco et al. 2011; Haase and Franco 2011; Mohan-Neill 1995; Souchon and Diamantopoulos 1999). The pertinent empirical literature focusing on information practices clearly underlines the importance of studying the aforementioned relationship. The preceding argument leads to the following hypothesis:

H2: Larger SMEs are more likely to conduct more pricing information acquisition.

### **3.4.1.2 Firm strategic orientation**

The two theoretical constructs pertinent to the strategy-related antecedent group are differentiation strategy and value pricing strategy. Hypotheses have been postulated regarding their influence on the pricing information acquisition construct.

#### **3.4.1.2.1 Differentiation strategy**

Firms can pursue differentiation or low-cost when adopting a competitive strategy. Pricing theory suggests that there might be an association between a differentiation strategy and the acquisition of pricing information sources (Ingenbleek 2007). Indeed, it is suggested in the literature that a differentiation strategy involves the careful identification and exploration of customer needs and the adaption of products and prices to those needs (Baldauf, Cravens, and Wagner 2000; Homburg, Workman, and Krohmer 1999; Pelham 1999; Walsh and Lipinski 2009). This might also incorporate an analysis of the

value propositions and prices of the relevant competitors. Firms pursuing a differentiation strategy must then tailor specific product/price configurations to meet these customer needs in order to appropriate higher margins from their customers in the end. Consequently, the adoption of such a strategy might involve and require a greater variety of information from a larger number of differentiated sources. For instance, to tailor such a specific product/price configuration, firms must gather detailed information about customers by means of pricing-related and non-pricing related market research. They must also gather information about the specific value propositions of competitors by involving secondary market research and intelligence generation.

By contrast, a firm pursuing a low-cost strategy is more internally oriented (Homburg, Workman, and Krohmer 1999). Low-cost strategy firms focus on standard products and services and try to gain competitive advantages through operating efficiency and cost reductions. Customer and competitor information are less important. It is likely that these firms conduct a smaller amount of pricing information acquisition and rely on a smaller number of firm-internal pricing information sources, overlooking external environment sources. It is postulated that firms with a differentiation strategy that enables the enforcement of premium prices try to acquire more pricing information in order to determine maximum willingness-to-pay and to justify their higher prices than firms pursuing a low-cost firm strategy, where the central focus is the lowest price. This association has only been scarcely researched empirically. However, a relationship between differentiation strategy and information acquisition was established by the findings of Belich and Dubinsky (1995) who showed that firms committed to a differentiation strategy perform more internal information acquisition. However, their study was carried out in an exporting context and with a focus on information elements rather than sources, making a direct application of the findings difficult. One cannot ignore this important relationship in a study exploring the underlying mechanisms of pricing information acquisition. Against the background of the preceding argument, the following hypothesis has been postulated:

H3: SMEs with a differentiation strategy will conduct more pricing information acquisition than SMEs pursuing a cost leadership strategy.

#### **3.4.1.2.2 Value pricing strategy**

The construct value pricing strategy is a widely discussed issue in the pricing literature, and has been suggested as a superior strategy for setting prices. It is common knowledge that strategy formulation requires an adequate information fundament, i.e., sufficient information acquisition and processing. It is further suggested that the value pricing strategy gains its superiority from a broader and more diverse information base (Monroe 2003). Therefore, pricing strategy might be related to the information acquisition construct investigated in this research. To the best of my knowledge, this relationship has not yet been investigated empirically in an SME pricing context. However, the inference can be justified with the work of Ingenbleek (2007). The suggested direct link between both constructs raises the question of whether firms adopting a value pricing strategy actually acquire more pricing information and whether this can be empirically verified. The value of answering this question is to better understand why some firms engage in a higher amount of information search than others. Findings would contribute to pricing theory in that additional light would be shed on the consequences of the widely discussed value pricing strategy.

Although the relationship has not been investigated in that direct form, prior investigations support the notion that a value pricing strategy leads to a higher amount of pricing information acquisition. The recent work of Ingenbleek, Frambach, and Verhallen (2010) provides an explanation regarding the relationship between the market orientation concept and the value pricing strategy. The authors find that market orientation's two constituents, customer orientation and competitor orientation, are significantly and positively related to the value pricing strategy. Both orientations comprise the gathering and processing of information related implicitly to customers and competitors (cf. Narver and Slater 1990). In fact, to a considerable extent, the market orientation construct operationalisation is based on information activities (cf. Kohli, Jaworski, and

Kumar 1993; Maltz and Kohli 1996; Narver and Slater 1990). This implies that firms adopting a value pricing strategy might engage more heavily in information acquisition practices since this strategy requires information on internal cost data and, more importantly, external data on competitors and customers (Ingenbleek 2007; Monroe 2003; Roll, Pastuch, and Buchwald 2012; Tzokas et al. 2000). All these different information types require the use of a broader and more diverse collection of information sources. Consequently, based on the given information the following hypothesis has been formulated:

H4: SMEs with a greater extent of value pricing strategy are more likely to have a higher pricing information acquisition.

### **3.4.1.3 Management-related attributes and resources**

The three central theoretical constructs of the management-related antecedent group are managerial education, managerial experience and perceived usefulness. In the following, hypotheses are formulated regarding their influence on the pricing information acquisition construct.

#### **3.4.1.3.1 Managerial education**

Managerial education has been selected as a crucial antecedent of pricing information acquisition. Hankinson (1995) studied the pricing practices of U.K. SME manufacturers. He took a qualitative approach and he found considerable pricing weaknesses. Small firms tended to ignore pricing opportunities, and the vast majority of the sample relied heavily on the cost-plus pricing strategy, which is deemed suboptimal in the pricing literature (e.g., Hinterhuber 2008a; Nagle and Hogan 2006; Roll, Pastuch, and Buchwald 2012). Hankinson (1995) highlights that the root of the observed pricing problems could lie in educational shortcomings. Indeed, prior empirical investigations indicate that the type of education exerts an influence on pricing practices. In their historical perspective on the pricing of electricity, Hausman and Neufeld (1989) indicated that engineers and economists approach and solve pricing problems in distinctive ways. A

primary difference was the greater customer and market orientation of economists (Hausman and Neufeld 1989). Although lacking a specific pricing focus, van Rossem and van Veen (2011) corroborate the aforementioned notion in that the functional background has a significant influence on the awareness of different management concepts. This could lead to different decision-making approaches and information acquisition patterns. In general, managers seem to have problems to deviating from their functional educational background when making decisions (Walsh and Lipinski 2009).

The preceding argument and empirical findings strongly support the inference that SME managers with a technical background might differ from SMEs managers with a business management background with regard to their pricing information acquisition practices. The greater customer and marketing orientation of economists compared to the greater internal orientation of engineers found by Hausman and Neufeld (1989) supports the inference that economists are likely to acquire pricing information from a greater amount of internal and external pricing information sources. Indeed, greater market orientation is related to greater information generation and dissemination (Kohli, Jaworski, and Kumar 1993). To the best of my knowledge, this important relationship has not yet been empirically investigated in the context of SMEs' pricing information practices. Consequently, the following hypothesis will be investigated:

H5a: SME managers having a business management educational background with primary responsibility for pricing decisions will conduct more pricing information acquisition than SME managers having a technical educational background with primary responsibility for pricing decisions.

The discussion in Section 3.2.3.3 presented the level of education as a second important facet of the variable managerial education. The level of education typically refers to whether or not managers have pursued an academic education (e.g. Becherer, Halstead, and Haynes 2001). It has been shown empirically that SME managers with higher levels of education engaged in more business planning (Richbell, Watts, and Wardle 2006), a managerial behaviour that is closely related to information acquisition and utilisation practices. Sciascia, Naldi, and Hunter (2006) corroborate these findings. They show that

the level of education is a significant predictor of entrepreneurial orientation, which is itself strongly related to the amount of information acquisition, as Keh, Nguyen, and Ng (2007) demonstrated based on a manufacturing SME sample. A possible reason for this could be that academic education at an university level typically raises expectations and abilities in terms of problem-solving skills, information need awareness, motivation and discipline (Cooper, Gimeno-Gascon, and Woo 1994; Westhead, Wright, and Ucbasaran 2001; Yeoh 2005). Consequently, it is reasonable to infer that a more highly educated manager with primary responsibility for pricing decisions will have a higher propensity to pricing information acquisition. As previously argued, this research hypothesises that managers with a business management background will conduct more pricing information acquisition due to their functional and specialised training in the different business management disciplines (H5a). The next hypothesis further uncovers the relationship between education and pricing information acquisition by adding the aspect of educational level to the preceding hypothesis. This leads to the following hypothesis.

H5b: SME managers having a university degree in business management with primary responsibility for pricing decisions will conduct more pricing information acquisition.

### **3.4.1.3.2 Managerial experience**

In accordance with theory and prior literature, managerial experience has been selected as an important antecedent factor that may influence the level of pricing information acquisition. It is assumed that higher levels of managerial experience will lead to more elaborate and systematic schemes of information search. The theoretical underpinnings for the direction of this relationship can be found in the concept of bounded rationality (Simon 1955), which is closely related to the behavioural decision theory of the firm and Information Economics theory (Adler 1996; Cyert and March 1963). Bounded rationality is characterised by a limited capacity of individuals in problem solving, decision making and information search. Applying this theoretical notion to the pricing information acquisition context, experienced SME managers are likely to have a greater

awareness of risks and potential problems because their greater expertise, capacity and elaborate managements schemes allows them to conceptualise pricing decision problems with greater depth and scope. In other words, experienced managers are more aware of their bounded rationality. This distinguished awareness in a given decision context will most likely also lead to a more complex and differentiated perception of risks involved in the decision problem. Because of this, it is very likely that the perceived uncertainty of experienced managers is likely to be higher. A key premise of Information Economics theory is that higher levels of uncertainty will lead to more information acquisition (Adler 1996; Weiber and Adler 1995).

Indeed, the preceding argument is supported by several empirical contributions showing that experience considerably influences information practices. For instance, Descotes and Walliser (2011, p. 323) states that experience exerts “a particularly strong influence on the export information acquisition and assimilation capacities of small firms”. Williams (2006) reports moderate associations between experience and the acquisition of a broader variety of information sources. These findings are also largely supported by the findings of Souchon and Diamantopoulos (1999). Cooper, Folta, and Woo (1995) illuminate the relationship by means of a large sample of 1176 micro firms with fewer than three employees. They confirm the positive relationship between experience and information search. Importantly, they find evidence to reject the possible objection that less experienced managers might search more, not less, because they are new to the specific field. This was only true in familiar surroundings and decision areas (Cooper, Folta, and Woo 1995). In unfamiliar surroundings, inexperienced managers searched less (Cooper, Folta, and Woo 1995). In contrast, experienced managers acquired information with the same high intensity, regardless of their familiarity with the surroundings and decision area (Cooper, Folta, and Woo 1995).

Although the principal influence of managerial experience on pricing information practices has been suggested at the conceptual level (Ingenbleek 2007), empirical verification of this notion in the pricing research stream appears to be non-existent. Other empirical contributions focus on the export sector (Descotes and Walliser 2011; Souchon

and Diamantopoulos 1999; Williams 2006) and on micro firms (Cooper, Folta, and Woo 1995), limiting generalisations to the complete SME sector. Moreover, inferences are drawn based on the restrictions of small qualitative samples (Descotes and Walliser 2011; Wright and Ashill 1998). For instance, Wright and Ashill (1998) recommend the omission of experience as an antecedent of information practices based on a sample of only three firms, which necessitates empirical verification based on large-scale samples. As a consequence of the preceding theoretical considerations, the following hypothesis has been developed.

H6: Experienced SME managers with primary responsibility for pricing decisions will conduct more pricing information acquisition.

#### **3.4.1.3.3 Perceived usefulness**

The importance of studying the relationship between perceived usefulness and pricing information acquisition arises from the fact that the motivation to actually search for pricing information is suggested to depend on management's subjective perception or belief that the search will yield a benefit and utility (Yeoh 2005). Thus, the amount of information acquisition may be critically related to the attitude a manager has toward pricing information. Support for this inference can be found in Information Economics theory propositions. The theory suggests that managerial perceptions are related to information screening activities (Weiber and Adler 1995).

Despite the importance of this notion, prior empirical investigation in information acquisition research regarding this issue must be characterised as scant. Two studies investigate the perceived usefulness of information acquisition sources in the context of exporting (McAuley 1993; Yeoh 2000). McAuley's (1993) findings indicate a varying perceived popularity of different export information sources. The investigated exporters deemed the perceived usefulness of relationship sources as higher than secondary market research sources (McAuley 1993). Yeoh (2000) also studied the influence of perceived usefulness at the source level. Consistent with McAuley's (1993) findings,

Yeoh (2000) finds a lower perceived usefulness of secondary market research sources compared to personal sources.

In his conceptual framework of antecedents of information search, Yeoh (2005) advances the theoretical discussion by raising the important question of whether this relationship could also be confirmed at the aggregate level. In other words, prior studies have focused on the perceived usefulness of the different sources. However, to date the managers' perceived usefulness of overall information acquisition has not been investigated. An investigation of this notion could add further value to the theoretical discussion of perceived usefulness as a predictor of information acquisition practices. In addition, the relationship between perceived usefulness and information acquisition lacks empirical validation in the context of pricing theory. Does the perceived usefulness exert an influence on the overall amount of pricing information acquisition? Against the backdrop of the preceding argument, this research intends to contribute to this important theoretical discussion in information acquisition research by investigating the following hypothesis:

H7: Higher perceived usefulness leads to greater pricing information acquisition.

### **3.4.2 Relationships between external market factors and pricing information acquisition**

In this section, hypotheses are developed regarding the external market factors of pricing information acquisition. Three variables have been selected in this antecedent group: market-related complexity, market growth and customer power.

#### **3.4.2.1 Market-related complexity**

According to Information Economics theory, information acquisition activities are critically related to uncertainty problems (Adler 1996). A major source of firms' uncertainty problems arises from the external market environment (Franco et al. 2011; McGee and Sawyerr 2003). It is assumed that higher levels of market-related complexity can be associated with higher information search efforts. Drawing from Information Econom-

ics theory, market-related complexity is viewed as a core barrier to informed marketing decision making. A high level of related problems will likely lead to a positive cost-benefit trade-off of uncertainty reduction strategies and, therefore, managers who are confronted with highly complex and risky markets might be prone to invest more time and financial resources to acquire information to better understand trends, developments, customer needs and competitors' actions (Hult 2011; Weiber and Adler 1995). Wade and Hulland (2004) support this notion by suggesting that firms must develop their information processing capabilities to cope with increasing complexity.

Daft, Sormunen, and Parks (1988) confirm this argument. Based on a sample of 50 large U.S. manufacturers, their investigation suggests that greater complexity-related environmental uncertainty leads to greater information scanning in terms of frequency and overall amount of information sources. They further state that chief executives selectively increase information acquisition in surroundings and situations where uncertainty is greatest (Daft, Sormunen, and Parks 1988). Belich and Dubinsky (1995) find a highly significant positive relationship between product complexity and information acquisition. Even though not explicitly conceptualised as market-related complexity, their findings provide support for the preceding theoretical considerations. It is believed that product-related complexity can also be a facet of specific markets to some extent. For instance, an SME can sell to markets where product complexity is high and vice versa. Yeoh (2000) also suggests a positive relationship between uncertainty and information acquisition. Environmental uncertainty is conceptualised in terms of the complexity of the immediate market-environment, related to competitors, customers and products and environmental complexity in terms of the macro or remote marketplace (e.g. tariffs, exchange rate fluctuations, legal environments). The immediate market-environment is positively related to information acquisition, and the macro environment yields insignificant results. Yeoh (2000) suggests that the managers' bounded rationality compels them to focus on the immediate and closer market-environment that has a more direct impact on a firm's potential. Therefore, the complexity of the immediate market environment seems to be more influential regarding information acquisition practices than macro-environmental-related complexity. To summarise, the existing empirical evi-

dence supports the inference that market-related complexity will most likely be associated with higher levels of pricing information acquisition activities.

Despite the relevance of the suggested relationship, empirical evidence in the context of pricing is scarce. Studies dealing explicitly with this relationship in an SME pricing context are lacking. This is surprising since Ingenbleek (2007) has established a conceptual link between demand uncertainty and pricing information sources. Although he conceptualises demand uncertainty with a focus on geographical distance relevant for export pricing decisions, he acknowledges the important link between uncertainty-related complexity and pricing information sources. An investigation of the relationship between market-related-complexity and pricing information acquisition could also mitigate some limitations of prior empirical studies. For instance, studies investigating this relationship are based on small qualitative samples (Wright and Ashill 1998) and focus on the exporting function (Belich and Dubinsky 1995; Yeoh 2000). Consequently, the following hypothesis has been developed.

H8: SMEs operating in markets with high levels of complexity will conduct more pricing information acquisition.

### **3.4.2.2 Market growth**

The influence of market growth and dynamism on marketing practices has been acknowledged by several researchers (Daft, Sormunen, and Parks 1988; Diamantopoulos and Mathews 1995; Homburg, Workman, and Krohmer 1999; Narver and Slater 1990, 2000a). The dynamic component of uncertainty refers to “the degree to which the factors of the decision unit’s internal and external environment remain basically the same over time or are in a continual process of change” (Duncan 1972, p. 316). The continual turbulence in high growth markets is most likely to be a great challenge for pricing decision makers in SMEs, who are confronted with a high rate of change in dynamic market environments (O’Regan, Ghobadian, and Liu 2000). This can comprise a high frequency of changes in known decision factors and the possible emergence of new and different factors influencing pricing decisions (Duncan 1972).

The high rate of change connected to high growth dynamic market environments has important implications for pricing decision making and information gathering. Daft, Sormunen, and Parks (1988, p. 125) state that when the “rate of change is high, external activities and events shift rapidly so decision-makers do not have accurate information about them.” This notion is corroborated by Yeoh (2000), who suggests that managers might deem their existing information and knowledge base inadequate to deal with unstable and quickly changing market conditions. Managers are likely to feel insecure and uncertain about pricing decisions that have already been implemented as well as about their future pricing decisions in these dynamic market conditions (Duncan 1972). Drawing upon Information Economics theory, this increased perceived uncertainty will most likely lead to greater information screening activity (Adler 1996; Weiber and Adler 1995). It is assumed that SMEs will conduct more pricing information acquisition to cope with high volatility and dynamic growth processes in their markets. Although it has not yet been investigated in the research field of SME pricing, some empirical support for this inference is provided by the studies of Garg, Walters, and Priem (2003), Ghobadian et al. (2008), Peters and Brush (1996), Wright and Ashill (1998) and Yeoh (2000). Therefore, the following hypothesis has been postulated.

H9: SMEs operating in markets with high levels of market growth will conduct more pricing information acquisition.

### **3.4.2.3 Customer power**

If customer power is high, buyers can impose considerable pressure on prices (Slater and Narver 1994; Wyld, Pugh, and Tyrrell 2012). This might lead to lower levels of pricing success (Schuppar 2006; Totzek and Alavi 2010). The most relevant characteristic of this buyer/seller relationship is the element of enforcement. This element is important for the pricing practices of LEs and multinationals, but even more for the pricing of SMEs, whose lack of control and power within given markets is considerably higher (Stokes and Wilson 2010). If customers can enforce their will regarding the price/quality configuration of a product in the buyer/seller relationship, the scope of

action for self-determined marketing decision making will most likely be reduced substantially (Wyld, Pugh, and Tyrrall 2012). The theoretical underpinning for this inference can be found in Information Economics theory. Important contributions to this theory suggest that higher levels of uncertainty induce a higher amount of information acquisition activities. Paradoxically, if customer power is high, it is likely that uncertainty in a given pricing decision will be reduced substantially. The reason for this is that the SMEs' scope of action for pricing decisions is extremely limited in such a situation. The customer can impose his will by exerting pressure on prices, leading to reactive pricing behavior (Slater and Narver 1994; Wyld, Pugh, and Tyrrall 2012). Therefore, if customers have the power to dictate prices, the cost-benefit trade-off of information screening activities is likely to be unfavourable, leading to a lower amount of SMEs' pricing information acquisition. Consequently, the following hypothesis has been postulated:

H10: SMEs operating in markets with high levels of customer power will conduct less pricing information acquisition.

### **3.4.3 Performance consequences of pricing information acquisition**

#### **3.4.3.1 Relationship between pricing information acquisition and pricing performance**

Pricing performance has been selected as a key consequence of pricing information acquisition. It is assumed that higher levels of pricing information acquisition will lead to increased pricing performance. The theoretical underpinning for the assumed positive relationship can be found in the Information Economics theory and in the RBV. According to Information Economics theory, information acquisition is a key means to reduce uncertainty and improve decision quality. Based on the RBV foundations of this research, there might be a positive relationship between appropriate information-processing capabilities and competitive advantage and performance (Barney 1991; Dutta, Zbaracki, and Bergen 2003; Narver and Slater 1990).

The literature emphasises the impact of information acquisition on performance. In the export marketing literature, Hart and Tzokas (1999), Köksal (2008) and Yeoh (2000) reported a positive influence of export information acquisition activities on export performance. In addition, findings in the environment scanning literature have also provided some evidence that information acquisition is positively related to firm performance (Daft, Sormunen, and Parks 1988; Garg, Walters, and Priem 2003; Peters and Brush 1996). Other researchers find non-significant or weak relationships between information acquisition and performance (Brush 1992; Keh, Nguyen, and Ng 2007; Moorman 1995; Sawyerr, Edbrahimi, and Thibodeaux 2000). However, the findings of the preceding studies tend to focus only on external information search or to investigate the marketing function as a whole.

Even though research has produced initial insights into the relationship between firms' information acquisition practices and performance, there is limited research investigating the relationship between the concept of pricing information and pricing performance. Pricing is a distinctive task and capability within the marketing function (Dutta, Zbaracki, and Bergen 2003). The findings of a quality study conducted by Wiltinger (1998) support the inference that information acquisition influences decision quality. Based on five in-depth LE case studies, Wiltinger (1998) concludes that a lack of pricing information and related problems have a grave, negative effect on the quality of pricing decisions.

Quantitative findings regarding this relationship are scarce in pricing research. One of the few quantitative studies dealing with the construct pricing information investigates its relation not to pricing performance but to export pricing strategy, leaving the question of performance implications of pricing information unanswered (Tzokas et al. 2000). In contrast, Indounas (2009) has shed light on the link between pricing information and pricing performance. He performed a group comparison of high and low pricing performing service firms and found that high performing firms scored higher regarding customer-based, competition-based, profit margin-based and cost-based pricing information elements. However, only the results of the latter two findings were sig-

nificant. Although Indounas (2009) offers initial insights, his findings are limited to the service sector; the author ignores the information acquisition sources, and focuses only on pricing information elements. Totzek and Alavi (2010) reports evidence for the positive relationship between market-information oriented pricing management and pricing success. Whereas this supports the inference that information acquisition leads to greater pricing performance, the findings are based only on external market-related information generation, thus adopting an incomplete understanding of pricing information acquisition. In addition, the authors do not use a source-oriented understanding of pricing information acquisition. It is worth noting that Totzek and Alavi (2010) emphasise that pricing information generation practices will likely have a direct effect on pricing performance, which in turn suggests an important influencing factor of firm performance.

In an SME context, empirical proof regarding this relationship is especially scant. Verhees and Meulenbergs (2004) results suggest a positive relationship between the SME customer market intelligence and pricing performance in terms of the realised relative product price. Relative product price is viewed in terms of a price premium extracted from customers, which is close to the conceptual understanding of the pricing performance of the underlying research. The aforementioned tends to support the inference of an effect of information acquisition on SMEs' pricing performance. However, a weakness is the incomprehensive understanding of information acquisition and the missing pricing focus of the study.

Unfortunately, existing empirical studies offer a piecemeal and incomplete understanding of the effect of pricing information acquisition on pricing performance. In addition, the question of whether pricing information acquisition has an effect on pricing performance has not been sufficiently answered in the SME context. Based on the preceding argument, it is assumed that firms conducting more pricing information acquisition are able to extract higher margins from customers. Thus, in sum, the following hypothesis has been postulated:

H11: SME pricing information acquisition positively relates to pricing performance.

### 3.4.3.2 Pricing performance and firm performance

Firm performance has been shown to be a consequence of pricing performance. The previous section justified why the pricing information acquisition capability might be positively related to pricing performance. In turn, SME pricing performance is suggested to be positively related to firm performance. Based on prior literature, both constructs have been conceptualised separately. The RBV suggests that pricing is an important distinct firm capability that is most likely related to competitive advantage (Dutta, Zbaracki, and Bergen 2003; Morgan 2012; Peteraf 1993; Wernerfelt 1984). More specifically, the development of appropriate pricing capabilities is crucial to generate adequate rents (Dutta, Zbaracki, and Bergen 2003). Consequently, drawing on the RBV, pricing performance might be related to firm performance.

In addition, many pricing textbooks assert that pricing is a major profit lever and the basis for superior firm success (Cram 2006; Marn, Roegner, and Zawada 2004; Mohammed 2010; Roll, Pastuch, and Buchwald 2012). For example, Mohammed (2010) presents the effects of a one per cent price increase on selected Fortune 500 companies, assuming constant demand. Mohammed's calculations reveal that a one per cent price increase has a major impact on a firm's profitability. In the case of Wal-Mart, for instance, a one per cent price increase would lead to a profit growth of 18 per cent, and in the case of Amazon, it would lead to a 23 per cent profit increase.<sup>13</sup> These kinds of financial calculations typically focus on LEs and multinationals (Mohammed 2010; Roll, Pastuch, and Buchwald 2012). In many cases, such data is unavailable in privately held firms and SMEs (Dess and Robinson 1984; Pelham 2000).

Unfortunately, empirical evidence regarding this important RBV proposition is scant, and even less so in the case of SMEs. Some findings point toward the support of the proposition but still need empirical verification in the context of SME pricing and the emerging research field of pricing information-processing practices. Although some studies suggest that pricing practices (Ingenbleek, Frambach, and Verhallen 2010; In-

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<sup>13</sup> Calculations based on 2008 annual data of Wal-Mart and Amazon.

genbleek et al. 2003; Myers 1997), pricing objectives (Keil, Reibstein, and Wittink 2001) or pricing capabilities (Liozu and Hinterhuber 2013) are related to firm performance, it is unclear whether pricing performance also leads to greater firm performance. Only limited evidence exists with regard to this specific relationship. In the context of SMEs, Merrilees, Rundle-Thiele, and Lye (2011) have posited a positive link between marketing performance and financial firm performance. However, this study lacks a pricing focus since this is a distinctive capability. Schuppar (2006) is among those who propose this relationship. He found support for a positive relationship between pricing performance and firm performance in terms of profitability. However, the findings call for further investigation and confirmation in the distinctive field of SME pricing. In the underlying research, a similar relationship is expected. Information-driven pricing should lead to the extraction of higher profits from customers (H11). In turn, SME pricing performance should be associated with increased firm performance. The aforementioned argument leads to the last hypothesis:

H12: SME pricing performance positively relates to firm performance.

### **3.5 Summary**

The main purpose of this chapter was to present an in-depth discussion about the theoretical model investigated in this research. The first research question was how pricing information acquisition behaviour and its antecedents and consequences should be conceptualised in the SME context (cf. Section 1.6). This chapter has answered the first research question in that it developed a coherent conceptual framework, incorporated all factors into the final research framework and developed hypotheses regarding the relationships between the selected constructs. By answering the first research question, this research has yielded the following contributions. First, this study, for the first time, identifies and recognises pricing information acquisition as a strategic pricing capability and a distinct sub-challenge within pricing management. Second, the developed conceptualisation of antecedents and consequences of the construct pricing information acquisition clarifies the key mechanisms behind this important construct. Third, the developed research framework enables a broadened theoretical perspective on pricing infor-

mation activities by synthesizing findings from Information Economics theory, RBV and Contingency theory to provide a consistent theoretical understanding of pricing information acquisition. In this chapter, 12 hypotheses were developed. Hypothesis 5 was split into two sub-hypotheses. Table 3.6 comprises a summary of the hypotheses. The following chapter describes the methodological foundations of this research.

**Table 3.6: Summary of developed hypotheses**

<b>Developed hypotheses</b>	<b>Theoretical underpin- nings</b>
<i>Relationships between internal factors and pricing information acquisition</i>	
H1 SMEs with greater levels of pricing resources are likely to conduct more pricing information acquisition.	Section 3.4.1.1
H2 Larger SMEs are more likely to conduct more pricing information acquisition.	
H3 SMEs with a differentiation strategy will conduct more pricing information acquisition than SMEs pursuing a cost leadership strategy.	Section 3.4.1.2
H4 SMEs with a greater extent of value pricing strategy are more likely to have a higher pricing information acquisition.	
H5a SME managers having a business management educational background with primary responsibility for pricing decisions will conduct more pricing information acquisition than SME managers having a technical educational background with primary responsibility for pricing decisions.	Section 3.4.1.3
H5b SME manager having a university degree in business management with primary responsibility for pricing decisions will conduct more pricing information acquisition.	
H6 Experienced SME managers with primary responsibility for pricing decisions will conduct more pricing information acquisition.	
H7 Higher perceived usefulness leads to greater pricing information acquisition.	
<i>Relationships between external market factors and pricing information acquisition</i>	
H8 SMEs operating in markets with high levels of complexity will conduct more pricing information acquisition.	Section 3.4.2
H9 SMEs operating in markets with high levels of market growth will conduct more pricing information acquisition.	
H10 SMEs operating in markets with high levels of customer power will conduct less pricing information acquisition.	

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Theoretical Framework

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**Developed hypotheses**

**Theoretical  
underpin-  
nings**

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*Performance consequences of pricing information acquisition*

H11 SME pricing information acquisition positively relates to pricing performance.

Section 3.4.3

H12 SME pricing performance positively relates to firm performance.

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## **4 Methodology**

### **4.1 Introduction**

The previous chapter has developed the theoretical framework of this research. Specifically, 12 hypotheses have been put forward that will be subjected to empirical analysis. The purpose of this chapter is to provide an in-depth justification of the methodological approach chosen to answer the research questions. Specifically, this chapter is structured into five sections. First, this chapter provides the rationale for the selected cross-sectional survey design using a structured self-completion online questionnaire. Second, this chapter contains a detailed description of the empirical measures and scales used in the online survey instrument. Third, the underlying chapter comprises a description of the procedures and steps that were conducted to generate the online survey instrument. Subsequently, the chapter includes a detailed discussion of the sample design chosen for data collection, and, finally, it identifies the strategy and procedures used in data analysis.

### **4.2 Research design**

#### **4.2.1 Research philosophy**

This research rests on the assumption of the positivist epistemological position. The purpose of this section is to describe key assumptions of this theoretical perspective relevant to the underlying study. These assumptions are reflected in the methodological considerations and decisions throughout this chapter.

In the process of designing research, it is of fundamental importance to consider and explain the philosophical assumptions entrenched in the research output (Baker and Foy 2008; Creswell 2009; Crotty 2009; Schurz 2011), because as Tadajewski (2004) noted, based on Anderson (1986) and Peter (1991), “(a)ll research is underpinned and delimited by a particular stance towards the world they study (ontology) and how this is investigated (epistemology) which, in turn, influences the methodology used to seek knowledge” (Tadajewski 2004, p. 307). More specifically, *epistemology* “is the branch

of philosophy concerned with the nature of knowledge, specifically how knowledge about knowledge is possible and concerns the study of the criteria that delimit what does and does not constitute warranted knowledge” (Tadajewski 2004, p. 31).<sup>14</sup>

The positivist theoretical position is regarded as “the traditional form of inquiry” (Cresswell 2009, p. 6), and has been used extensively to study marketing research problems (Tadajewski 2004). The positivist theoretical perspective is regarded as rigorous and likely to lead to valid results in the management and marketing sciences (Baker and Foy 2008). “*Positivism* is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond” (Bryman 2008, p. 13). In adopting this paradigm, this research rests on assumptions, which will be elucidated in the following.

First, the philosophy adopted in this study rests on the epistemological assumption of objectivism. The key idea behind this epistemology is the assertion that “truth and meaning reside in their objects independently of any consciousness” (Crotty 2009, p. 42). In other words, this assumption holds that the meanings of social phenomena exist independent from social actors (Bryman 2008). This position is rooted in the ontological notion of Realism, which suggests that an objective reality exists outside the mind and independent from consciousness (Crotty 2009) and can be differentiated from the ontological perspective of Idealism that assumes that objective reality resides in the mind of the observer (Baker and Foy 2008). Idealism is often taken to imply constructionism, an epistemological notion suggesting that there is no objective reality without a mind (Baker and Foy 2008). While objectivism assumes that meaning can be discovered, constructionism rejects this view and suggests that meaning can only be constructed out of an object by an observer (Crotty 2009). This research is committed to strive for objectivity in knowledge generation by resting on the former epistemological assumption. The implication of this attempt is that the researcher endeavours to distance himself from the object of study, basing knowledge generation on careful scientific observation

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<sup>14</sup> Also cf. Nonaka and Takeuchi (1995).

and empirical measurement (Creswell 2009; Crotty 2009; Hunt 1976, 1983; Tadajewski 2004).

Second, the adopted theoretical position rests on the epistemological assumption of reductionism. This philosophical position asserts “that the object of research, no matter what the domain of study, can be broken in to constituent parts and subject to analysis” (Tadajewski 2004, p. 310). Contrary to a holistic epistemological position, reductionism studies and tests small, discrete and well-defined sets of ideas (Baker and Foy 2008; Creswell 2009). In this study, several research questions have been broken down into hypotheses. These hypotheses consist of several discrete variables. In the next step, the reductionist perspective implies the thorough operationalisation of these variables, which will take place in this chapter.

Third, another epistemological assumption held in this research is that theory verification is important for knowledge generation. It is assumed that general laws and theories exist, which explain objective reality (Creswell 2009; Tadajewski 2004). Here the underlying research draws upon the principle of deductivism, which holds that “the purpose of theory is to generate hypotheses that can be tested and that thereby allow explanations of laws to be assessed” (Bryman 2008, p. 13).<sup>15</sup> In this study, different concepts were discussed and several hypotheses were developed based on key management theories presented in the previous chapter. Resting on the third assumption, the developed theoretical framework will be tested based on careful observation. However, this research also acknowledges and embraces post-positivist perspectives resting on the principle of induction. Findings need to be cautiously interpreted and tempered, because knowledge generation rests on the principle of induction (Bryman 2008; Curran and Blackburn 2001; Tadajewski 2004), which “is the process whereby a general law is established by accumulating particular instances” (Crotty 2009, pp. 29–30). Indeed, repeated investigations from different perspectives increase confidence, but it is impossible to claim certitude (Hunt 2001). Consequently, modern positivism assumes that “re-

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<sup>15</sup> From an epistemological perspective, deductive reasoning based on laws and theories refers to Determinism (Baker and Foy 2008), which holds that “causes probably determine effects or outcomes” (Creswell 2009, p. 7).

search outcomes are neither totally objective nor unquestionably certain” (Crotty 2009, p. 40). However, the positivist theoretical position “may claim a higher level of objectivity and certitude for scientific findings than for other opinions and beliefs” (Crotty 2009, p. 40). This is regarded as a considerable advantage of the philosophical stance adopted in this research.

Summarising, this thesis upholds a positivist approach. It was important to discuss this thesis’ research philosophy, because the epistemological stance of a researcher considerably shapes and determines methodological decisions (Crotty 2009). Subsequently, the strategy of inquiry and the specific method of collecting data pursued in this study are justified.

#### **4.2.2 Strategy of inquiry**

The next step in the process of developing an appropriate research design to investigate the underlying research question is the selection of the strategy of inquiry.<sup>16</sup> Traditionally, a qualitative and a quantitative strategy of inquiry are distinguished in the literature (Baker and Foy 2008; Bryman 2008; Punch 2010). In this study, a deductive research approach using a quantitative strategy of inquiry has been adopted. This section provides a rationale for this choice. However, within the aforementioned broad strategies of inquiry, scholars can choose among several types of research methods. The selection of a survey design as the particular type of inquiry used in this study is justified in Section 4.2.3.

A quantitative research strategy is defined as “a means for testing objective theories by examining the relationships among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analysed using statistical procedures” (Creswell 2009, p. 4). Specifically, this research strategy is deductive and entails the careful operationalisation of the key concepts and links identified in the existing

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<sup>16</sup> The strategy of inquiry is also called a plan of action, research strategy or research methodology (Bryman 2008; Creswell 2009; Crotty 2009).

theory (Curran and Blackburn 2001; Hildebrandt 2008). Subsequently, the theoretically justified relationships between the key concepts are tested based on numeric empirical measurement (Hildebrandt 2008). By contrast, a qualitative research strategy is purely inductive, placing an emphasis on the generation of theories (Baker and Foy 2008; Bryman 2008; Curran and Blackburn 2001). It seeks to explore and understand a problem from the perspective of the objects of study with a focus on individual meaning (Creswell 2009; Crotty 2009; Kepper 2008). The rationale for adopting a deductive approach using a quantitative research strategy to guide the present study is fourfold.

First, as outlined in the previous section, this research rests on the assumptions of a positivist theoretical position. A quantitative strategy of inquiry reflects well the particular assumptions upheld by this research. More specifically, a quantitative research strategy emphasises and incorporates “the practices and norms of the natural scientific method and of positivism in particular; and embodies a view of social reality as an external, objective reality” (Bryman 2008, p. 22). The epistemological stance of this thesis has considerably shaped the selection of the quantitative strategy of inquiry. Second, a quantitative research approach may likely assert higher levels of objectivity than qualitative strategies of inquiry (Crotty 2009). Since qualitative studies frequently employ small-scale samples, they tend to lack sufficient representativity, which might lead to a limited potential for the generalisation of findings (Hildebrandt 2008; Kuß 2005; Mruck and Mey 2007). By contrast, a quantitative research strategy is capable of identifying attributes of a large population from a small group of individuals (Creswell 2009). Given a thorough and consistent sampling procedure, a considerable strength of a quantitative research strategy is the possibility of generalising findings beyond the specific study context (Bryman 2008). Next, the type of research question that is the focus of this study can be best addressed by using a quantitative methodology, because the purpose of this study is to investigate antecedent factors and outcomes of the latent construct pricing information acquisition. Quantitative designs are recommended if research focuses on the understanding of best predictors of a specific outcome (Creswell 2009). Finally, the literature review revealed that many SME pricing studies have a qualitative focus using small samples. SME pricing studies providing more generalisable results are

still scarce. This identified research challenge also affects the choice of a quantitative research strategy using a larger sample. As evidenced by this rationale, a quantitative strategy of inquiry is suitable to this study.

### **4.2.3 Adopting a survey design**

As already foreshadowed, the next step in the process of developing the research design is the selection of a particular quantitative research method capable of answering the research questions. This study collects data by means of a cross-sectional, non-experimental survey design using a structured self-completion online questionnaire. The purpose of a survey design is to provide “a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell 2009, p. 145). The selection of an appropriate type of survey design involves decisions on the *structure* of the instrument and on the *method of administration* (Iacobucci and Churchill 2010).

Structure “is the degree of standardization imposed on the questionnaire” (Iacobucci and Churchill 2010, p. 188). Based on the argument in the previous section, a high degree of standardisation will be imposed on the questionnaire because this study rests on the assumptions of the positivist epistemological stance. Consequently, closed-ended questions with predetermined responses are preferred, whereas unstructured open-ended questions will not be used in the research instrument. The advantage of the former strategy is that replies are comparable among respondents (Iacobucci and Churchill 2010). This approach reflects the quantitative strategy of inquiry adopted in this study.

In the literature, four particular methods of questionnaire administration are differentiated: personal interviewing, telephone interviewing, mail surveys, and online surveys (cf. e.g., Aaker, Kumar, and Day 2007). Personal interviewing and telephone interviewing can be summarised under the term *structured personal interview methods*. By contrast, mail surveys and online surveys are *self-completion questionnaire methods*. In this method group, “there is no interviewer to ask the questions; instead, respondents must read each question themselves and answer the questions themselves” (Bryman 2008, p.

217). The idea of this group of method administration is to administer a questionnaire either via traditional or electronic mail (Bryman 2008) or via an individually programmed web survey made available through the Internet (Iacobucci and Churchill 2010).

From a broader perspective, and compared to small scale experimental designs, survey research is advantageous, because it is capable of identifying attributes of a large population from a small group of individuals claiming generalisation (Bryman 2008; Creswell 2009). Survey research embraces the adopted positivist epistemological stance, because it is “deterministic, general, parsimonious and specific” (Baker and Foy 2008, p. 132).

Despite similarities between both groups of method administration, there are several strengths to using a self-completion survey design as the data collection method of this study. First, one significant advantage of this type of research method is its low cost with regard to money and time (Creswell 2009; Gillham 2008). It is generally regarded as the least expensive type of survey design (Iacobucci and Churchill 2010). Much information can be gathered from a large population involving relatively little financial resources (Aaker, Kumar, and Day 2007; Baker and Foy 2008). Second, it benefits from a very fast turnaround (Bryman 2008; Creswell 2009; Gillham 2008). Third, it is a very convenient and easy way for the respondents to state their opinions (Bryman 2008), because respondents can decide to complete the questionnaire at a time that best fits their schedule (Gillham 2008; Iacobucci and Churchill 2010). Fourth, another important reason to choose a self-completion questionnaire is that it eliminates interviewer error and interviewer bias (Aaker, Kumar, and Day 2007; Bryman 2008; Curran and Blackburn 2001; Gillham 2008; Iacobucci and Churchill 2010). Next, self-completion questionnaires have the advantage of anonymity (Aaker, Kumar, and Day 2007). This research investigates pricing issues, performance-related data and personal data, which may be considered sensitive by respondents. Since there is no interviewer involved, some respondents might feel freer to disclose sensitive information because anonymity is ensured (Gillham 2008). Finally, the sampling procedure via a mailing list is consid-

ered easy and rigid (Iacobucci and Churchill 2010). Consequently, a self-completion survey design will be used in the underlying study.

Specifically, an online survey design was selected and the paper and pencil questionnaire mail survey design was rejected. Scholars report an increasing acceptance of web surveys and regard it as a convincing alternative to the more traditional postal survey approach (Bryman 2008; Maurer and Jandura 2009; Pötschke 2009; Zerback et al. 2009). Given this significance to the approach, the rationale for using an online survey design is six-fold. First, in relation to postal mail surveys, online surveys are considered inexpensive, and, second, have a faster turnaround because the completed questionnaires are submitted electronically (Aaker, Kumar, and Day 2007; Iacobucci and Churchill 2010; Pötschke 2009; Welker and Matzat 2009; Zerback et al. 2009). Third, empirical research indicates that online surveys likely lead to a higher response rate as compared to postal questionnaires (Bryman 2008; Cobanoglu, Warde, and Moreo 2001). The fourth reason supporting online surveys is data quality (Aaker, Kumar, and Day 2007; Pötschke 2009). Since the data is inserted into the online instrument by the respondent, manual data input of paper and pencil questionnaires in the analysis software is not necessary, thus avoiding possible errors in this process. Fifth, data quality can be increased because different plausibility checks can be built into the online questionnaire during programming. Lastly, online questionnaires are considered a convenient and flexible tool for data collection (Aaker, Kumar, and Day 2007; Iacobucci and Churchill 2010; Zerback et al. 2009).

#### **4.2.4 Challenges of the adopted research design**

While there are many strength in collecting data by means of a survey design using a self-completion questionnaire, there are also some challenges that need to be considered. One challenge of the self-completion survey design adopted in this study is dealing with the absence of an interviewer (Bryman 2008). Respondents must read and answer the questionnaire on their own. Because of this, the respondent has no assistance in the case of problems in understanding, or in case of arising questions (Kuß 2005). Po-

tential misunderstandings cannot be revealed and addressed, and, therefore, there is a need for short and precise questions (Gillham 2008). To address this potential challenge, particular care was taken in developing well-structured and concise questions. In addition, the questionnaire was subjected to intensive pilot testing, using face-to-face interviews in a first pilot test and a quantitative test employing the final online instrument in a second pilot study.

A further challenge of the adopted research strategy is that surveys require a mailing list that can be purchased at a reasonable cost (Aaker, Kumar, and Day 2007). It is considered very difficult to obtain a list that “consists entirely of the type of person to be contacted, and also represents all of those who exist” (Aaker, Kumar, and Day 2007, p. 256). This challenge was addressed by building cooperation with two regional chambers of industry and commerce. Both of them provided comprehensive mailing lists that were used for the rigid sampling procedure.

Next, self-completion questionnaires are deemed problematic, because the order of the questions is exposed. As a result, the questionnaire can be read as a whole (Bryman 2008). Funneling of questions from general to specific or asking sensitive questions in the end are, therefore, difficult (Gillham 2008; Kuß 2005). This challenge of the self-completion survey design was addressed by deciding to use an online questionnaire because it allows for the determination of a particular order of questions. In addition, the decision for an online questionnaire addresses another challenge of the survey design. The greater risk of missing data due to purposeful omissions of respondents in paper and pencil questionnaires (Bryman 2008) could be mitigated by prompting respondents to provide an answer by means of programmed plausibility checks in the questionnaire software.

In using an online questionnaire design, care must be taken during sampling, because there is a risk that some members of a given population cannot access the survey on the Internet (Welker and Matzat 2009). In addition, the typical Internet user might not reflect the characteristics of the target population (Maurer and Jandura 2009). It is assumed that this challenge can be mitigated because the target population in the underly-

ing studies will be managers in SMEs. It is believed that, nowadays, SMEs have Internet access and will be able to reach the provided online instrument.

Finally, a potential challenge is that self-completion surveys can lead to low response rates as compared to personal methods of administration (Bryman 2008; Iacobucci and Churchill 2010). An additional challenge in this context is that response rates are very difficult to forecast (Aaker, Kumar, and Day 2007). Therefore, low response rate risk is inherent in the adopted research design. In addressing this risk, considerable planning efforts were made in advance and during data collection to encourage participation in the survey.

#### **4.2.5 Ethical considerations**

When carrying out research, different issues may arise that require appropriate ethical decisions and conduct (Baker and Foy 2008; Creswell 2009). Research may deal with sensitive problems or questions, collect personified data or involve working with participants deserving adequate protection during all stages of the research process (Creswell 2009). Thus, scholars must thoroughly anticipate ethical issues potentially emerging in the research process. These issues typically occur in the three areas: credibility, consent and confidentiality (Aaker, Kumar, and Day 2007; Bryman 2008; Punch 2010).

This research pursued the use of rigorous ethical standards throughout the entire process. First, one critical ethical objection to any study is that “researchers represent their work as something other than what it is” (Bryman 2008, p. 125). In this case, a research study would lack *credibility*, which is deemed a severe and unacceptable problem in conducting research (Creswell 2009; Punch 2010). Consequently, efforts were made to establish credibility and trust in the researcher/participant interaction. This was done by clearly indicating and clarifying the purpose and intention of the study in the cover letter and the welcome screen of the online survey instrument. In addition, the cover letter was used to specify the regional Chamber of Industry and Commerce as the cooperation partner of the research in order to build trust and ensure that participants were informed about the sponsorship of the study.

Second, good ethical conduct in research requires informed *consent* by respondents. Respondents must be able to reject participation (Punch 2010). A proactive decision in this context requires that the prospective respondents must be adequately informed about the research process prior to filling in the questionnaire (Bryman 2008). Thus, several requirements were considered in designing the cover letter and the welcome screen of the online instrument (Creswell 2009). Specifically, clear information about the researching institutions, the benefits for participating and the level and type of required involvement were provided. Additionally, names and contact details were included to enable direct contact in case of emerging questions. Finally, respondents could withdraw from the survey at any time by closing their Internet browser (Baker and Foy 2008).

Third, *confidentiality* was assured to participants (Aaker, Kumar, and Day 2007). This research investigates questions related to firms' pricing practices. Therefore, privacy and anonymity of respondents are of fundamental importance to protect participants from any harm or risk possibly arising due to disclosing sensitive information about their pricing practices. Participants' privacy was ensured at all stages of the research process, because the online survey software guaranteed that respondents' entries in the database were recorded anonymously. No individual respondent could be identified in the collected survey data.

To sum up, all necessary measures were carried out to eliminate risks to respondents at every stage of the research process. Prior to elucidating the development of the structured, self-completion online questionnaire in Section 4.4, the next section will discuss the operationalisation of constructs and look at each of the variables shown in the research framework.

### **4.3 Operationalisation of constructs**

The research framework developed in the previous chapter consists of several variables. The aim of this section is to develop adequate measures for these constructs. The measurement was based on the operationalisations provided by existing studies. The items

suggested in published works were modified for adaption in an SME pricing context if they stemmed from research fields other than pricing or SME research. An overview of empirical measures is provided in Table 4.1.<sup>17</sup> The remainder of this section is structured as shown in Table 4.1. First, the operationalisation of the main construct investigated in this research is discussed in detail. Subsequently, the measurement of each of the antecedent variables is developed. Finally, the performance-related consequences of pricing information acquisition will be discussed. As Table 4.1 shows, the questionnaire included multi-item scales as well as single-item measures.

**Table 4.1: Overview of empirical measures**

<b>Construct</b>	<b>No. of items</b>	<b>Item sources</b>
<b>Main variable</b>		
Pricing information acquisition	15	Keh, Nguyen, and Ng 2007, Hart and Tzokas 1999, Williams 2006
<b>Antecedents of pricing information acquisition</b>		
Pricing resources	1	Williams 2006, Gaur, Vasudevan, and Gaur 2011
Firm size	1	European Commission 2005, Yeoh 2000, Haase and Franco 2011
Differentiation strategy	5	Scale inspired by Homburg, Workman, and Krohmer 1999, Pelham 1999 and Narver and Slater 1990
Value pricing strategy	4	Ingenbleek et al. 2003, Ingenbleek, Frambach, and Verhallen 2010
Managerial education	2	Kaynak and Kara 2004
Managerial experience	2	Richbell, Watts, and Wardle 2006, Pansiri and Temtime 2008
Perceived usefulness	3	Diamantopoulos and Souchon, Williams 2006
Market-related complexity	4	Homburg, Workman, and Krohmer 1999, Peltier, Schibrowsky, and Zhao 2009
Market growth	1	Slater and Narver 2000a
Customer power	1	Slater and Narver 2000a
<b>Consequences of pricing information acquisition</b>		
Pricing performance	4	Totzek and Alavi 2010, Schuppar 2006
Overall firm performance	5	Moorman and Rust 1999, Verhoef and Leeflang 2009

<sup>17</sup> Also cf. Appendix 3: Measurement of constructs.

The questionnaire mainly used a six-point interval scale to collect the data, since this number of scale points is frequently used in pricing research (Homburg, Jensen, and Hahn 2012; Schuppar 2006). Another reason for using six scale points instead of seven was to motivate respondents towards a positive or negative decision regarding a specific item. The scale construction was based on Iacobucci and Churchill (2010). One specific characteristic of the scale must be explained in detail. On the applied six-point scale, lower values indicate a higher level of agreement and higher values are linked to a lower opinion. Although some readers might object that this step is not common because higher values are typically linked to a better opinion (Iacobucci and Churchill 2010), the adopted approach can be justified by the specific necessities of the German country context. In Germany, the common grading system ranges from 1 (very good) to 6 (very bad). Smaller values indicate a better result. Consequently, a scale was used, which mirrored the German grading system. In addition, a clear verbal description of the scale and a graphical indicator were used to make the direction clear for the respondents. The scale did not produce any comments during pretesting. However, during analysis, this speciality must be considered because smaller mean values, for instance, indicate a higher agreement. Apart from the clear focus on the six-point interval scale, the questionnaire also included nominal scales to capture specific variables. In the following, the empirical measures used in this research are discussed in detail.

### **4.3.1 Operationalisation of pricing information acquisition**

The main construct, pricing information acquisition, was conceptualised with a focus on different pricing information sources. Three different modes of pricing information acquisition sources were deduced based on the literature. Frequency of information source use was selected as the indicator of the extent of use of the different sources in the previous chapter. The challenge in the operationalisation process of pricing information acquisition was the fact that, to the best of my knowledge, a scale that captured the developed conceptualisation was not available in the pricing literature. In the pricing literature, the theoretical discussion of different pricing information sources remained at the

conceptual level, as shown in the previous chapters. Therefore, the search focus for prior measurement approaches had to be widened.

Since this research focuses on the SME sector and investigates pricing issues as part of the marketing mix, it was important that prior attempts to measure information acquisition sources concentrate on marketing information sources and the SME sector. Based on the aforementioned criteria, prior measurement approaches in the pertinent literature were analysed. The measurement approach of Keh, Nguyen, and Ng (2007) was selected as the main source for the operationalisation of pricing information acquisition. The reasons for this selection were as follows. First, Keh, Nguyen, and Ng (2007) operationalised information acquisition with a clear focus on different information sources that blended very well with the conceptual classification system for pricing information sources suggested by Ingenbleek (2007). Second, the study focused on information in the context of marketing. Third, the study had a strong entrepreneurial orientation focusing explicitly on the SME sector. Fourth, the reliability of the measurement scale was excellent ( $\alpha = 0.894$ ). Many of the items used by Keh, Nguyen, and Ng (2007) were also suggested by the SME export marketing studies of Hart and Tzokas (1999) and Williams (2006). The latter two studies therefore serve as additional evidence for the appropriateness of Keh, Nguyen, and Ng's (2007) measurement approach and were used as secondary sources for the scale development. From a pricing perspective, the qualitative contributions of Wiltinger (1998) and the conceptual contribution of Homburg and Totzek (2011) were used as additional sources for scale development.

In accordance with relevant published works and based on the developed conceptualisation and extensive pretesting, pricing information acquisition was measured by means of 15 different pricing information sources. The respondents were asked to rate their frequency of use of the different pricing information sources on a six-point scale anchored by 'frequently' (1) and 'never' (6).

Table 4.2 contains the three pricing information acquisition modes and the different information sources, including published work, from which the pricing information sources were derived. Adaptations were based on the extensive pretesting involving

academic experts for pricing and market research. The coefficient alpha for the scale was 0.81.

**Table 4.2: Pricing information acquisition modes and sources**

<b>People &amp; relationships</b>	<b>Primary market research</b>	<b>Secondary market research &amp; intelligence</b>
Talking to end customers	Non-pricing related market research	Competitors' catalogues / publications
My suppliers	Pricing related market research	Customers' publications
Controlling/accounting staff	Research publications	Trade/business magazines
Own marketing/sales team	Professional consultants	Trade directories/statistics/market sector reports
My friends/family		Business/trade shows and exhibitions
		Information events, presentation
<i>Sources:</i> Hart and Tzokas 1999; Homburg and Totzek 2011; Keh, Nguyen, and Ng 2007; Williams 2006; Wiltinger 1998	<i>Sources:</i> Hart and Tzokas 1999; Homburg and Totzek 2011; Keh, Nguyen, and Ng 2007; Williams 2006; Wiltinger 1998	<i>Sources:</i> Hart and Tzokas 1999; Homburg and Totzek 2011; Keh, Nguyen, and Ng 2007; Williams 2006; Wiltinger 1998

### 4.3.2 Operationalisation of the antecedents of pricing information acquisition

The first group of antecedent factors that has been conceptualised in the previous chapter are the organisational-related characteristics. The variables *pricing resources* and *firm size* are operationalised in the following.

#### *Pricing resources*

The construct pricing resources was conceptualised with a focus on human resources, acknowledging that such a form of understanding would also indirectly include a financial component. In her export information study, Williams (2006) measures the applicable firm resources pertinent to the exporting function in terms of the number of full-time employees dedicated to exporting. This principal measurement approach blends well with the theoretical conceptualisation of pricing resources in this study, and the operationalisation was therefore based on Williams (2006). Since SMEs usually do not have dedicated pricing managers at their disposal, and pricing tasks can be conducted by dif-

ferent people in the organisation, an estimation of an exact number of employees would be difficult and eventually misleading. Therefore, the construct pricing resources was measured, similar to the approach of Gaur, Vasudevan, and Gaur (2011), with a subjective, single-item measure on a six-point scale anchored by ‘many’ (1) on the one end and ‘few’ (6) on the other. In accordance with prior literature, the item asked the respondents to rate the amount of well-qualified marketing and non-marketing-personnel that are involved in pricing management.

#### *Firm size*

The construct firm size was conceptualised and defined according to the three size classes suggested by the official SME definition of the EC. Firm size is usually operationalised in terms of turnover or total number of employees (Westhead 1995; Yeoh 2005). In this research, the latter was used to measure firm size. The justification for this is that privately-held firms are frequently reluctant to disclose their financial data on sales figures and turnover (Dess and Robinson 1984; Ghobadian et al. 2008; Pelham 2000; Yeoh 2000). This may lead to missing values and problems in data analysis. Therefore, firm size was operationalised with a single open question that asked respondents to indicate the number of full-time employees at the end of the last financial year (Curran and Blackburn 2001; European Commission 2005; Haase and Franco 2011; Henschel 2008; Yeoh 2000).

The second group of antecedent factors that has been conceptualised in the previous chapter are the strategy-related characteristics and competences. The two variables, *differentiation strategy* and *value pricing strategy*, are operationalised in the following.

#### *Differentiation strategy*

The construct differentiation strategy was measured by means of a 4-point semantic differential consisting of five different aspects. The respondents were asked to rate their firm’s strategy regarding these five aspects. The scale used was bipolar. The statement capturing a specific facet of the differentiation strategy was placed on the left side endpoint. The statement capturing the same facet from the low-cost strategy perspective

was placed on the right side endpoint. For example, the first item was anchored at ‘competitive advantage through superior products’ and ‘competitive advantage through operating efficiencies and cost reductions’. The bipolar statements were based on the work of Homburg, Workman, and Krohmer (1999) and Narver and Slater (1990) but have been adapted to the semantic differential question format (cf. Bortz and Döring 2009, p. 186). The overall scale was analysed as a summated rating scale. The coefficient alpha of the scale used in this study was 0.85.

### *Value pricing strategy*

The measurement of the variable value pricing strategy was based on the work of Ingenbleek et al. (2003). The scale was later confirmed regarding overall reliability in another study (Ingenbleek, Frambach, and Verhallen 2010). The multi-item scale used in the questionnaire consisted of four statements related to four product-focused aspects of value-based price setting. The items were measured using a six-point scale anchored by ‘played a major role in price setting’ (1) and ‘was not important at all in price setting’ (6). The coefficient alpha of the scale used in this study was 0.86.

The third group of antecedent factors that has been conceptualised in the previous chapter are the management-related attributes and resources. Subsequently, the associated variables *managerial education*, *managerial experience* and *experiential attitude* are operationalised.

### *Managerial education*

Managerial education was measured with a nominal scale. The general question format and the different types of college degrees were based on Kaynak and Kara (2004). However, the scale had to be adapted due to a specific characteristic unique to Germany. In Germany, one can choose between two fundamental types of managerial education. The first option is to complete a vocational training based on the dual system (Hoeckel and Schwartz 2010). This includes practical vocational training at work and theoretical training in vocational training schools. In Germany, more than 50% of students pursuing upper secondary education enter vocational training (Hoeckel and

Schwartz 2010). Therefore, this option had to be included in the questionnaire. The second option is to pursue a classic academic degree at a university. It is expected that persons with a primary responsibility for pricing management have either a technical or a business management background in the majority of cases. Against this backdrop, the scale was constructed as follows: First, respondents were asked to indicate whether they pursued a vocational training and, if yes, in which subject. Subsequently, the same question format was used to ask respondents whether they had a college degree. The scale facilitated the differentiation of respondents into managers with a business management background or managers with an engineering background and obtaining an academic degree or not. A dummy coding procedure similar to Homburg, Workman, and Krohmer (1999) and Walsh and Lipinski (2009) was used to aggregate the answers into the aforementioned categories.

### *Managerial experience*

Based on Richbell, Watts, and Wardle (2006) and Pansiri and Temtime (2008), managerial experience was measured using two open questions: The first one asked respondents to indicate the years they had worked in a managerial position with their current employer. The second question asked the respondents to indicate the years they had been working in a managerial position at all previous employers. The values of both questions were summed into the variable managerial experience that captured the respondents' total amount of time in a managerial position.

### *Perceived usefulness*

The variable perceived usefulness was included as a subjective measure indicating the attitude of the respondents toward pricing information. The multi-item scale consisted of three statements that were measured using a six-point Likert scale anchored by 'strongly agree' (1) and 'strongly disagree' (6). The variable operationalisation was based on Diamantopoulos and Souchon (1999) and Williams (2003). However, the items had to be adapted to the pricing context. The items used related to the confidence in pricing decisions, based on pricing information, their perceived accurateness and the

perceived ability of price information to reduce uncertainty. Taken together, these items formed a measure indicating the personal attitude of the person responsible for pricing decision with regard to the usefulness of pricing information. The coefficient alpha of the scale used in this study was 0.76.

The fourth group of antecedent factors that were conceptualised in the previous chapter are the external market-related factors. In the following, the associated variables *market-related complexity*, *customer power* and *market growth* are operationalised.

### *Market-related complexity*

The measurement of the variable market-related complexity consisted of four items relating to market characteristics that increase the SMEs complexity in pricing practices. The statements investigated the number of products, variation of communication across customer segments, customer requirements and the number of people that must be influenced in the selling process. The items were based on a scale developed by Homburg, Workman, and Krohmer (1999). Comparable approaches have also been adopted in SME studies (Peltier, Schibrowsky, and Zhao 2009). Some changes include the omission of two items because pretest participants had problems in understanding them. In addition, another item was omitted because it was considered redundant during the pretest. The respondents were asked to rate the items on a six-point Likert scale anchored by 'strongly agree' (1) and 'strongly disagree' (6). The coefficient alpha of the scale was 0.64.

### *Market growth*

Market growth is a variable designed to capture the dynamism in the market environment. The single item scale was based on the operationalisation suggested by Slater and Narver (2000a). It asked the respondents to rate the average growth in their principal market over the past two years. A six-point semantic differential scale anchored by 'growth is very high' (1) and 'no growth/negative' (6) was used.

### *Customer power*

Similar to the preceding variable, customer power was measured with a single item scale using a semantic differential question format (Slater and Narver 2000a). The scale was anchored at 'buyers have substantial bargaining power' (1) and 'buyers do not have substantial bargaining power' (6). The respondents were asked to rate the bargaining power of their buyers in their principal market.

### **4.3.3 Operationalisation of the consequences of pricing information acquisition**

Two variables have been conceptualised as consequences of pricing information acquisition. Both variables in this category are performance-related constructs. The first is pricing performance and the second is primary firm performance. Both are operationalised in this section.

#### *Pricing performance*

Based on prior contributions in pricing research, pricing performance was conceptualised as the extent to which SMEs are able to enforce intended prices from customers. The measurement of the variable pricing performance consisted of four items and was based on the subjective measurement approach developed by Schuppar (2006). The respondents were asked to rate the four items on a six-point Likert scale anchored by 'strongly agree' (1) and 'strongly disagree' (6). The reasons for the adoption of this subjective performance scale were threefold. First, the developed measure showed very good consistency and reliability (Schuppar 2006). Second, the scale was specifically developed for the pricing context and inferred from the RBV perspective on pricing management (Dutta, Zbaracki, and Bergen 2003; Schuppar 2006). Third, the goodness of the scale was confirmed by another recent pricing study (Totzek and Alavi 2010). In spite of the increased objectivity of financial performance indicators, this type of performance measure was not used to elicit pricing performance in this research. One disadvantage of objective measures is that they may be very difficult to compare among firms. For instance, Slater and Narver (1994) state that changing accounting practices

among firms and substantial industry effects make the use of objective performance measures very complicated. This is regarded as a significant obstacle for an objective measurement in the underlying research. Furthermore, privately held SMEs are frequently reluctant to disclose confidential information, such as financial key performance indicators (Ghobadian et al. 2008; Pelham 2000). As shown, subjective measures of pricing performance seem to be commonly used in pricing research (Schuppar 2006; Totzek and Alavi 2010) and are therefore considered appropriate for the measurement of pricing performance in this study. The coefficient alpha of the scale used in this study was 0.89.

### *Firm performance*

Similar to the preceding variable, overall firm performance was also measured with a subjective scale due to the following reasons. Subjective measures of firm performance are commonly used in marketing research (Hooley et al. 2005; Keh, Nguyen, and Ng 2007; O'Sullivan and Abela 2007; Pelham 2000; Slater and Narver 2000a; Verhoef and Leeflang 2009). In addition, firms might be more willing to disclose a subjective evaluation of their firms' performance than confidential financial data (Dess and Robinson 1984; Pelham 2000), which might prevent missing values. Moreover, as mentioned above, subjective measures are easier to compare among the sample firms. They are not influenced by changing accounting practices and industry effects (Slater and Narver 1994). Lastly, as noted by Slater and Narver (2000a), previous studies have shown that subjective measures of performance are reliable, valid and correlate strongly with their objective counterparts (Dess and Robinson 1984). Consequently, a subjective measurement of overall firm performance was adopted. The scale was based on the works of Moorman and Rust (1999) and Verhoef and Leeflang (2009). The respondents were prompted to indicate their firm's performance in their primary market over the last year on a six-point scale anchored by 'very good' (1) and 'very bad' (6). The multiple item scale included sales growth, market share, profitability, customer satisfaction and customer loyalty (Keh, Nguyen, and Ng 2007; O'Sullivan and Abela 2007; Verhoef and Leeflang 2009). The coefficient alpha of the scale used in this study was 0.71.

## **4.4 Development of the research instrument**

### **4.4.1 Questionnaire generation**

This section describes the procedures and steps that were conducted to generate the online survey instrument. In this section, the main steps and tasks completed in the pre-pilot work phase are described. Next, the setting and procedures of two pilot studies are presented. The survey instrument that was used for main data collection was specifically designed for this research. In the pre-pilot work phase, the questions and the design of the questionnaire were drafted based on the identified key variables. In this early stage, specific attention was paid to the building of clusters of questions that were elaborated systematically towards an initial logical structure and sequence of questions (Gillham 2008). Concurrently, the type of answer for each question was drafted. In this stage, a consistent answer style was pursued to avoid confusing the respondents (Aaker, Kumar, and Day 2007). As described in the previous section, this process was guided and informed by a detailed analysis of existing measurement instruments in the pertinent published literature and the development of suitable measures.

Specific attention was also paid to the order of questions in the questionnaire, since this is important for the readability and the overall flow of the survey instrument (Iacobucci and Churchill 2010). Measures and techniques that were used to keep the interest and motivation of respondents high included an easy and interesting opening question along with an easy and appealing visual style (Baker and Foy 2008). Additionally, all demographic variables and sensitive questions were presented as late as possible (Baker and Foy 2008; Iacobucci and Churchill 2010). Finally, feedback from two academics was used to check and improve the content, the wording and the overall coherency of the drafted questions. After revision based on the feedback, the result of the pre-pilot work phase was a seven-page paper-and-pencil questionnaire that was used in the first pilot study.

#### 4.4.2 Pilot testing

The questionnaire was tested extensively prior to the main data collection using the full-scale sample. The purpose of the pilot studies was to increase content validity and to improve the questions, layout and scales (Creswell 2009; Iacobucci and Churchill 2010). In the *first pilot study*, a convenience sample of 12 people with diverse backgrounds and characteristics completed the questionnaire during a one-on-one appointment. The convenience sample consisted of professors (4), PhD candidates (3), a pricing consultant (1) and managing directors of a micro firm (1), a small firm (1) and medium-sized firms (2). Respondents were carefully observed while they completed the questionnaires on their own, in order to note problems and difficulties with the flow and layout of questions as well as to observe unexpected uncertainties on the part of respondents (Gillham 2008). In addition, time was measured in the case of the managing directors of the SMEs to get an indication of the amount of time needed to fill out the questionnaire. Following the completion of the questionnaire, the respondents were asked to give general comments and recommendations and to ask questions that arose during the completion of the questionnaire. Changes made based on the feedback included the deletion of redundant items, improvements in the layout and optimisation of the question wording and the overall readability.

Subsequently, the amended questionnaire was programmed and converted into the online survey instrument. During the programming process, care was taken to extract the benefits of online survey research and to mitigate potential challenges of this type of research design. Specifically, plausibility checks were included in the online instrument, which alerted the respondent when blank answers were given to avoid missing data (Bryman 2008). Another problem that can occur in paper and pencil questionnaires is that respondents' attention varies when answering a set of items. Toward the end of a larger set of items, respondents' attention might decrease and results can be consequently biased. To avoid this problem and to increase reliability, larger groups of items were rotated for each respondent in the online questionnaire. The preceding measures were

meant to further increase the accuracy of the research instrument. The instrument was then subjected to the next pilot study.

In the *second pilot study*, the main study was simulated based on the online questionnaire. The sample consisted of respondents in the same categories as those in the final target group (Gillham 2008). Based on a company list from the chamber of industry and commerce, an invitation letter including the relevant information about the research project and the Internet link to the online survey was sent to 25 SMEs. After one week, the firms were phoned and politely asked to take part in the study. After another week, a total of 11 manufacturing SMEs had taken part in the second pilot study, representing a response rate of 44 per cent. Subsequently, answers of two respondents were excluded from the final sample, because one firm was from the service sector and the other was a large enterprise. Thus, the final sample was comprised of nine questionnaires (response rate 36 per cent). As a result of the second pilot study, a programming error in the questionnaire software was identified. The software incorrectly matched the rotated items in four questions. The problem was solved quickly and without major consequences. Other changes included correcting spelling errors and making some adjustments in the layout and wording of questions. For the purpose of the pretest, a separate feedback question was included in the online questionnaire to facilitate open comments, feedback and recommendations for the optimisation of the instrument. Furthermore, analysis revealed that, after starting to fill in the questionnaire, respondents did not abort the process prior to completion, which was interpreted positively. Subsequently, the changes were programmed and the instrument was finalised.

#### **4.4.3 Reliability and validity of the instrument**

Reliability and validity are fundamental prerequisites of a given measurement instrument (Field 2009, p. 11). Specifically, reliability denotes “the consistency of a measure of a concept” (Bryman 2008, p. 149). A common approach to confirm reliability is to assess the equivalence of a measurement instrument (Iacobucci and Churchill 2010). Assessing equivalence means to test whether multiple item scales in fact measure the

same underlying unidimensional concept across the sample (Aaker, Kumar, and Day 2007). Internal consistency of the underlying questionnaire was tested by calculating coefficient alpha:

$$\alpha = \left( \frac{k}{k-1} \right) \left( 1 - \frac{\sum_{i=1}^k \sigma_i^2}{\sigma_t^2} \right)$$

where  $k$  is the number of items of the tested scale,  $\sigma_i$  is the variance of scores on item  $i$  and  $\sigma_t$  is the variance of total scores across subjects (Field 2009; Iacobucci and Churchill 2010). For instance, Bagozzi and Yi (2012) suggest that coefficient alpha values should be greater than 0.70. All multiple item scales except market-related complexity ranged higher than 0.70 with values up to 0.89.<sup>18</sup> Therefore, it was concluded that these scales showed high internal consistency. The coefficient alpha for the construct market-related complexity was 0.64 and considered reasonably reliable based on the guidelines of several studies from the marketing and management literature (Bezzina and Dimech 2011; Foscht et al. 2013; Homburg, Jensen, and Hahn 2012; Lee and van Vorst 2010; Mittal and Gera 2012; Rajagopalan and Finkelstein 1992). Summarising, the employed instrument showed good reliability to be applied for data analysis.

Ensuring validity is the second challenge when developing a measurement instrument. Reliability reflects the consistency, and validity focuses on the accuracy of a given research instrument (Iacobucci and Churchill 2010). Specifically, measurement validity refers to “the extent to which an instrument measures what it is claimed to measure; an indicator is valid to the extent that it empirically represents the concept it purports to measure” (Punch 2010, p. 97). One critical concern to validity may be that rigorous scale development procedures were not used in designing the construct measurement (Iacobucci and Churchill 2010). First, this potential concern was addressed by systematic conceptual development. In the previous chapter, the domain of each construct was defined conceptually, and each construct was specified and delimited thoroughly by

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<sup>18</sup> The specific coefficient alpha values for each multiple item measured were reported in Section 4.3.

examining and reviewing the pertinent literature. Previous use and dimensions of the constructs were analysed in detail. Second, this pitfall was addressed by building on existing and well-known scales of similar studies, which were determined to show sufficient validity.

Another critical concern to validity may be the possibility that the scales have not been refined adequately (Bryman 2008; Iacobucci and Churchill 2010). This concern was addressed by drawing on feedback of several academics with expertise and experience in the field of study. First, in the pre-pilot work phase, two professors judged whether the measures reflected the content of the construct adequately. Second, content validity was established during the first qualitative pilot test. Detailed feedback of four professors, three PhD candidates and a pricing consultant was used to refine the measures and to ensure that the measures reflected the concerned concept. Consequently, content validity was established thoroughly in the underlying study. To conclude, rigorous scale development and refinement procedures were employed to ensure the validity of the questionnaire.

## **4.5 Sample design**

### **4.5.1 Target population and sampling frame**

This research uses a self-completion online questionnaire to gather the necessary data to answer the research questions. Given the large size of the SME target population in Germany and cost and time restrictions, this research uses a sampling procedure to gather representative data of SME manufacturing companies. The first step in developing a sample design is to define the target population and to determine an adequate sampling frame capable of reaching the defined members of the population (Aaker, Kumar, and Day 2007; Iacobucci and Churchill 2010).

An appropriate definition of a *target population* requires including information on the area of coverage, sampling units and sampling elements (Aaker, Kumar, and Day 2007). This research was embedded in a research project at the University of Applied Sciences

Osnabrueck. The research project was funded by the European Fund for Regional Development and public funds of the federal state government. In the context of the research project, important cooperation partners included two regional chambers for industry and commerce, namely, the Industrie- und Handelskammer Osnabrück - Emsland - Grafschaft Bentheim and the Industrie- und Handelskammer Nord Westfalen. Both chambers for industry and commerce cover a larger economic region in the northwestern part of Germany. This region was specified as the area of coverage for the underlying study.

With regard to the sampling units, the following inclusion criteria were used. Since the underlying study focuses on the pricing information acquisition practices in SMEs, the upper threshold of the EU SME definition was used to exclude large firms with more than 249 employees and revenue of 50 million Euros annually from the target population. Second, this research focuses on product pricing and excludes service, wholesale and retail pricing. The table of classification of economic activities, Edition 2008 (WZ 2008) as provided by the Federal Statistical Office Germany, was used to identify manufacturing firms (Statistisches Bundesamt 2008). Based on the classification table, firms fulfilling the inclusion criteria 'manufacturing', WZ 2008 Code 'C' were included in the target population.

Next, it was necessary to identify the sampling elements to adequately define the target population. Sampling elements are the persons who are going to provide the information in the SMEs (Aaker, Kumar, and Day 2007). As specified in the research objectives, this research investigates the acquisition of information for pricing decisions. Consequently, it was concluded that a manager responsible for pricing decisions was the appropriate sampling element for the underlying study. Specifically, general management at the executive level were chosen as target persons, because they are responsible for pricing decisions and the firms' success measures (Kaiser 2011).

Subsequently, based on the particular definition of the target population, it was necessary to determine an adequate *sampling frame*. A sampling frame is understood in terms of a "listing of all units in the population from which the sample will be selected"

(Bryman 2008, p. 168). Obtaining an appropriate list of the population members at a reasonable cost is a considerable challenge, because lists for specialised populations are in many cases not available in the preferred data quality or they simply do not exist in general (Aaker, Kumar, and Day 2007). This challenge was addressed by building cooperation with the two regional chambers for industry and commerce, which were identified above. These institutions provided their complete firm databases for the underlying research. The application of the defined inclusion criteria to the firm databases yielded a population of 2,542 SMEs in the specified area of coverage. The sampling frame comprised high quality data of the necessary information for data collection and was very comprehensive since almost every SME in the specified region obtains a membership in the chambers for industry and commerce.

#### **4.5.2 Sampling procedure**

The next step in developing the sample design was the selection of an appropriate sampling procedure (Aaker, Kumar, and Day 2007). In the literature, two main types of sampling procedures are distinguished: nonprobability samples and probability samples (Baker and Foy 2008; Creswell 2009; Iacobucci and Churchill 2010; Kuß 2005). The difference between these is that the latter type selects a sample from a population using randomised selection (Bryman 2008). By contrast, the former type cannot claim randomisation because the sample selection is based on availability and convenience (Creswell 2009).

In this research, a rigorous simple random sampling procedure was used to collect data. The rationale for this is that probabilistic sampling is an essential prerequisite for the generalisation of findings from the sample to the population because randomisation ensures that each member of the population has an equal chance of being selected (Bryman 2008; Creswell 2009; Iacobucci and Churchill 2010). Randomisation reduces sampling error to a minimum and improves the meaningfulness of the gathered data (Bryman 2008). The aim of this research is to generalise the findings from the employed sample to the population. Specifically, a single-stage simple randomised sampling pro-

cedure was carried out to pursue this objective. Based on the available comprehensive sample frame, it was possible to access each unit of the population and sample the potential respondents directly (Creswell 2009).

### **4.5.3 Data collection and data basis**

The process of data collection was organised as follows. In 2012, based on the information of the databases, an invitation letter was sent out to the executive-level general management of 2,542 SMEs. Hence, all SMEs fitting the inclusion criteria in the specified geographical region were contacted. The letter included relevant information about the research study, the benefits and incentives for participating and the Internet address of the online survey.<sup>19</sup> When respondents accessed the website, they were provided with further instructions about the questionnaire.<sup>20</sup> Subsequently, respondents could indicate their consent of participation by clicking the button to start the questionnaire.

A challenge when administering surveys is a potentially low response rate. It is considered very difficult to forecast the response rate, if it is possible at all (Aaker, Kumar, and Day 2007). Therefore, a rigorous approach was adopted to increase the response rate and to reduce non-response bias to a minimum. However, it seems to be a consensus that the measures to pursue this objective are always a compromise between limitations regarding time and cost on the one hand, and the need for precision on the other hand (Bryman 2008). One pitfall causing non-response problems is the inaccessibility of respondents when using personal methods of administration, such as telephone interviewing, because a considerable number of respondents might not be available when the interviewer calls (Iacobucci and Churchill 2010). This pitfall was addressed by sending out postal invitation letters signed by the Chamber for Industry and Commerce and the researching institution to increase trust and credibility. Hence, all potential respondents could take notice of the survey. The second pitfall is refusal due to data privacy concerns or disinterest, which can occur in virtually any research study (Iacobucci and

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<sup>19</sup> cf. Appendix 1: Survey invitation letter.

<sup>20</sup> cf. Appendix 2: Online questionnaire instructions.

Churchill 2010). To address this problem, follow-up telephone calls were conducted in order to reduce non-response bias to an absolute minimum (Aaker, Kumar, and Day 2007; Iacobucci and Churchill 2010). Sample members who had already participated could not be identified due to data privacy issues. Therefore, all firms of the target population were contacted via telephone. The potential respondents were prompted to take part by highlighting the benefits for the respondents, raising interest in the study subject and answering questions. Non-response cases are likely to be minimal in the underlying research.

The completed data collection process yielded 220 questionnaires, reflecting a response rate of 9 per cent. The response rate is acceptable considering the sensitivity of pricing issues as the research subject. A number of questionnaires had to be excluded from analysis, because the firms did not fulfil the defined target population criteria. Specifically, 36 firms violated the SME criterion and 9 firms were from industry sectors other than manufacturing. In addition, 2 questionnaires were excluded due to significant inconsistencies in responding behaviour. The data cleaning procedure led to a final sample of 173 usable questionnaires. This reflects a response rate of 7 per cent.

To sum up, a rigorous sample design has been used in the underlying study. Care was taken to avoid common pitfalls in this area. Specifically, coverage error occurs if the chosen survey design is not capable of reaching all members of the relevant target population (Maurer and Jandura 2009). The underlying sample frame ensures that all members could be contacted via the postal invitation letter. The online design did not produce any coverage error, because the population consisted of manufacturing firms that nowadays have access to the Internet. Thus, all potential respondents had the ability to access the online instrument. Sampling error was reduced to a minimum, because the adopted sample design employed probabilistic sampling. Finally, non-response error was addressed rigorously as has been shown in this section. Consequently, the gathered data can be subjected to data analysis.

## 4.6 Data analysis strategy

### 4.6.1 Data preparation and screening

After the data collection phase was successfully completed, the obtained data was prepared for statistical analysis. The result of this pre-processing procedure has been summarised in Table 4.3.

**Table 4.3: Data preparation summary**

Construct	No. of items	Aggregation of data	Cronbach's alpha	Kolmogorov-Smirnov test (df=168)
<b>Main variable</b>				
Pricing information acquisition	15	Mean scale	0.81	$D = 0.06, NS$
<b>Antecedents of pricing information acquisition</b>				
Pricing resources	1	n/a	n/a	$D = 0.22, p < 0.001$
Firm size	1	n/a	n/a	$D = 0.22, p < 0.001$
Differentiation strategy	5	Mean scale	0.85	$D = 0.11, p < 0.001$
Value pricing strategy	4	Mean scale	0.86	$D = 0.12, p < 0.001$
Managerial education	2	n/a <sup>a</sup>	n/a <sup>a</sup>	n/a <sup>a</sup>
Managerial experience	2	Summation	n/a	$D = 0.10, p < 0.001$
Perceived usefulness	3	Mean scale	0.76	$D = 0.15, p < 0.001$
Market-related complexity	4	Mean scale	0.64	$D = 0.14, p < 0.001$
Market growth	1	n/a	n/a	$D = 0.23, p < 0.001$
Customer power	1	n/a	n/a	$D = 0.24, p < 0.001$
<b>Consequences of pricing information acquisition</b>				
Pricing performance	4	Mean scale	0.89	$D = 0.01, p < 0.05$
Overall firm performance	5	Mean scale	0.71	$D = 0.01, p < 0.05$

<sup>a</sup> Categorical data

Table 4.3 depicts all variables as operationalised in Section 4.3 and summarises the number of items used for measurement. Multiple item scales were aggregated before the data was subjected to statistical analysis. The aggregate measures were developed by summing up all scores for each respondent and dividing them by the number of items. For example, the pricing performance mean score was calculated by averaging the scores obtained from the four item ratings. This data aggregation procedure is estab-

lished practice in the empirical literature and is used in many empirical information acquisition studies (cf. Belich and Dubinsky 1995; Cooper, Folta, and Woo 1995; Haase and Franco 2011; Ingenbleek et al. 2003; Keh, Nguyen, and Ng 2007; Pineda et al. 1998; Yeoh 2000). Coefficient alpha values suggest that the seven mean scales showed sufficient internal consistency. The aggregated variable, managerial experience, was calculated by summing the years the respondents had worked in a managerial position at the current employer and at all previous employers, because this information was elicited from two separate open questions.

Regarding data screening, the variables were tested for normal distribution. A Kolmogorov-Smirnov (K-S) test was employed for that purpose (Bortz and Döring 2009; Eckstein 2008). The K-S test can be applied for interval scale variables and is regarded as very robust for medium sample sizes as used in the underlying research (Field 2009; Janssen and Laatz 2010). The results of the test statistics are depicted in Table 4.3. Except for the variable pricing information acquisition, which was normally distributed as indicated by the non-significant K-S test ( $D(168) = 0.06$ , NS), all remaining variables were significantly different from the normal distribution ( $p < 0.05$ ). Thus, non-normality is a major issue in the gathered data set.

#### **4.6.2 Statistical procedures**

In addition to univariate analysis using common approaches, such as frequency tables, diagrams and measures of central tendency (cf. Fielding and Gilbert 2008), the underlying research will also make use of bivariate analysis techniques in order to investigate the relationships among variables and to test the developed hypothesis statistically. In general, the selection of statistical procedures for hypothesis testing depends on the characteristics of the particular data and the nature of the research problem (Iacobucci and Churchill 2010). This study's statistical approach will be determined based on three criteria (cf. Aaker, Kumar, and Day 2007; Creswell 2009). First, the adopted research objectives are an important influencing factor for the choice of an appropriate statistical approach. The techniques must fit the aims adopted in a research project to ensure that a

specific research question can be investigated appropriately. Second, the employed method of analysis must be capable of dealing with the available data type. The use of different types of measurement scales has implications for the quality of available data, and, therefore, influences the choice of statistical techniques. Third, the choice of a specific test statistic depends on certain assumptions that must be fulfilled. It is important to meet the assumptions entrenched in a given technique in order to ensure a valid test statistic and a robust result.

First, a chosen statistical technique must fit the nature of the investigated research questions. The underlying research aims to investigate the influence of different internal and external determinants on SME pricing information acquisition practices. Furthermore, it endeavours to look at the performance impact of pricing information acquisition. Two common statistical approaches used for studying such relationships among variables are correlation analysis and mean comparison procedures (Bryman 2008). Both procedures are used in combination in the empirical literature on information acquisition practices (Williams 2006) and are especially suitable for exploratory studies that seek to investigate emerging relationships among a set of variables (Belich and Dubinsky 1995). The underlying research has such an exploratory character because empirical investigations on pricing information acquisition practices in SMEs are extremely scant. This research sets out to establish an initial understanding of basic relationships between a broad set of influencing variables and the pricing information acquisition construct. Correlation analysis and mean comparison procedures are appropriate means to pursue this research objective.

With regard to the second criterion, the data type has implications for the choice of a statistical approach. The employed research instrument primarily used a six-point interval scale for the measurement of variables. Exceptions to that rule are the variable managerial education, which was measured based on a categorical scale, the variable differentiation strategy, which was operationalised using a four-point semantic differential and the variables managerial experience and firm size, which both were measured using a ratio scale. The requirements of correlation analysis regarding data type are that the

variables have interval scale level or ratio scale level in the case of Pearson's correlation coefficient and at least ordinal scale level in the case of Spearman's correlation coefficient (Bryman 2008; Field 2009). Thus, correlation analysis can be conducted for all underlying variables except managerial education. The objective of mean comparison procedures is to test whether means are statistically different among groups (Field 2009). Regarding the data type, mean comparison procedures require that predictor variables be available at a categorical scale level (Creswell 2009). Hence, group comparison procedures can be used for the categorical variable, managerial education. However, it is also possible to run group comparison procedures for predictor variables measured with an interval scale. For this, measures of central tendency, such as the mean or the median can be used to split interval data into dichotomous categories (cf. Bortz and Döring 2009; Iacobucci and Churchill 2010; Rentner 2012). This type of respecification is common practice in the pertinent empirical literature and can thus be applied to the interval level predictor variables of the underlying study (Cooper, Folta, and Woo 1995; Daft, Sormunen, and Parks 1988; Indounas 2009; Prasad, Ramamurthy, and Naidu 2001; Tzokas et al. 2000; Yeoh 2000). As a result, it can be concluded that in addition to correlation analysis, group comparison procedures are capable of analysing the underlying data type.

Third, the choice of statistical procedures depends on the fulfilment of certain assumptions. Regarding *correlation analysis*, a common statistical correlation coefficient is Pearson's  $r$ . For a valid test statistic  $r$ , the sampling distribution of both investigated variables must be normally distributed (Bowerman et al. 2012; Bühl 2012; Iacobucci and Churchill 2010). As seen in Table 4.3, this important assumption of the Pearson correlation coefficient is violated. All variables except pricing information acquisition are significantly non-normal. Hence, it is not possible to calculate Pearson's  $r$  based on the underlying data because this would lead to an invalid test statistic. In the case of data violating parametric assumptions, a possible alternative correlation coefficient is Spearman's rho ( $r_s$ ). Since this non-parametric test is based on the principle of ranking the data, the data basis can include non-normally distributed variables (Field 2009).

Therefore, in the underlying study, correlation analysis is conducted using Spearman's rho. Spearman's rho is calculated by:

$$r_s = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2 - 1)}$$

where  $d$  is the difference in rankings between two variables (Holling and Gediga 2011; Iacobucci and Churchill 2010). Following the suggestions in the literature, correlation coefficient values of  $\pm .1$  indicate a small effect, values  $\pm .3$  indicate a medium effect and values  $\pm .5$  indicate a large effect (Field 2009).

The choice of an adequate *mean comparison procedure* also requires the consideration of the assumptions of the underlying test statistics. In this research, independent-mean tests are applicable because the categorical predictor variables yield multiple subsamples, between which means are to be compared (Aaker, Kumar, and Day 2007). Since the predictor variables are dichotomous, the parametric t-test or the non-parametric Mann-Whitney U test might be applicable test statistics. The decision between the procedures depends on whether the following two assumptions of the independent t-test are met.

The first requirement of the independent t-test is that the sampling distribution is normally distributed (Bortz and Schuster 2010). Given that non-normality is a major issue in the underlying data, this assumption is violated. However, the independent t-test is considered relatively robust against this type of violation as long as the sample size of the compared groups is large enough (Eckstein 2008). Based on the central limit theorem, normal distribution can be assumed for group sizes of at least  $n=30$  (Bowerman et al. 2012; Field 2009; Iacobucci and Churchill 2010). In the underlying research, all group sizes exceed this minimum value, and, therefore, the first assumption is met. Second, the independent t-test requires the homogeneity of variances in the populations (Field 2009). To ensure that this requirement is met, the Levene test can be used to check whether the variances are homogenous or heterogeneous (Bortz and Schuster 2010). If the assumption of homogeneity of variances is violated, a modified t-test equation must be used to ensure a valid test statistic (Eckstein 2008). Based on the aforemen-

tioned, both assumptions can be met, and, therefore, the independent samples t-test is chosen over the non-parametric Mann-Whitney U test. When homogeneity of variances can be assumed due to a non-significant Levene test, the t-statistic is calculated by:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s_p^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

When equal variances cannot be assumed the t-statistic is calculated by:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left( \frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} \right)}}$$

where  $s_p^2 = \frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1+n_2-2}$ ,  $s_1$  is the standard deviation of sample 1,  $s_2$  is the standard deviation of sample 2,  $n_1$  is the size of sample 1 and  $n_2$  is the size of sample 2 (Aaker, Kumar, and Day 2007; Bowerman et al. 2012; Field 2009). As suggested in the literature (Field 2009; Rosnow and Rosenthal 2008), effect sizes for t-tests are calculated by:

$$r = \frac{t^2}{t^2 + df}$$

Following the suggestions in the literature, values of  $\pm .1$  indicate a small effect, values  $\pm .3$  indicate a medium effect and values  $\pm .5$  indicate a large effect (Field 2009).

To summarise, correlation analysis using the Spearman correlation coefficient and group comparison procedures using t-tests are valid and robust to test the developed hypotheses.

## 4.7 Summary

This chapter has shed light on the methodological foundations of the underlying research. The adopted survey design was justified in detail and the development of the structured self-completion online questionnaire that was employed for data collection was described comprehensively. Rigorous questionnaire development and operationali-

sation procedures as well as extensive pretesting yielded a reliable and valid research instrument. After having defined the target population and having described the chosen sampling frame, employment of the research instrument by means of simple random sampling yielded a data basis of 173 responses, representing a response rate of 7 per cent. Table 4.4 summarises the research objectives addressed in this study in relation to the research questions, research challenges and the chosen methods. Based on the outlined procedures used for data analysis, the next chapter presents the results of data analysis and a discussion of the findings.

**Table 4.4: Summary of research objectives in relation to research questions, research challenges and methods of investigation**

Research objective <sup>a</sup>	Research question <sup>a</sup>	Research challenges <sup>b</sup>						Method of investigation
		RC1	RC2	RC3	RC4	RC5	RC6	
RO1	RQ1	✓				✓		In-depth theoretical analysis and development
RO2	RQ2		✓			✓	✓	Descriptive analysis
RO3	RQ3			✓		✓	✓	Hypothesis testing (H1-H7)
RO4	RQ4			✓		✓	✓	Hypothesis testing (H8-H10)
RO5	RQ5				✓	✓	✓	Hypothesis testing (H11, H12)

<sup>a</sup> cf. Section 2.6.2, p. 77.

<sup>b</sup> cf. Section 2.6.1, p. 73.

## **5 Results and Discussions**

### **5.1 Introduction**

The previous chapter outlined in detail the methodological foundations of the underlying research. This chapter will present the results of the extensive data analysis and provide a detailed interpretation and discussion of the findings. To pursue this aim, Chapter 5 has been divided into three parts. The first part presents the demographic profile of the sample, and by doing so, clarifies key characteristics of the collected survey data. Subsequently, the second part provides a detailed descriptive analysis for all variables investigated in the study including the interpretation and discussion of the results. The third part of this chapter consists of the empirical testing of the theoretical framework and provides the statistical results regarding each of the twelve hypotheses and the interpretation and discussion of the hypotheses testing results.

### **5.2 Demographic profile of sample**

The final sample used in this thesis comprises responses from 173 manufacturing SMEs. According to the specified area of coverage, the data was gathered from a large economic region in the northwestern part of Germany. Regarding the economic and legal status of the sample firms, all firms meet the legal independence criterion of the EC, indicating that none of the firms is part of a group (European Commission 2005).

In addition, regarding the ownership of the sample firms, the data showed that 93 per cent of the investigated firms are managed by the owner of the firm. This figure further demonstrates that the sample firms can be deemed legally and economically independent. The median age of the investigated firms is 27 years. Table 5.1 summarises the profile of the investigated firms. In the following, key issues regarding the demographic profile of the sample will be highlighted.

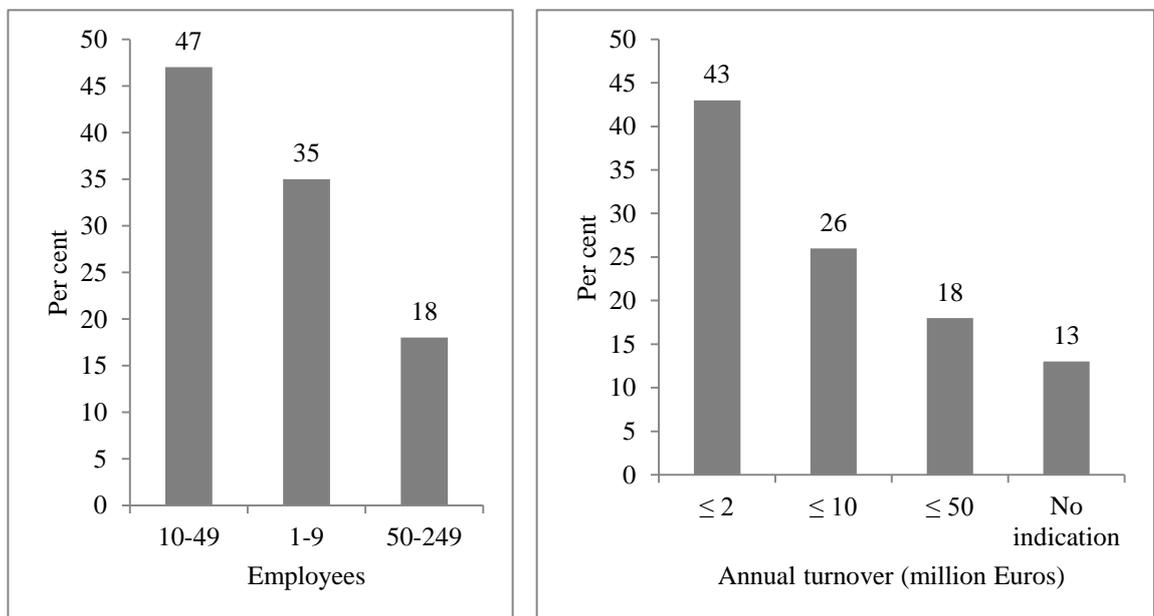
**Table 5.1: Sample characteristics summary**

	Frequency	Per cent
<b>Employees</b>		
1-9	60	35
10-49	81	47
50-249	32	18
<b>Annual turnover (million Euros)</b>		
≤ 2	74	43
≤ 10	45	26
≤ 50	32	18
No indication	22	13
<b>Position of respondents</b>		
Top management	136	79
Sales department	14	8
Finance/controlling department	10	6
Product management	2	1
Marketing department	1	1
Other	10	6
<b>Manufacturing sectors</b>		
Machinery	32	19
Metal processing	31	18
Printing	15	9
Wood and furniture	15	9
Electronics	11	6
Textiles	11	6
Food	10	6
Chemicals and plastics	9	5
Construction	7	4
Automotive	5	3
Other	27	16
<b>Type of customers</b>		
Business-to-business	156	90
Business-to-consumer	17	10
<b>Type of goods</b>		
Durable goods	120	69
Non-durable goods	53	31
<b>Age of respondents</b>		
<30	13	8
30-39	43	25
40-49	53	31
50-59	44	25
60-69	15	9
70-79	5	3

### 5.2.1 Firm size

As indicated below in Figure 5.1, 47 per cent of the sample includes companies with 10-49 employees, followed by 35 per cent of firms with 1-9 employees and 18 per cent of firms with 50-249 employees. The median headcount is 15 employees. Regarding the annual turnover of the firms, 43 per cent have less than or equal to 2 million Euros of annual turnover, whereas 26 per cent of the sample have less than or equal to 10 million Euros of annual turnover; 18 per cent have less than or equal to 50 million Euros of annual turnover. The median annual turnover is €2.3 million. Thirteen per cent of the firms in the sample did not indicate their annual turnover. Therefore, in accordance with the empirical SME literature (Bridge and Peel 1999; Hart and Tzokas 1999; Keh, Nguyen, and Ng 2007; Köksal 2008; Kotey and Folker 2007; Merrilees, Rundle-Thiele, and Lye 2011; Mole et al. 2004; O'Regan, Ghobadian, and Liu 2001), only the employee criterion was used to classify the 173 responding firms into 47 per cent small firms, 35 per cent micro firms and 18 per cent medium-sized firms.

**Figure 5.1: Employees and turnover**

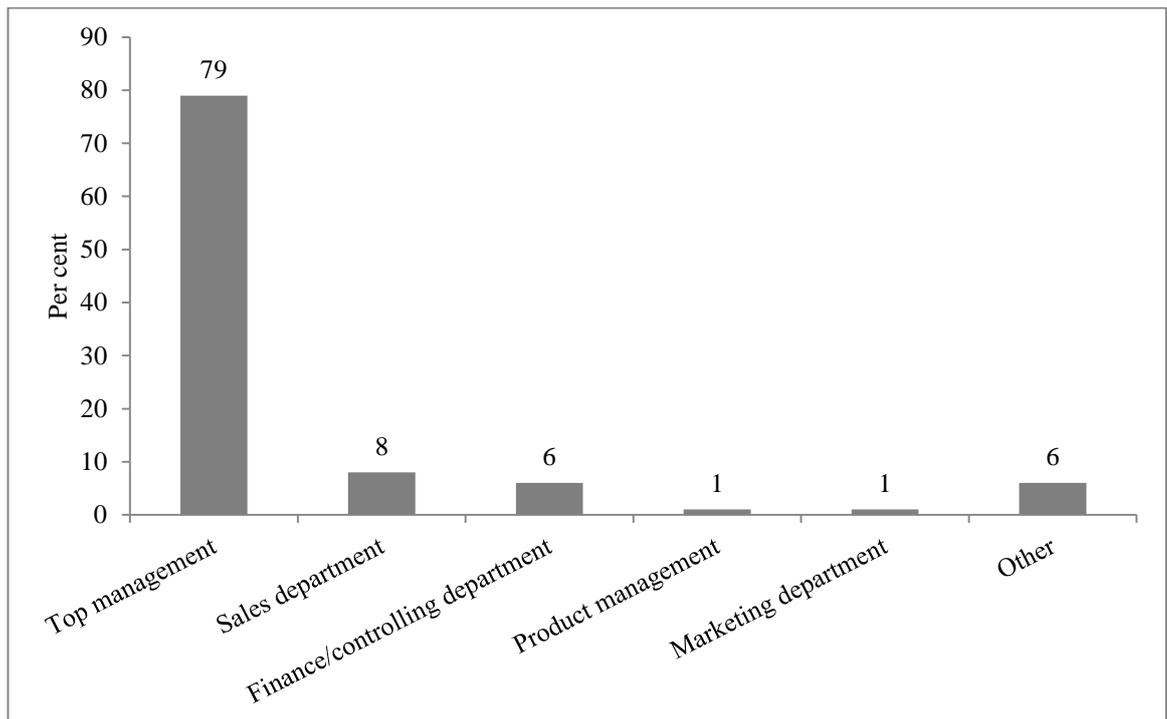


It can be positively highlighted that all three SME size classes are well represented in the data basis underlying this research. The sample comprises 60 micro firms, 81 small firms and 32 medium-sized firms.

### 5.2.2 Position of respondents

Regarding the position of respondents in the SMEs, it can be noted that the broad majority of respondents belong to top management (79 per cent, cf. Figure 5.2). Eight per cent belong to the sales department, followed by 6 per cent who work in the finance/controlling department. A minority of one per cent of the respondents works as product managers or marketing managers in their firms, and six per cent work in other positions.

**Figure 5.2: Position of respondents**



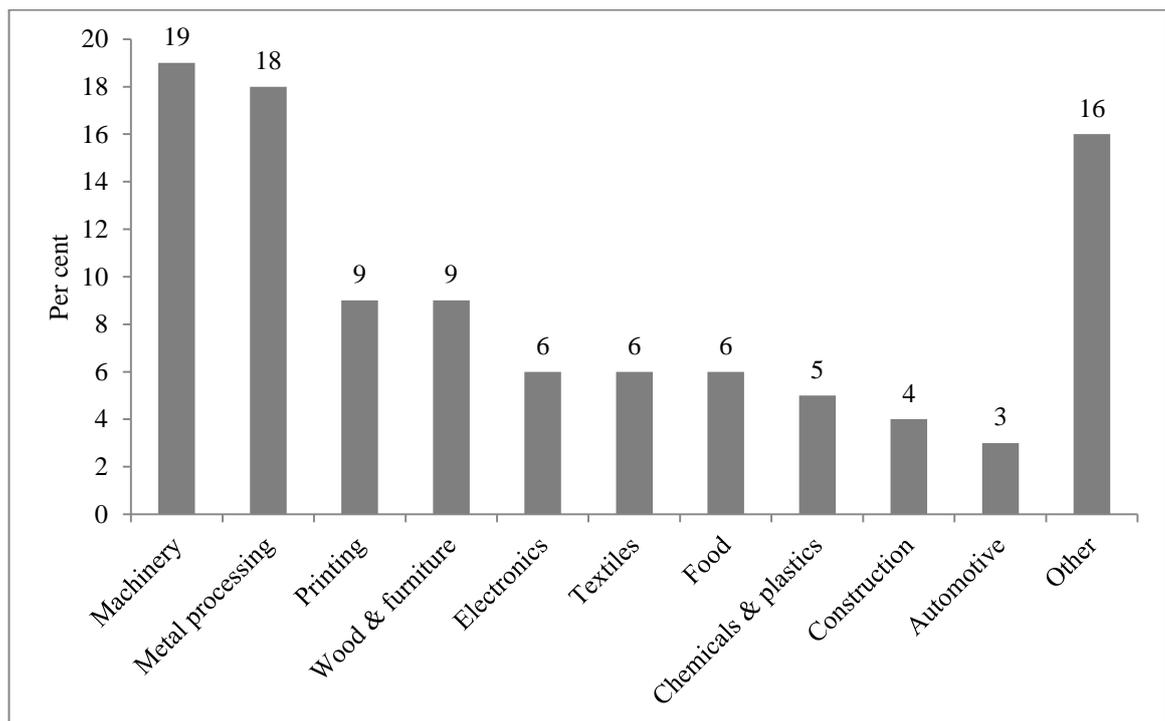
In the introductory question of the online instrument, the respondents were asked to indicate whether they were responsible for pricing decisions in their companies. This was done to ensure that all respondents were involved in strategic pricing decisions. The analysis showed that all respondents indicated that they were managers responsible for

pricing decisions in their respective companies. Against this background, the high proportion of top managers in the underlying sample implies that pricing management in SMEs is clearly a management task located at the executive level. In addition, it can be noted that the underlying sample, for the most part, consists of high-level management respondents.

### 5.2.3 Manufacturing sectors

This research focuses on the SME manufacturing sector and excludes other industry sectors, such as retail, trade and services. As depicted in Figure 5.3, the gathered sample includes companies from different manufacturing sectors, because it was selected on a random basis.

**Figure 5.3: Manufacturing sectors**



Nineteen per cent of the investigated firms stem from the machinery sector, while metal processing is second in the ranking with 18 per cent. This is followed by printing and wood and furniture with 9 per cent each. Electronics, textiles and food scored 6 per cent each. Chemicals and plastics scored 5 per cent, followed by construction (4 per cent)

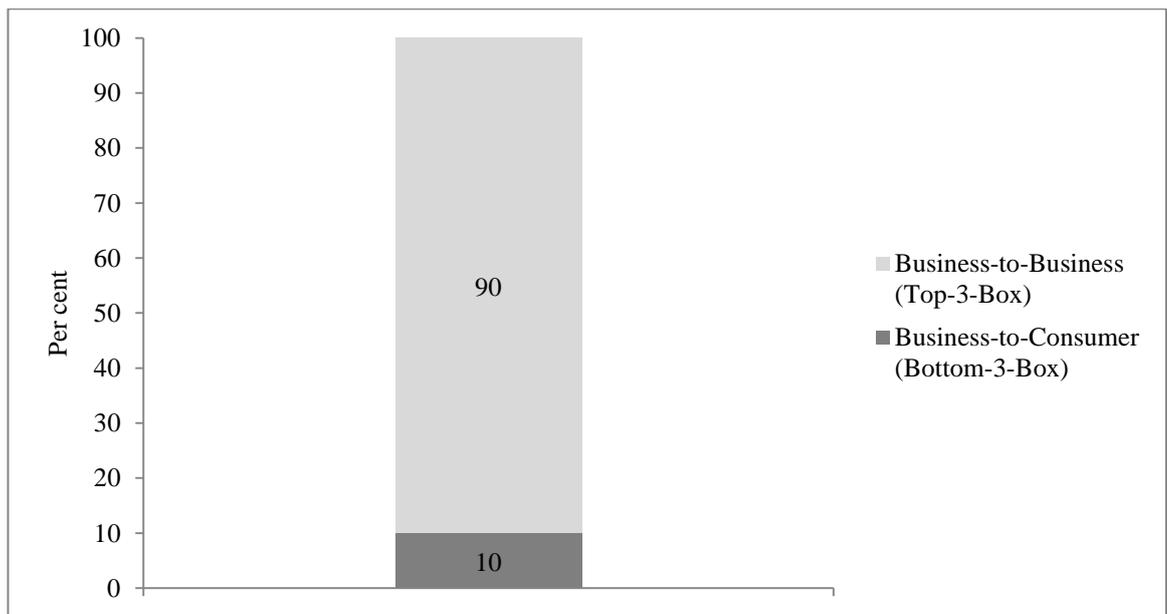
and automotive (3 per cent). Other manufacturing sectors are represented at 16 per cent of the total sample.

It must be noted that there are a number of manufacturing sectors with a very small number of cases (e.g., automotive, 3 per cent, n=5; construction, 4 per cent, n=7; chemicals and plastics, 5 per cent, n=9). Although these figures reflect that these sectors are represented more or less in proportion to the population, the small case numbers indicate that it is not recommendable to conduct industry sector specific statistical analysis. Summarising, the broad cross-sectional sample underlying this study ensures that this thesis' findings can be regarded as generalisable.

#### 5.2.4 Type of customers

Regarding the type of customers served by the investigated SMEs (Herdzina and Seiter 2009), it can be noted that the majority of the firms in the underlying sample are predominantly active in the business-to-business environment (90 per cent), while 10 per cent of the firms are selling their goods predominantly to private individuals (Figure 5.4).

**Figure 5.4: Type of customers**



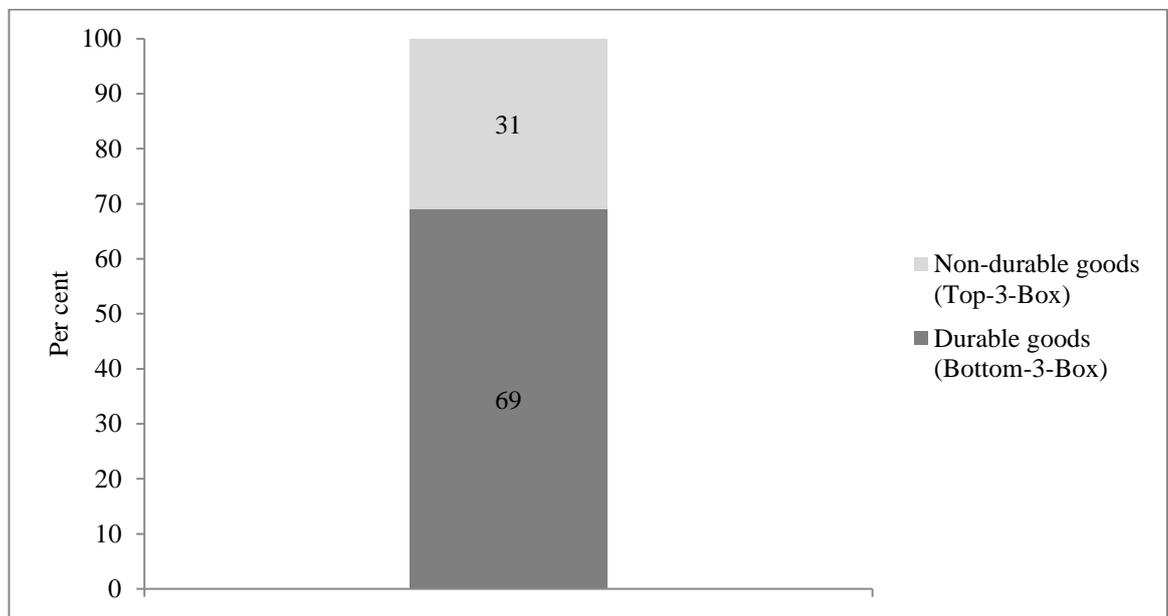
Note: Measured on a six-point scale, where 1 = only companies and 6 = only private individuals

This imbalance can be explained by the fact that the majority of economic added value activities regarding specific manufacturing sectors take place at the earlier stages of the industry value chain. In fact, only a minority of firms are involved in delivering the final added value to the consumer, which is represented by the last stage of a given industry value chain. Consequently, it is not surprising that only 10 per cent of the investigated firms sell their products to consumers.

### 5.2.5 Type of goods

In addition to the type of customer served, another indicator used to characterise the underlying sample is the type of goods produced by the investigated firms (Herdzina and Seiter 2009). Regarding this demographic characteristic, the respondents rated the longevity of their manufacturing products. The analysis showed that 31 per cent of the investigated firms predominantly produce short-lived goods, whereas 69 per cent of the firms primarily produce durable goods with a long lifespan.

**Figure 5.5: Type of goods**

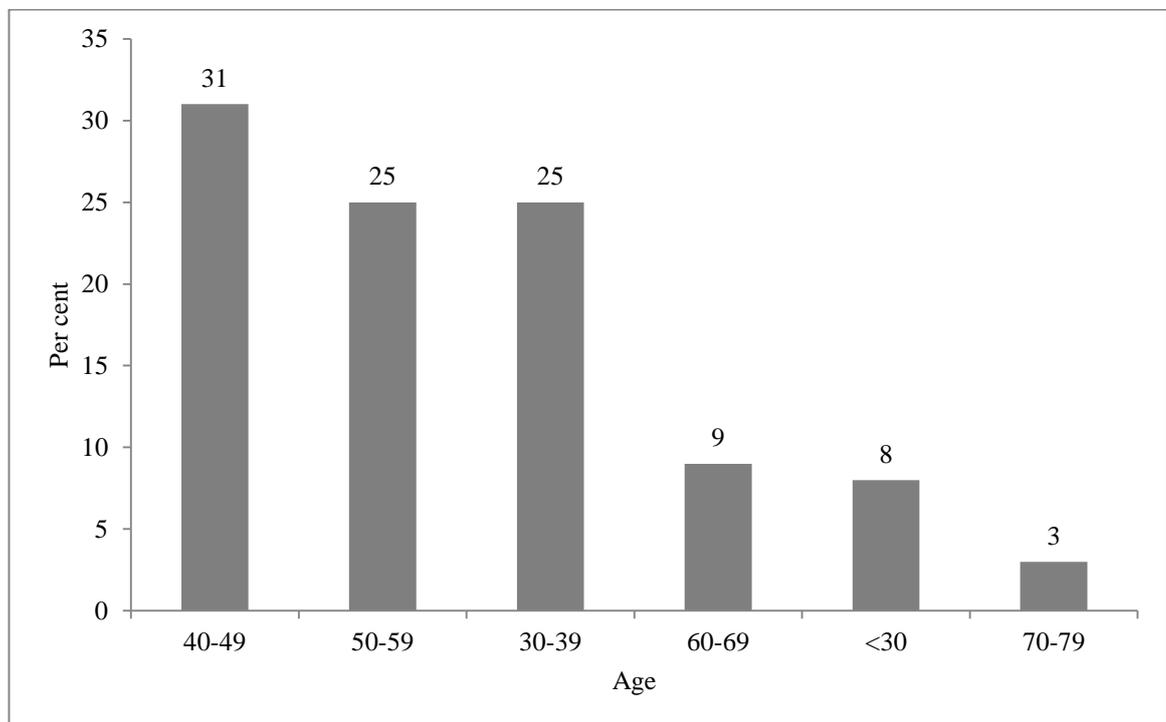


Note: Measured on a six-point scale, where 1 = non-durable goods and 6 = durable goods

### 5.2.6 Age of respondents

As shown in Figure 5.6, the age distribution indicates that the age group from 40 to 49 represents the largest segment in the sample with 31 per cent, followed by the 50 to 59 age group (25 per cent) and those 30 to 39 years (25 per cent). The remaining three age group were ranked at nine per cent (60-69 years), eight per cent (<30 years) and three per cent (70-79). The median age is 45 years.

**Figure 5.6: Age of respondents**



### 5.3 Status quo of pricing information acquisition and related constructs

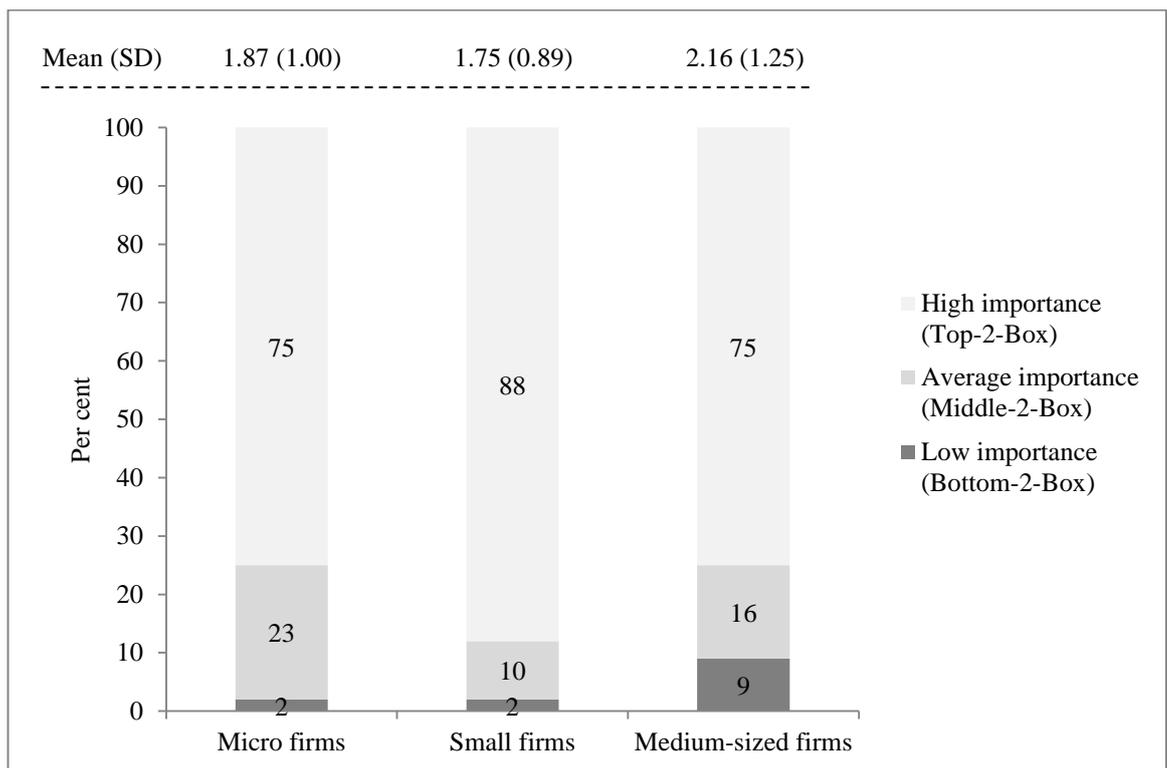
The preceding section has provided a detailed overview of the demographic characteristics of the underlying sample. The purpose of this section is to provide the results of a comprehensive descriptive analysis of each construct conceptualised in Section 3.2. In the course of this analysis, Research Question 2, which aims to investigate the current status quo of pricing information acquisition and associated constructs in SMEs, will be answered (cf. Section 1.6). The section commences with an analysis of the perceived importance of pricing as a strategic management task in SMEs. Subsequently, the struc-

tural properties of the main variable, pricing information acquisition, will be presented. This will be followed by the empirical analysis of the related internal and external antecedent constructs and the performance consequences. Finally, this section provides a discussion of findings that concludes with answering Research Question 2.

### 5.3.1 Perceived importance of pricing management

Respondents were asked to rate the importance of pricing management within their firms. As Figure 5.7 indicates, it is noticeable that the broad majority perceived pricing management as highly important (Roll and Achterberg 2013; Roll, Achterberg, and Schäck 2013).

**Figure 5.7: Perceived importance of pricing management**



Note: Measured on a six-point scale, where 1 = very important and 6 = not important at all.

This tendency could be found in all three SME size classes. In micro and medium-sized firms, 75 per cent rated the importance of pricing management as high. In small firms, a surprising 88 per cent of respondents stated that pricing management had a high im-

portance within their organisation. At the other extreme, only two per cent (micro and small firms) and ten per cent (medium-sized firms) attributed a low importance to pricing management. The clear tendency toward a high importance of pricing management is also reflected in the SD values ranging from 0.89 to 1.25. The key point is that pricing management is clearly perceived as a problem field with high pressure to perform.

These empirical results are encouraging in view of the high significance that is attributed to pricing management in the literature (Diamantopoulos and Mathews 1995; Diller 2008; Dutta, Zbaracki, and Bergen 2003; Monroe 2003; Morgan 2012). SMEs are especially more vulnerable to systematic mistakes in price setting than their larger counterparts (Carson 1993). This increased vulnerability can lead to severe negative implications regarding the SME's long-term firm survival. Against this backdrop, there appears to be a considerable readiness and willingness in SMEs to tap the earnings potential of a systematic pricing management (Marn, Roegner, and Zawada 2004; Meehan et al. 2011; Raju and Zhang 2010). However, the principal importance attached to pricing management does not necessarily mean that this is reflected in the actual pricing practices carried out by SMEs. Specifically, this thesis investigates the practices associated with the first step of the pricing process dealing with the rendering of an adequate informational basis for pricing decisions. The following section will illuminate whether the high attributed importance is reflected in the SMEs' actual pricing information acquisition practices.

### **5.3.2 Structural properties of pricing information acquisition**

The main construct investigated in this research is pricing information acquisition. It has been defined as a set of organisational routines and processes by which individuals gather and accumulate informational assets for pricing purposes from internal and external information sources, which include relationship sources, primary market research sources and secondary market research and intelligence sources. It was operationalised using 15 pricing information sources. The respondents were asked to rate their frequency of use of the different pricing information sources on a six-point scale anchored by

‘Frequently’ (1) and ‘Never’ (6). Table 5.2 reports the respondents’ answers regarding the frequency of use of the different pricing information sources. It depicts the mean, the overall rank, the standard deviation and the minimum and maximum values for each source. The sources are assigned to the three pricing information acquisition modes. The sources’ means are sorted in ascending order within each pricing information acquisition mode. Table 5.2 illuminates the structural properties of pricing information acquisition in SMEs (Roll and Achterberg 2013; Roll, Achterberg, and Schäck 2013).

**Table 5.2: Sources used to acquire pricing information**

Pricing information source <sup>a</sup>	Mean (Rank)	SD	Min	Max
<b>People &amp; relationships</b>				
Talking to end customers	2.13 (1)	1.42	1	6
My suppliers	2.52 (2)	1.47	1	6
Own marketing / sales team	2.85 (3)	1.85	1	6
Controlling / accounting staff	3.46 (5)	1.81	1	6
My friends / family	4.64 (11)	1.58	1	6
<b>Primary market research &amp; consulting</b>				
Non-pricing related market research	4.39 (10)	1.48	1	6
Information events, presentation	4.76 (12)	1.30	2	6
Pricing related market research	4.81 (13)	1.45	1	6
Research publications	4.88 (14)	1.33	1	6
Professional consultants	5.36 (15)	1.07	2	6
<b>Secondary market research &amp; intelligence</b>				
Competitors’ catalogues / publications	2.99 (4)	1.56	1	6
Trade directories / statistics / market sector reports	3.72 (6)	1.64	1	6
Business / trade shows and exhibitions	3.95 (7)	1.61	1	6
Customers’ publications	4.13 (8)	1.53	1	6
Trade / business magazines	4.30 (9)	1.51	1	6

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never (cf. Section 4.3.1).

Note: Higher mean values indicate a smaller frequency.

The ranking of the means shows that talking to end customers is the most important pricing information source in SMEs. This is followed by pricing information collected from SMEs’ suppliers on the second rank. The ranking further indicates that the SMEs’

own marketing and sales team is the third most used pricing information source in SMEs. It is noteworthy that the three most frequently used pricing information sources belong to the people and relationships mode. However, controlling and accounting staff as another people and relationship source is also an important pricing information source as indicated by its fifth position in the ranking. Furthermore, it is noticeable that the source friends and family ranks in eleventh place. Friends and family scored a mean of 4.64 (rank 11), which indicates the smallest frequency of information acquisition in the people and relationships group. Although this study's finding is in line with Brush's (1992) empirical results on market information sources, it may seem counterintuitive, because Keh, Nguyen, and Ng (2007, p. 596) based on Cooper, Folta, and Woo (1995) and Brush (1992) comment that ventures have a preference for "such intimate sources as they are viewed to be more directly relevant and reflective of their immediate operating environment". However, this thesis investigates very small ventures with fewer than ten employees but unlike Keh, Nguyen, and Ng (2007), it also includes more established firms with up to 249 employees. Indeed, further analysis reveals that micro firms tended to rely more on friends and family sources than small and medium-sized firms (my friends and family means according to SME size classes: micro firms = 4.02, small firms = 4.78, medium-sized firms = 5.44,  $\chi^2 = 18.05$ ,  $p < 0.001$ ). Nevertheless, friends and family do not seem to be an important pricing information source in micro firms as indicated by the mean value of 4.02. Although this study's results support the notion that smaller firms rely more on family and friends for pricing information (Keh, Nguyen, and Ng 2007), the findings still suggest an overall low popularity of using this category as a pricing information source.

Regarding primary market research and consulting, the results presented in Table 5.2 are meaningful. All sources belonging to this pricing information group score very low mean values. This is reflected in the ranking of means. Professional consultants (15) is the least collected pricing information source, followed by research publication (14), pricing related-market research (13) and information events, presentations (12) and non-pricing related market research (10). It appears from Table 5.2 that SMEs do not seek information from more formal primary market research and consulting sources.

With a view to secondary market research and intelligence sources, the results indicate more variation than in the case of primary market research and consulting. Although Table 5.2 suggests that SMEs seem to use competitors' catalogues and publications moderately as a pricing information source (mean = 2.99, rank 4), it appears that the sources customers' publications (mean = 4.13, rank 8) and trade/business magazines (mean = 4.30, rank 9) seem not to be used by SMEs. Furthermore, the comparison shows that trade directories/statistics/market sector reports (mean = 3.72, rank 6) and business/trade shows and exhibitions (mean = 3.95, rank 7) are used more frequently than the aforementioned two sources. However, these sources are still used rather rarely by the investigated SMEs. The notable result that competitors' catalogues and publications are the most popular source in this group could be explained by the fact that SMEs tend to have limited impact on the marketplace in a given competitive setting due to their limited scale and scope of operations compared to larger enterprises (Carson 1993; Forman and Lancioni 2002; Gilmore, Carson, and Grant 2001). In a sense, given this potential lack of market power and impact, it is logical that SMEs make considerable efforts to gather competitive pricing information from secondary market research to enable a better adjustment of competitive pricing strategy. This is consistent with prior empirical results, which suggest that SMEs frequently take information on competitors' prices into consideration (Gilmore et al. 1999).

The key point to appear is that SMEs use pricing information sources differently. Specifically, the pattern that emerges is that SMEs mostly acquire pricing information from people and relationship sources. In addition, the analysis suggests that SMEs tend to not use primary market research and consulting sources to acquire pricing information. Furthermore, the analysis suggests that, overall, secondary market research and intelligence sources were used to only a small extent for the acquisition of pricing information.

In addition, as described and justified in the previous chapter, a broad measure of pricing information acquisition was developed by summing the ratings and dividing them by the total number of pricing information sources. The result is an aggregated mean scale. The results for the main variable are provided in Table 5.3. This measure reflects

the degree of pricing information acquisition found in the investigated SMEs. The degree of pricing information acquisition accrues from the use of a preferably broad set of sources and from the frequency with which the information is gathered and accumulated from these sources.

**Table 5.3: Pricing information acquisition in SMEs**

<b>Construct</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
Pricing information acquisition	3.93	0.79	n/a	n/a

Note: Higher mean values indicate a smaller amount of pricing information acquisition (also cf. Section 4.3).

The results presented in Table 5.3 are noteworthy. The mean value for pricing information acquisition is 3.93. On a six-point scale anchored by ‘Frequently’ (1) and ‘Never’ (6), this value indicates a low frequency with which the information is gathered and accumulated from the pricing information sources. The key point to emerge from this finding is that SMEs appear to conduct an overall low amount of pricing information acquisition.

### 5.3.3 Analysis of central antecedent variables

The purpose of this section is to provide results of the central antecedent variables of the main construct pricing information acquisition. They fall into the three *internal* groups, namely, organisational characteristics and resources, firm’s strategic orientation and management-related attributes and resources. Furthermore, the fourth category is the *external* antecedent group including environment market factors. The results regarding the four antecedent groups are provided in the following sections.

#### 5.3.3.1 Organisational characteristics and resources

Table 5.4 presents the descriptive results for the variables pricing resources and firm size (Roll and Achterberg 2013; Roll, Achterberg, and Schäck 2013). It depicts the number of items, the mean, the standard deviation and the minimum and maximum values for both of the variables.

**Table 5.4: Pricing resources and firm size**

<b>Construct</b>	<b>No. of items</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
Pricing resources <sup>a</sup>	1	4.50	1.44	1	6
Firm size <sup>b</sup>	1	30.26	39.63	1	220

<sup>a</sup> The construct was measured using a six-point scale, where 1 = many and 6 = few (cf. Section 4.3.2).

<sup>b</sup> The construct was measured using an open question inquiring as to the number of full-time employees (cf. Section 4.3.2).

The first variable in this antecedent group is pricing resources. The variable was conceptualised with a focus on human resources. The respondents were asked to rate the number of well-qualified marketing and non-marketing personnel who are involved in pricing management. Table 5.4 depicts a mean value of 4.50. This result is noticeable because it indicates that SMEs appear to allocate a very low amount of human resources to pricing management. This finding is somewhat counterintuitive, because the respondents indicated that pricing management is a problem field with high pressure to perform. It is logical to assume that SMEs would allocate more resources to pricing management if they regarded it as an overall important field of action. If there are no human resources available, it could be that pricing performance decreases, because no personnel are available to manage the complex and cross divisional pricing task operationally and strategically. The low amount of pricing resources could be explained from the SME literature, which suggests that SMEs are frequently characterised by a limited marketing activity because they have restricted financial, human and material resources at their disposal as compared to large multinational firms (Carson 1993; Gilmore, Carson, and Grant 2001; Li 1997; Wood 2001). Despite this constraint, SMEs should make efforts to increase the amount of pricing resources as much as possible to ensure the development of the important pricing capability (Dutta, Zbaracki, and Bergen 2003; Morgan 2012).

The second variable in this antecedent group is firm size, measured by the number of full-time employees. The mean value is 30.26 and the employee size ranges from 1 to 220. It can be noted that the average firm size falls into the employee range of the small firm category (10-49 employees).

### 5.3.3.2 Firm's strategic orientation

Table 5.5 includes the results of the two variables differentiation strategy and value pricing strategy. Both have been aggregated into a mean scale as explained in the previous chapter, since they were measured with multiple item scales.

**Table 5.5: Differentiation strategy and value pricing strategy**

Construct	No. of items	Mean	SD	Min	Max
Differentiation strategy <sup>a</sup>	5	2.06	0.77	n/a	n/a
Consists of:					
1. Source of competitive advantage		2.12	1.10	1	4
2. Price level		2.32	0.89	1	4
3. Innovation level		2.29	0.99	1	4
4. Product individualisation level		1.76	0.95	1	4
5. Service level		1.83	0.89	1	4
Value pricing strategy <sup>b</sup>	4	2.57	1.11	n/a	n/a
Consists of:					
1. Customers' perceived value		2.32	1.25	1	6
2. Product advantage competitors		2.36	1.29	1	6
3. Product advantage substitutes		3.03	1.50	1	6
4. Product/price balance		2.56	1.23	1	6

<sup>a</sup> The construct was measured using a 4-point semantic differential (cf. Section 4.3.2).

<sup>b</sup> The construct was measured using a 6-point scale, where 1 = played a major role in price setting and 6 = was not important at all in price setting (cf. Section 4.3.2).

The construct differentiation strategy reflects the way the responding SMEs think about competitive strategy. In contrast to the low-cost strategy, which aims to pursue operating efficiencies and cost reductions to gain market share by setting the lowest price possible, firms pursuing a differentiation strategy focus on the development of unique products and superior brand images. Their focus is to extract higher margins from markets by setting premium prices. Measured on a 4-point scale where 1 indicates a differentiation strategy and 4 indicates a low-cost strategy, the mean value for the construct differentiation strategy was 2.06. Therefore, it appears from Table 5.5 that the responding SMEs have a tendency to adopt a differentiation strategy. This means that they are

inclined to establish price-inelasticity by offering superior customer value with their products and services as compared to their competitors' value proposition (Baldauf, Cravens, and Wagner 2000; Belich and Dubinsky 1995; Pelham 1999). It seems as if the responding SMEs tend to compete on customer value rather than on the lowest price possible.

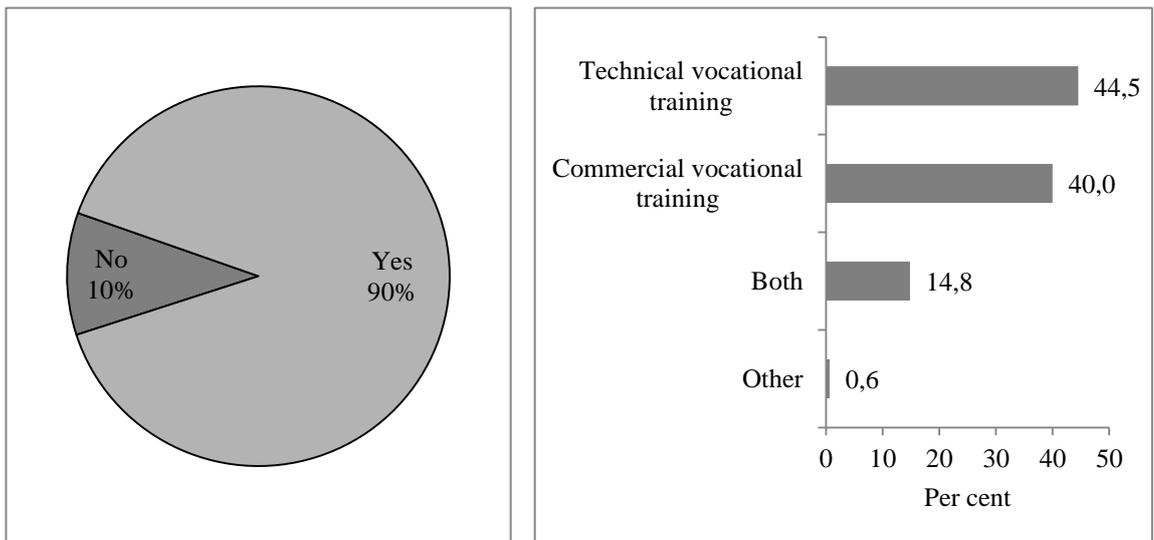
The second construct in this antecedent group is the variable value pricing strategy. While the differentiation strategy construct is situated at the higher firm level since it reflects strategic competitive decisions, value pricing strategy is a specific construct suggested by the theoretical pricing literature. The mean value for the construct value pricing strategy is 2.57. Measured on a six-point scale, this value suggests a tendency of the surveyed SMEs to adopt a value pricing strategy. This finding suggests that the responding SMEs aim to incorporate the specific advantages of products in the price setting process. Despite the fact that the data suggests only a small tendency toward this type of price setting, the principal result is encouraging, because this type of pricing strategy has been shown to be positively related to firm success (Ingenbleek, Frambach, and Verhallen 2010; Ingenbleek et al. 2003). This study's result contradicts comments in the pricing literature suggesting that companies resist adopting such a favourable pricing approach (Hinterhuber 2008a) and supports comments in the SME literature suggesting that pricing in SMEs is eventually more value-oriented than had been previously assumed (Carson et al. 1998; Cunningham and Hornby 1993; Gilmore et al. 1999; Haynes 1964). However, the moderate mean value found in this study still yields optimisation potential for this type of orientation toward price setting in SMEs.

### **5.3.3.3 Management-related attributes and resources**

The purpose of this section is to present the results regarding management-related attributes and resources, namely, managerial education, managerial experience and perceived usefulness. The construct managerial education has been conceptualised in terms of the level and the type of education. The level of education refers to whether responding managers have received an academic degree and/or vocational training. Figure 5.8

presents the results regarding vocational training and Figure 5.9 includes the results regarding academic education. However, both figures include information on the type of education pursued (e.g., technical or commercial vocational training, subject area of the academic education).

**Figure 5.8: Managerial education – vocational training**

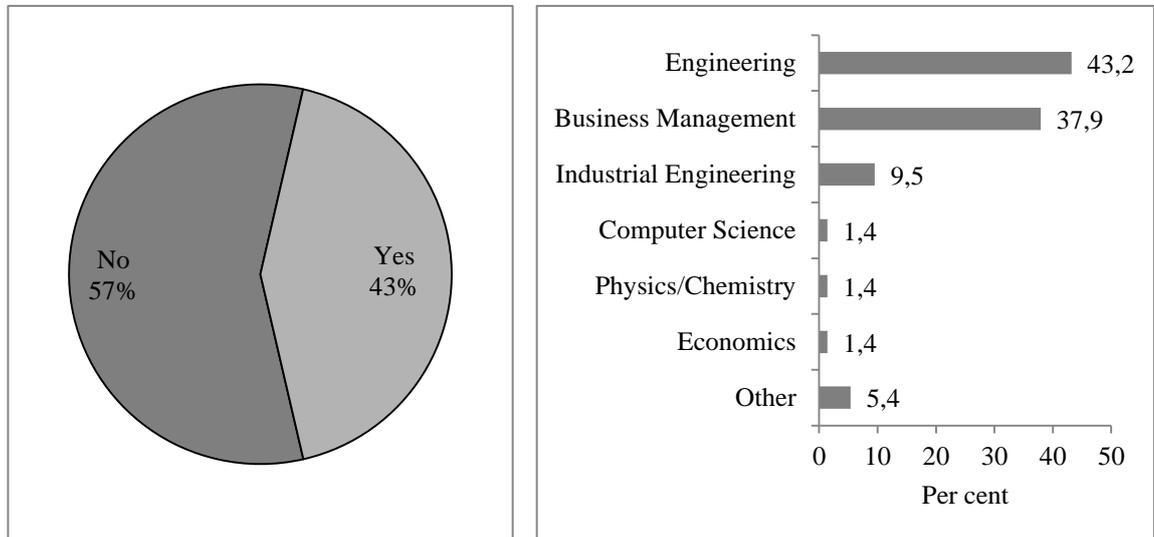


Note: Measured with a dichotomous question, where yes = completed vocational training and no = did not complete vocational training

Note: Measured with a multichotomous question using the categories commercial vocational training, technical vocational training, and other

The first key point to emerge from Figure 5.8 is that 90 per cent of the responding managers responsible for pricing decisions in SMEs have completed vocational training. This result is encouraging, because it suggests that the broad majority of SME managers responsible for strategic pricing decisions have a completed job qualification. This high proportion may be explained by the fact that, in Germany, more than 50 per cent of students pursuing upper secondary education enter dual vocational training, characterised by practical vocational training at the work place and theoretical training in vocational training schools (Hoeckel and Schwartz 2010). Regarding the type of vocational training, it is noticeable that a comparable proportion has pursued technical (44.5 per cent) and commercial training (40 per cent). A total of 14.8 per cent have completed commercial and technical vocational training.

**Figure 5.9: Managerial education – college degree**



Note: Measured with a dichotomous question, where yes = obtained a college degree and no = did not obtain a college degree

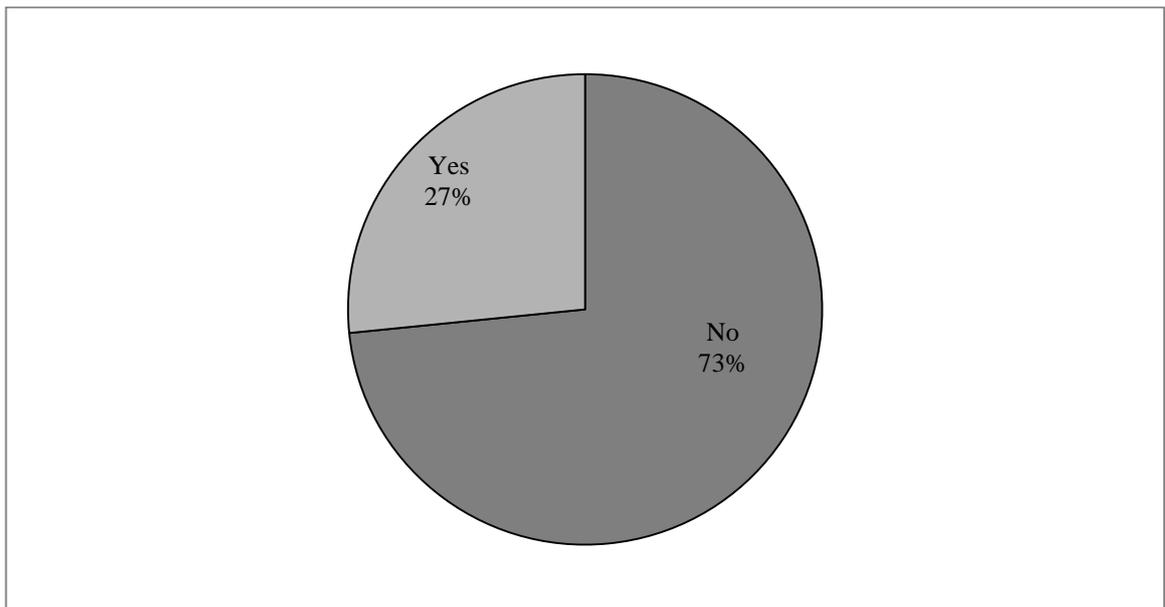
Note: Measured with a multichotomous question using the categories economics, business management minor in marketing, business management major in marketing, engineering, industrial engineering, physics/chemistry, computer science, and other

Figure 5.9 includes the results of the respondents' higher academic education (Roll and Achterberg 2013; Roll, Achterberg, and Schäck 2013). Forty-three per cent of respondents earned an academic degree. Although this value is smaller than the respective value regarding vocational training, this value must still be characterised as high. By contrast, Richbell, Watts, and Wardle (2006), in their study of 70 small U.K. metalworking firms, found that just over ten per cent of responding SME owner-managers had completed academic training. A possible explanation for this divergent result might be the differing country context and the focus on metalworking firms as only one specific manufacturing sector. Regarding the type of academic degree, engineering and business management were the most frequently mentioned areas of study. Similar to the vocational training results, engineering degrees (43.2 per cent) were slightly more common than business management degrees (37.9 per cent). Industrial engineering degree and computer science degrees were reported by 9.5 per cent of respondents and physics/chemistry and economics were represented with 1.4 per cent each.

The overall picture that emerges from the data is that the broad majority of SME managers responsible for pricing decisions have completed a job qualification. A comparably high proportion have accomplished a higher academic degree. Regarding the type of managerial education, the data suggests that technical, engineering-related education and commercial, management-related education are the most common educational backgrounds among SME managers dealing with pricing decisions.

The next construct investigated in this antecedent group is managerial experience. Managerial experience was defined as the extent to which a manager has worked in a managerial position. The first result regarding this construct is depicted in Figure 5.10.

**Figure 5.10: Availability of external management experience**



Note: Measured with a dichotomous question, where yes = served in a managerial position before working for current employer and no = not served in a managerial position before working for current employer.

It is noticeable that 73 per cent of the respondents had not served in a managerial position prior to their current position. This surprising result shows that almost three-quarters of the SME managers responsible for pricing decisions have no external management experience at their disposal. These results contradict the findings of Richbell, Watts, and Wardle (2006), who found in their study of SME owner-managers that two-thirds of the respondents had previously served in a managerial or executive position at

another employer before starting their own business. It would seem that these conflicting results may open the door to future empirical studies on this issue. However, this study’s result seems plausible, given suggestions in the SME literature stating that SME owner/managers are typically generalists who have founded a business in an early state of their career and managed it over a longer period of time (Carson 1993). Hence, compared to LEs with their professional pricing managers who have often served on the boards of multiple firms, SMEs might suffer a considerable lack of specialist marketing expertise. This could negatively affect SMEs’ pricing practices negatively due to the lack of professional pricing knowledge.

The results regarding the overall amount of managerial experience are presented in Table 5.6. Table 5.6 also includes the results regarding the third construct in this antecedent group, namely perceived usefulness.

**Table 5.6: Managerial experience and perceived usefulness**

<b>Construct</b>	<b>No. of items</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
Managerial experience <sup>a</sup>	2	15.51	11.40	1	51
Perceived usefulness <sup>b</sup>	3	2.53	1.02	n/a	n/a
Consists of:					
1. Confidence		2.53	1.21	1	6
2. Accurateness		2.43	1.21	1	6
3. Uncertainty reduction		2.63	1.30	1	6

<sup>a</sup> The construct was measured using two open questions inquiring as to the years worked in a managerial position (1) at the current place of employment and (2) at all previous employers. Answers were added up for each respondent (cf. Section 4.3.2).

<sup>b</sup> The construct was measured using a 6-point Likert scale, where 1 = strongly agree and 6 = strongly disagree (cf. Section 4.3.2).

Table 5.6 shows that the length of managerial experience ranged between 1 and 51 years. It was found that the respondents had on average 15.51 years of managerial experience. Sixteen years of managerial experience can be interpreted as a substantial amount of time. This study’s findings are similar to the results of Richbell, Watts, and Wardle (2006). It appears as if managers responsible for pricing decisions in SMEs have

considerable managerial experience. This result is encouraging, because managerial experience is regarded in the literature as a proxy for increased motivation, better problem awareness and advanced pricing problem solving skills (Cooper, Gimeno-Gascon, and Woo 1994).

Perceived usefulness as the third construct in this antecedent category is an indicator of the motivational characteristics of the person responsible for pricing decisions. The preceding two constructs focus on the managerial abilities and the perceived usefulness attempts to emphasise the underlying perceptions of the SME managers' responsible for pricing decisions. The construct attempts to measure the "belief that information search will provide added value or facilitate achievement of higher level goals" (Yeoh 2005, p. 174). The mean value of 2.53 suggests a tendency of the respondents to believe that pricing information acquisition provides benefits regarding pricing decisions. It seems as if SME managers perceive pricing information as a valuable resource for pricing decision making. This is interesting to note because this finding indicates a favourable attitude and a principal openness of SME managers toward pricing information.

### **5.3.3.4 Environmental market factors**

Table 5.7 depicts the results regarding the three environmental factors investigated in this research. By investigating the constructs market-related complexity, market growth and customer power, light is shed on the market conditions faced by the investigated SMEs.

Regarding the construct market-related complexity, the analysis reveals that there is a tendency of SMEs to face uncertainty within their given markets (mean = 2.87). Increased customer requirements, complexity of communication and the management of broad product portfolios seem to be a challenge faced by many of the responding SMEs. In terms of the construct market growth, many of the responding SMEs appear to face modest market growth in their most important markets (mean = 3.20). With a view to the last construct in this antecedent group, it can be noted that many responding SMEs

face a situation in which their customers have substantial bargaining power in price negotiations (mean = 2.42). This finding is reasonable, given suggestions in the SME literature stating that SMEs are frequently characterised by limited impact on the marketplace because of adverse cost structures, fewer orders and fewer resources (Carson 1993; Forman and Lancioni 2002).

**Table 5.7: Market-related complexity, market growth and customer power**

Construct	No. of items	Mean	SD	Min	Max
Market-related complexity <sup>a</sup>	4	2.87	1.00	n/a	n/a
Consists of:					
1. Number of products		2.66	1.41	1	6
2. Communication variation		2.68	1.29	1	6
3. Customer requirements		2.60	1.32	1	6
4. Number of people		3.54	1.70	1	6
Market growth <sup>b</sup>	1	3.20	1.19	1	6
Customer power <sup>c</sup>	1	2.42	1.08	1	6

<sup>a</sup> The construct was measured using a 6-point Likert scale, where 1 = strongly agree and 6 = strongly disagree (cf. Section 4.3.2).

<sup>b</sup> The construct was measured using a 6-point scale, where 1 = growth is very high and 6 = no growth/negative growth (cf. Section 4.3.2).

<sup>c</sup> The construct was measured using a 6-point scale, where 1 = buyers have substantial bargaining power and 6 = buyers do not have substantial bargaining power (cf. Section 4.3.2).

### 5.3.4 Analysis of performance consequences

Finally, performance was conceptualised as a key consequence of pricing information acquisition. The objective of this section is to provide results regarding the two variables, pricing performance and firm performance (Roll and Achterberg 2013; Roll, Achterberg, and Schäck 2013). Table 5.8 indicates the number of items used for the measurement and presents the mean scores, standard deviations and minimum and maximum values for the items as well as for the aggregate variable.

**Table 5.8: Pricing performance and firm performance**

<b>Construct</b>	<b>No. of items</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
Pricing performance <sup>a</sup>	4	2.87	0.96	n/a	n/a
Consists of:					
1. Price enforcement		2.76	1.05	1	6
2. Requested prices		2.91	1.14	1	6
3. Discount claims defence		3.13	1.16	1	6
4. Price negotiations		2.69	1.03	1	6
Firm performance <sup>b</sup>	5	2.56	0.71	n/a	n/a
Consists of:					
1. Sales growth		2.83	1.23	1	6
2. Market share		3.15	1.19	1	6
3. Profitability		2.97	1.11	1	6
4. Customer satisfaction		1.91	0.73	1	4
5. Customer loyalty		1.91	0.84	1	5

<sup>a</sup> The construct was measured using a 6-point Likert scale, where 1 = strongly agree and 6 = strongly disagree (cf. Section 4.3.3).

<sup>b</sup> The construct was measured using a 6-point scale, where 1 = very good and 6 = very bad (cf. Section 4.3.3).

Pricing performance has been conceptualised in terms of the extent to which SMEs are able to appropriate adequate value for their products and services from customers. The respondents were asked to rate four performance-related items linked to aspects, such as price enforcement, requested prices, discount claim defence and price negotiations on a 6-point Likert scale. It is noted that the responding SMEs' overall pricing performance can only be deemed satisfactory, as indicated by the mean score of 2.87 depicted in Table 5.8. This moderate mean value suggests considerable room for optimisation and implies a need for action. Given the increased vulnerability of SMEs compared to large multinationals and the great potential of pricing management as a profit lever, SMEs should pay more attention to the pricing function. It would be desirable for SMEs to increase performance regarding this important marketing capability. The results regarding the variable pricing performance are important, since there is a considerable lack of empirical evidence regarding this central construct with regard to SMEs. In a sense, this

study's findings are in line with results suggested by Tzokas et al. (2000), Indounas (2009) and Totzek and Alavi (2010), which also indicate satisfactory levels of pricing performance. However, the aforementioned results are somewhat limited to service firms (Indounas 2009) and the export pricing context (Tzokas et al. 2000) or lack a specific SME differentiation (Totzek and Alavi 2010). Therefore, this study's findings are a departure from the aforementioned suggestions, which may open the door for further studies focusing specifically on performance implications of pricing practices in manufacturing SMEs. In fact, such studies would likely fall on fruitful ground since this study's results indicate that pricing management is perceived in SMEs as a problem field with high pressure to perform.

In addition to pricing performance, which is at a lower level of enquiry, capturing the success of the pricing capability/pricing function only, firm performance was included as a separate, higher-level performance measure. Firm performance is understood in terms of the success achieved regarding profitability, markets and customer relationships and was measured with five items as indicated in Table 5.8. The mean value for firm performance was 2.56. It can be noted that the overall firm performance of the investigated firms is slightly higher than the mean value of pricing performance (2.87).

### **5.3.5 Discussion of the status quo of pricing information acquisition**

The preceding sections have presented a comprehensive analysis of the main variable pricing information acquisition and its associated constructs as theorised in the research framework. The analysis yielded several insights into SMEs' pricing practices. Research Question 2 concerns the current status quo of pricing information acquisition in SMEs (cf. Section 1.6). The empirical results are used here for interpretation and discussion. In the course of this discussion, Research Question 2 will be resolved.

One key point to emerge was that SMEs conduct, on average, a low amount of pricing information acquisition. The responding SMEs perceived pricing management as a highly important management task with high pressure to perform. Given this fact, the observed limited amount of pricing information acquisition is rather surprising. In addi-

tion, this finding is somewhat counterintuitive, because pricing information is regarded as a valuable strategic asset and crucial prerequisite of professional pricing decision making in the literature (Dutta, Zbaracki, and Bergen 2003; Ingenbleek 2007). Hence, it would be beneficial for SMEs to build a broad informational fundament for pricing decisions to decrease decision uncertainty and to avoid haphazard, gut-based pricing decisions (Greenbank 1999; Hankinson 1995; Meziou 1994). Sufficient availability of information facilitates optimal price setting and would therefore be advantageous for SMEs (Ingenbleek 2007; Roach 2011; Roll, Pastuch, and Buchwald 2012, p. 260; Totzek and Alavi 2010). Based on six case studies, Wiltinger (1998) also found considerable deficits regarding pricing information in LEs. This thesis' findings support these suggestions. However, this thesis also departs from the study of Wiltinger (1998), because it extends the findings to the previously rather overlooked SME sector. The low amount of pricing information acquisition opens the door to future research studies investigating the informational prerequisites of SME pricing decisions. Furthermore, this study's findings suggest that SME managers should pay more attention to the acquisition of pricing information prior to making pricing decisions.

Regarding answering Research Question 2, another key point that emerged was that SMEs' pricing decisions rely on information acquired from an imbalanced set of pricing information acquisition sources. In the context of pricing decisions, an imbalanced use of this information is critical, because managers need to consult information on customers, competition, internal cost data and corporate objectives simultaneously to effectively determine the price corridor for a given product (Monroe 2003). It was found that SMEs collect pricing information more frequently from people and relationship sources. This finding could be interpreted to reflect the relatively low costs when acquiring information from such sources (Kotler et al. 2009; Stokes and Wilson 2010; Wiltinger 1998). For example, managers responsible for pricing decisions can gather pricing-relevant information during informal talks with internal controlling and sales staff or external stakeholders such as customers or suppliers relatively cheaply by asking specific questions during meetings. Another possible explanation for the more frequent use of people and relationship sources could be seen in the high convenience when using such

sources. Usually, talks with customers or internal personnel occur in any case (Keh, Nguyen, and Ng 2007). Therefore, it is relatively easy to use such occasions to elicit pricing-relevant information. It is encouraging that SMEs seem to use such talks as sources of pricing information to a considerable extent.

It was also found that, compared to people and relationship sources, SMEs appear to overlook primary market research and consulting sources in acquiring pricing information. This finding is similar to that of Hart and Tzokas (1999), who also found that personal sources were more frequently used by SMEs than primary market research sources. One possible explanation could be attributed to the fact that primary market research is a more expensive means of information acquisition (Kotler et al. 2009; Kuß 2005). SMEs with limited financial resources could overlook the use of such sources due to budget constraints (Stokes and Wilson 2010). Another possible explanation for the tendency to disregard this type of pricing information sources might be that managers do not view primary market research as a valuable source for pricing information nor do they have the necessary expertise to carry out the applicable market research methods (McCartan-Quinn and Carson 2003). Primary market research-related sources are a central means of eliciting value information from and about customers (Hofstetter and Miller 2009; Homburg, Kuester, and Krohmer 2013). Customer-related information is important to determine the price ceiling of the price corridor (Monroe 2003). Prior research found that SME pricing has a considerable propensity to exclude such information and rely on internal cost information instead (Hankinson 1995; Meziou 1994; Wiltinger 1998). Given the value attributed to primary market research sources for professional value-oriented pricing practices (Ingenbleek 2007; Roll, Pastuch, and Buchwald 2012), the empirical finding of a lack of use of such sources is problematic. SMEs should consider the proactive use of this type of pricing information when making strategic pricing decisions.

Lastly, the analysis revealed that secondary market research and intelligence sources were used to only a small extent in the acquisition of pricing information. This finding is surprising given that information sources from this category can be accessed at a rela-

tively low cost and provide valuable information for price setting (Kotler et al. 2009; Kuß 2005). Acquiring pricing information by means of desk research is regarded as important in the pricing literature (Ingenbleek 2007). A possible explanation of this finding might be the fact that SME managers responsible for pricing decisions simply undervalue such pricing information sources or simply are not aware of them (McCartan-Quinn and Carson 2003). Another explanation could be that desk research for pricing information is buried under day-to-day business. Due to the smaller size of SMEs, the general management could likely be more heavily involved in routine business and operational decisions. This could hinder the planning and conducting of desk research. SME managers should regularly conduct a structured analysis and evaluation of pricing information gained from secondary market research sources. SMEs could use such sources to take into account information about the environment and customers' and competitors' behaviours into price setting decisions. To sum up, it might be wise for SME managers to adopt a more balanced approach to pricing information acquisition by combining a broad set of pricing information sources in order to gain an integrated and comprehensive overview for pricing decisions.

### **5.4 Empirical testing of the research framework**

The developed research framework is a chain of effects leading from internal and external influencing factors via pricing information acquisition to performance. The aim of this section is to present the results of the hypotheses testing and to provide a discussion of the findings in order to answer the research questions 3, 4 and 5 (cf. Section 1.6). As summarised in Table 5.9, twelve research hypotheses were postulated. The table indicates the sections in which the statistical results for the different hypotheses will be presented.

This section begins with the statistical results regarding each of the hypotheses in the internal antecedent groups. It also provides the results of the hypothesis testing for the influence of the external market factors. Subsequently, the results regarding the performance consequences will be presented. Finally, the results of the hypothesis testing will be summarised and used for interpretation and discussion.

**Table 5.9: Overview of tested hypotheses**

<b>Hypotheses</b>	<b>Presentation of results</b>
<i>The influence of organisational characteristics and resources on pricing information acquisition</i>	
H1 SMEs with greater levels of pricing resources are likely to conduct more pricing information acquisition.	Section 5.4.1
H2 Larger SMEs are more likely to conduct more pricing information acquisition.	
<i>The influence of firm's strategic orientation on pricing information acquisition</i>	
H3 SMEs with a differentiation strategy will conduct more pricing information acquisition than SMEs pursuing a cost leadership strategy.	Section 5.4.2
H4 SMEs with a greater extent of value pricing strategy are more likely to have a higher pricing information acquisition.	
<i>The influence of management-related attributes and resources on pricing information acquisition</i>	
H5a SME managers having a business management educational background with primary responsibility for pricing decisions will conduct more pricing information acquisition than SME managers having a technical educational background with primary responsibility for pricing decisions.	Section 5.4.3
H5b SME manager having a university degree in business management with primary responsibility for pricing decisions will conduct more pricing information acquisition.	
H6 Experienced SME managers with primary responsibility for pricing decisions will conduct more pricing information acquisition.	
H7 Higher perceived usefulness leads to greater pricing information acquisition.	
<i>The influence of environmental market factors on pricing information acquisition</i>	
H8 SMEs operating in markets with high levels of complexity will conduct more pricing information acquisition.	Section 5.4.4
H9 SMEs operating in markets with high levels of market growth will conduct more pricing information acquisition.	
H10 SMEs operating in markets with high levels of customer power will conduct less pricing information acquisition.	
<i>Performance consequences of pricing information acquisition</i>	
H11 SME pricing information acquisition positively relates to pricing performance.	Section 5.4.5
H12 SME pricing performance positively relates to firm performance.	

### 5.4.1 The influence of organisational characteristics and resources on pricing information acquisition

In order to investigate the hypotheses, Spearman's rho and independent sample t-tests were calculated. Table 5.10 illustrates the results regarding the first two hypotheses.

**Table 5.10: Results regarding the antecedents pricing resources and firm size**

Amount of pricing information acquisition <sup>a</sup>	Antecedents			
	Pricing resources H1		Firm size H2	
Spearman's rho	0.267		-0.060	
Significance	$p < 0.001$		$p > 0.05$	
Mean <sup>b</sup>	High	Low	High	Low
SE	3.68	4.10	3.81	3.98
t-value	0.09		0.11	
Significance	3.560		1.306	
Effect size	$p < 0.001$		$p > 0.05$	
	0.263		0.099	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never.

<sup>b</sup> Note: Smaller mean values indicate a greater amount of pricing information acquisition.

Hypothesis H1 argues that SMEs with greater levels of pricing resources are likely to conduct more pricing information acquisition. The results of the Spearman correlation test show that a highly significant, medium-sized relationship can be found between pricing resources and pricing information acquisition,  $r_s = 0.267$ ,  $p < 0.001$ . The follow-up t-test supports these findings. As lower mean values indicate a greater amount of pricing information acquisition, the results of the t-test show that SMEs allocating higher pricing resources also acquire more pricing information ( $M = 3.68$ ,  $SE = 0.09$ ). Compared to the other group, which has not developed as many pricing resources ( $M = 4.10$ ,  $SE = 0.08$ ), this is a highly significant difference,  $t(171) = 3.560$ ,  $p < 0.001$ , representing a medium-sized effect,  $r = 0.263$ . Overall, the results imply a positive effect of pricing

ing resources toward pricing information acquisition. Therefore, hypothesis H1 is supported.

Hypothesis H2 states that larger SMEs are more likely to conduct more pricing information acquisition. The results of the correlational analysis indicate a non-significant relationship between firm size and pricing information acquisition,  $r_s = -0.060$ ,  $p > 0.05$ . The results of the t-test show that, on average, larger SMEs conduct slightly more pricing information acquisition ( $M = 3.81$ ,  $SE = 0.22$ ). However, compared to smaller SMEs ( $M = 3.98$ ,  $SE = 0.07$ ), the difference is non-significant,  $t(171) = 1.306$ ,  $p > 0.05$ . As a result, there is strong evidence from the Spearman correlation analysis and the independent t-test to reject hypothesis H2. The data does not support the hypothesised notion of a positive effect of firm size on pricing information acquisition.

#### **5.4.2 The influence of a firm's strategic orientation on pricing information acquisition**

In addition to organisational characteristics and resources, this study also investigated the influence of firm's strategic orientation on pricing information acquisition. Table 5.11 depicts the results regarding the two antecedents' differentiation strategy and value pricing strategy.

Hypothesis H3 postulates that the type of firm strategy used by SMEs influences the level of pricing information acquisition. Specifically, hypothesis H3 states that SMEs that adopted a differentiation strategy will conduct more pricing information acquisition. The Spearman test demonstrates a highly significant, medium-sized relationship between the constructs of differentiation strategy and pricing information acquisition,  $r_s = 0.249$ ,  $p < 0.001$ . The t-test result confirms this finding,  $t(171) = 3.450$ ,  $p < 0.001$ . The group of SMEs that indicated pursuing a differentiation strategy conducted a greater amount of pricing information acquisition ( $M = 3.75$ ,  $SE = 0.08$ ). Compared to the other group ( $M = 4.16$ ,  $SE = 0.09$ ), which has a tendency to pursue a low-cost strategy, this represents a moderate effect,  $r = 0.255$ . Based on the aforementioned, hypothesis H3 is accepted.

**Table 5.11: Results regarding the antecedents differentiation strategy and value pricing strategy**

Amount of pricing information acquisition <sup>a</sup>	Antecedents			
	Differentiation strategy H3		Value pricing strategy H4	
Spearman's rho	0.249		0.310	
Significance	$p < 0.001$		$p < 0.001$	
Mean <sup>b</sup>	High	Low	High	Low
SE	3.75	4.16	3.74	4.17
t-value	3.450		3.685	
Significance	$p < 0.001$		$p < 0.001$	
Effect size	0.255		0.271	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never.

<sup>b</sup> Note: Smaller mean values indicate a greater amount of pricing information acquisition.

Value pricing strategy is among the most discussed pricing approaches in recent literature. Hypothesis H4 argues that SMEs adopting a value pricing strategy might engage more heavily in pricing information acquisition practices. There is a highly significant, medium-sized correlation between the construct value pricing strategy and pricing information acquisition,  $r_s = 0.310$ ,  $p < 0.001$ . In addition, the result of the mean comparing t-test also suggests that SMEs with a higher extent of value pricing strategy acquire more pricing information ( $M = 3.74$ ,  $SE = 0.07$ ) than SMEs tending not to engage in this type of pricing strategy ( $M = 4.17$ ,  $SE = 0.09$ ). The result of the follow-up test confirms the initial finding of a significant relationship between value pricing strategy and pricing information acquisition,  $t(171) = 3.685$ ,  $p < 0.001$ . Therefore, hypothesis H4 is supported. The results strongly suggest that SMEs pursuing a value pricing strategy will more likely have a higher pricing information acquisition.

### 5.4.3 The influence of management-related attributes and resources on pricing information acquisition

This study aims to illuminate the factors that are critically associated with the main construct under investigation in this study. In this antecedent group, the influence of three management-related characteristics will be investigated, namely, managerial education, managerial experience and perceived usefulness. This section will present the results regarding the construct of managerial education. Managerial education was conceptualised in terms of the type (Hypothesis H5a) and level (Hypothesis H5b) of education. The results regarding the type of managerial education are presented in Table 5.12.

**Table 5.12: Results regarding the type of managerial education**

Amount of pricing information acquisition <sup>a</sup>	Antecedent	
	Type of managerial education H5a	
	Business background	Technical background
Mean <sup>b</sup>	3.76	4.10
SE	0.09	0.09
t-value	2.614	
Significance	$p < 0.01$	
Effect size	0.219	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never.

<sup>b</sup> Note: Smaller mean values indicate a greater amount of pricing information acquisition.

All respondents in the underlying study were SME managers responsible for pricing decisions, and the broad majority (79 per cent) of them were at the top management level (cf. Section 5.2.2). Hypothesis H5a argues that managers having a business management educational background will conduct more pricing information acquisition than managers having a technical educational background. As lower mean values indicate a greater amount of pricing information acquisition, the independent samples t-test results shown in Table 5.12 demonstrate that managers with business management education conduct more pricing information acquisition ( $M = 3.76$ ,  $SE = 0.09$ ). Compared to the group of managers who pursued technical education ( $M = 4.10$ ,  $SE = 0.09$ ), this is a

significant difference,  $t(136) = 2.614$ ,  $p < 0.01$ , representing a small to medium-sized effect,  $r = 0.219$ . Therefore, hypothesis H5a is supported. The type of managerial education influences SMEs' pricing information acquisition practices. The following Table 5.13 comprises the results regarding the level of managerial education.

**Table 5.13: Results regarding the level of managerial education**

Amount of pricing information acquisition <sup>a</sup>	Antecedent					
	Level of managerial education H5b					
	Academic degree		Business management academic degree		Engineering academic degree	
	Yes	No	Yes	No	Yes	No
Mean <sup>b</sup>	3.87	3.96	3.57	4.00	4.12	3.88
SE	0.09	0.08	0.12	0.07	0.14	0.07
t-value	-0.789		2.678		-1.536	
Significance	$p > 0.05$		$p < 0.01$		$p > 0.05$	
Effect size	0.060		0.201		0.117	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never.

<sup>b</sup> Note: Smaller mean values indicate a greater amount of pricing information acquisition.

Hypothesis H5b aims to further uncover the relationship between education and pricing information acquisition by adding the aspect of educational level. Specifically, hypothesis H5b postulates that SME managers having a university degree in business management will conduct more pricing information acquisition. As depicted in Table 5.13, three independent sample t-tests were carried out to investigate the influence of the level of managerial education on pricing information acquisition. The first key point appearing from Table 5.13 is that the principal availability of an academic degree regardless of the type does not exert an influence on the amount of pricing information acquisition,  $t(171) = -0.789$ ,  $p > 0.05$ ,  $r = 0.060$ . As hypothesised, the incorporation of the type of academic degree facilitates a more differentiated understanding. Specifically, the relationship between the most prevalent types of academic degrees and pricing information acquisition were investigated. The results are noticeable. While managers with a business management degree ( $M = 3.57$ ,  $SE 0.12$ ) conducted significantly more pricing in-

formation acquisition than those managers with no business management academic degree ( $M = 4.00$ ,  $SE = 0.07$ ),  $t(171) = 2.678$ ,  $p < 0.01$ ,  $r = 0.201$ , the opposite was true for managers with an engineering degree. Specifically, on average, managers with an engineering degree conducted less pricing information acquisition ( $M = 4.12$ ,  $SE = 0.14$ ) than the group having no engineering degree ( $M = 3.88$ ,  $SE = 0.07$ ). The difference was not significant  $t(171) = -1.536$ ,  $p > 0.05$ . However, it did represent a small effect,  $r = 0.117$ . Therefore, based on the aforementioned, hypothesis H5b is supported.

To sum up, the overall picture that emerges from the analysis of hypothesis H5a and hypothesis H5b is that managerial education appears to exert influence on pricing information acquisition practices in SMEs. The results regarding the constructs managerial experience and perceived usefulness are presented in Table 5.14.

**Table 5.14: Results regarding the antecedents managerial experience and perceived usefulness**

Amount of pricing information acquisition <sup>a</sup>	Antecedents			
	Managerial experience H6		Perceived usefulness H7	
Spearman's rho	0.007		0.271	
Significance	$p > 0.05$		$p < 0.001$	
Mean <sup>b</sup>	High	Low	High	Low
SE	3.88	3.99	3.73	4.19
t-value	0.863		3.925	
Significance	$p > 0.05$		$p < 0.001$	
Effect size	0.067		0.287	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never.

<sup>b</sup> Note: Smaller mean values indicate a greater amount of pricing information acquisition.

Hypothesis H6 states that experienced SME managers with primary responsibility for pricing decisions will conduct more pricing information acquisition. Managerial experience was operationalised regarding the length of experience. The results of the correlational analysis suggest that managerial experience is not significantly associated with pricing information acquisition,  $r_s = 0.007$ ,  $p > 0.05$ . The result of the follow-up test confirms this finding,  $t(166) = 0.863$ ,  $p > 0.05$ . Altogether, the results suggest that managerial experience is not significantly associated with pricing information acquisition. Thus, hypothesis H6 is rejected.

Lastly, perceived usefulness is investigated as an antecedent of pricing information acquisition. In contrast to managerial education and experience, which both capture the ability to search for pricing information, perceived usefulness focuses on the motivational characteristics of the person responsible for pricing decisions. Hypothesis H7 postulates that a higher perceived usefulness leads to greater pricing information acquisition. The results for the seventh hypothesis are depicted in Table 5.14. The Spearman correlation test illustrates that medium-sized relationship can be found between perceived usefulness and pricing information acquisition,  $r_s = 0.271$ ,  $p < 0.001$ . Again, follow-up independent t-test supports this finding,  $t(171) = 3.925$ ,  $p < 0.001$ . Both results are highly significant and represent a fairly substantial effect. Hence, hypothesis H7 is accepted.

#### **5.4.4 The influence of environmental market factors on pricing information acquisition**

In addition to the previously discussed internal factors, the underlying study also investigates the influence of external market factors on pricing information acquisition. This is because variations in market conditions may require SMEs to align pricing information practices accordingly. The results for the variables involving environmental factors are presented in Table 5.15.

**Table 5.15: Results regarding the antecedents market-related complexity, market growth and customer power**

Amount of pricing information acquisition <sup>a</sup>	Antecedents					
	Market-related complexity H8		Market growth H9		Customer power H10	
Spearman's rho	0.172		0.099		-0.071	
Significance	$p < 0.05$		$p > 0.05$		$p > 0.05$	
Mean <sup>b</sup>	High	Low	High	Low	High	Low
SE	3.80	4.10	3.85	4.09	3.96	3.88
t-value	0.08		0.07		0.07	
Significance	0.09		0.11		0.10	
Effect size	2.543		1.987		-0.670	
	$p < 0.01$		$p < 0.05$		$p > 0.05$	
	0.191		0.150		0.051	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = frequently and 6 = never.

<sup>b</sup> Note: Smaller mean values indicate a greater amount of pricing information acquisition.

Hypothesis H8 argues that SMEs operating in markets with high levels of complexity will conduct more pricing information acquisition. The result of the Spearman correlation test presented in Table 5.15 shows that a significant relationship can be found between market-related complexity and pricing information acquisition,  $r_s = 0.172$ ,  $p < 0.05$ . Once again, the follow-up test was calculated. The results suggest a positive association of the two constructs,  $t(171) = 2.543$ ,  $p < 0.01$ ,  $r = 0.191$ . SMEs operating in market environments characterised by a higher complexity acquire more pricing information ( $M = 3.80$ ,  $SE = 0.08$ ) than the other group, which is confronted with lower market complexity ( $M = 4.10$ ,  $SE = 0.09$ ). Thus, both tests provide a consistent picture and hypothesis H8 is accepted, suggesting that as complexity increases, firms increase their information acquisition practices.

Hypothesis H9 states that SMEs operating in markets with high levels of market growth will conduct more pricing information acquisition. The result of the correlational analy-

sis indicates a non-significant relationship between market growth and pricing information acquisition,  $r_s = 0.099$ ,  $p > 0.05$ . By contrast, the independent t-test results suggest a significant relationship. As lower mean values indicate a greater amount of pricing information acquisition, SMEs confronted with high market growth ( $M = 3.85$ ,  $SE = 0.07$ ) conducted more pricing information acquisition than the other group, which experiences lower growth dynamics in their markets ( $M = 4.09$ ,  $SE = 0.11$ ),  $t(171) = 1.987$ ,  $p < 0.05$ ,  $r = 0.150$ . Because of the mixed results of the statistical tests, hypothesis H9 can only be partially accepted.

Finally, customer power was conceptualised as a potential predictor of SMEs' pricing information practices. Specifically, hypothesis H10 states that SMEs operating in markets with high levels of customer power will conduct less pricing information acquisition. As Table 5.15 indicates, the postulated negative relationship is reflected in the results of both statistical tests, because the Spearman correlation coefficient and the t-value are negative. Firms confronted with high customer power, on average, conduct less pricing information acquisition ( $M = 3.96$ ,  $SE = 0.07$ ) than SMEs experiencing lower customer power ( $M = 3.88$ ,  $SE = 0.10$ ). However, neither test statistics were significant,  $r_s = -0.071$ ,  $p > 0.05$ ,  $t(171) = -0.670$ ,  $p > 0.05$ . Therefore, hypothesis H10 is rejected.

#### **5.4.5 Success implications of pricing information acquisition**

In addition to analysing the influence of the different antecedent variables, the underlying study also investigates the success implications of SMEs' pricing practices. Drawing on the RBV and Information Economics theory, pricing performance was selected as a key consequence of pricing information acquisition. The results regarding the relationship between pricing information acquisition and pricing performance are presented in Table 5.16.

**Table 5.16: Results regarding the relationship between pricing information acquisition and pricing performance**

Pricing performance <sup>a</sup>	Antecedent	
	Pricing information acquisition H11	
Spearman's rho	0.180	
Significance	$p < 0.01$	
Mean <sup>b</sup>	High 2.70	Low 3.04
SE	0.10	0.10
t-value	2.453	
Significance	$p < 0.01$	
Effect size	0.184	

<sup>a</sup> The construct was measured using a six-point Likert scale, where 1 = strongly agree and 6 = strongly disagree.

<sup>b</sup> Note: Smaller mean values indicate a greater pricing performance.

Pricing information acquisition is a distinctive constituent and a key capability of the pricing process. Low levels of pricing information acquisition might likely lead to suboptimal and incorrect price determination, lost orders and limited profits, because the created product value cannot be optimally appropriated from customers. The pricing information acquisition capability is a key means to reduce uncertainty, to improve the quality of pricing decisions and to avoid gut-based and simplified pricing decision-making behaviour. SMEs with higher levels of pricing information acquisition will likely be able to enforce intended prices and appropriate adequate value for their products from customers, and, therefore, Hypothesis H11 postulates that SMEs' pricing information acquisition positively relates to pricing performance. Table 5.16 depicts the results of the Spearman correlational analysis and independent t-tests regarding this hypothesised relationship. As expected, the Spearman correlation indicates a significant relationship between pricing information acquisition and pricing performance,  $r_s =$

0.180,  $p < 0.01$ . This finding is supported by the follow-up test. SMEs with higher pricing information acquisition also have higher pricing performance ( $M = 2.70$ ,  $SE = 0.10$ ). Compared to the other group, which conducts a lower amount pricing information acquisition ( $M = 3.04$ ,  $SE = 0.10$ ), this is a significant difference  $t(171) = 2.453$ ,  $p < 0.01$ . Both statistical tests indicate a significant and moderate relationship between pricing information acquisition and pricing performance. Consequently, hypothesis H11 is accepted.

In addition, firm performance was also included in this thesis' research framework. Firm performance was modelled as a separate sequence from pricing performance. Specifically, it was theorised that pricing information acquisition is related to pricing performance, which in turn should be related to SMEs' firm performance. Firm performance is at a highest level of enquiry than pricing performance, which only captures the success of the pricing capability. The results of the analysis are depicted in Table 5.17.

**Table 5.17: Results regarding the relationship between pricing performance and firm performance**

Firm performance <sup>a</sup>	Antecedent	
	Pricing performance H12	
Spearman's rho Significance	0.533 $p < 0.001$	
Mean <sup>b</sup>	High 2.27	Low 2.85
SE	0.07	0.07
t-value	5.987	
Significance	$p < 0.001$	
Effect size	0.416	

<sup>a</sup> The construct was measured using a six-point scale, where 1 = very good and 6 = very bad.

<sup>b</sup> Note: Smaller mean values indicate a greater firm performance.

Specifically, hypothesis H12 argues that SMEs' pricing performance positively relates to firm performance. The results of the analysis are noticeable. The Spearman correlation coefficient indicates a large and highly significant relationship between pricing performance and firm performance,  $r_s = 0.533$ ,  $p < 0.001$ . Similarly, the follow-up also clearly indicates that SMEs with high pricing performance are able to realise a higher firm performance ( $M = 2.27$ ,  $SE = 0.07$ ) than the other group characterised by a lower level of pricing performance ( $M = 2.85$ ,  $SE = 0.07$ ). The difference is also highly significant,  $t(171) = 5.987$ ,  $p < 0.001$ , representing a large effect,  $r = 0.416$ . Thus, there is clear evidence to accept hypothesis H12.

#### **5.4.6 Discussion of hypotheses testing**

The previous sections have presented a detailed analysis of the postulated hypotheses. Table 5.18 provides an overview of the hypotheses testing. Specifically, it summarises the variables studied, the direction of the hypothesised relationship, the main results of the statistical tests and the overall conclusion of whether each hypothesis is confirmed or rejected.

The discussion of the hypotheses testing will be presented chronologically as presented in Table 5.18. Specifically, the hypotheses regarding the three internal groups of influencing factors, namely, organisational characteristics and resources (Hypotheses H1 to H2), firm strategic orientation (Hypotheses H3 to H4) and management-related attributes and resources (Hypotheses H5 to H7) will be discussed in Section 5.4.6.1. Section 5.4.6.2 consists of a discussion of the hypotheses dealing with the external market factors (Hypotheses H8 to H10). Finally, a discussion on the performance consequences (Hypotheses H11 to H12) will be provided in Section 5.4.6.3.

**Table 5.18: Summarising evaluation of empirical results**

Investigated factor	Hypothesised relationship	Spearman correlation coefficient <sup>a</sup>	Significance level of follow-up t-test <sup>b</sup>	Effect size	Overall conclusion of hypothesis testing
<i>Organisational characteristics and resources</i>					
Pricing resources	H1: +	0.267***	$p < 0.001$	0.263	Supported
Firm size	H2: +	-0.060	n.s.	0.099	Not supported
<i>Firm's strategic orientation</i>					
Differentiation strategy	H3: +	0.249***	$p < 0.001$	0.255	Supported
Value pricing strategy	H4: +	0.310***	$p < 0.001$	0.271	Supported
<i>Management-related attributes and characteristics</i>					
Managerial education	H5a: +	n/a	$p < 0.01$	0.219	Supported
	H5b: +	n/a	$p < 0.01$	0.201	Supported
Managerial experience	H6: +	0.007	n.s.	0.067	Not supported
Perceived usefulness	H7: +	0.271***	$p < 0.001$	0.287	Supported
<i>Environmental market factors</i>					
Market-related complexity	H8: +	0.172*	$p < 0.01$	0.191	Supported
Market growth	H9: +	0.099	$p < 0.05$	0.150	Partially supported
Customer power	H10: -	-0.071	n.s.	0.051	Not supported
<i>Performance implications</i>					
Pricing performance	H11: +	0.180**	$p < 0.01$	0.184	Supported
Firm performance	H12: +	0.533***	$p < 0.001$	0.416	Supported

<sup>a</sup> Note: \*\*\* =  $p < 0.001$ , \*\* =  $p < 0.01$ , \* =  $p < 0.05$ ; one-tailed test  
<sup>b</sup> n.s. = not significant; one-tailed test

#### 5.4.6.1 Relationships between internal factors and pricing information acquisition

Applying the RBV and the Information Economics theory, the underlying research aims to investigate the influence of *internal* antecedents on pricing information acquisition (Research Question 3, cf. Section 1.6). The empirical results regarding the internal factors influencing pricing information acquisition are used in the following for interpretation and discussion. In the course of this discussion, Research Question 3 will be answered.

### **Organisational characteristics and resources (H1, H2)**

Regarding organisational characteristics and resources, the data suggests a positive effect of *pricing resources* on pricing information acquisition (Hypothesis H1 accepted). When SMEs allocate a greater amount of human resources to the pricing capability, they engage in a higher level of pricing information acquisition. This is an important finding implying that the SMEs' resource endowments influence the amount of information acquisition. This finding is consistent with the RBV, which argues that firm's marketing capabilities are dependent on the amount of resources available (Morgan 2012; Wernerfelt 1984). In their multi-level case study, Dutta, Zbaracki, and Bergen (2003) concluded that pricing capabilities are critically related to the allocated human resources dealing with pricing tasks, which points in the same direction as this study's finding. Other earlier studies have also found a significant link between the level of firm resources and the amount of information acquisition practices (Keh, Nguyen, and Ng 2007; Sciascia, Naldi, and Hunter 2006; Williams 2006). In this instance, this study's findings are plausible and might mitigate against the results of Weinrauch et al. (1991), who, contrary to their expectations, do not find a significant relationship between firm resources and information acquisition. Pricing resources, as expected, are an important determinant and driver of pricing information practices. SME managers aiming to optimise the informational fundament of pricing decisions should increase human resource capacities dedicated to pricing information activities.

The results indicate that *firm size* is not related to pricing information acquisition (Hypothesis H2 rejected). The data does not support the notion that larger SMEs are more likely to conduct more pricing information acquisition. In a pricing context, prior research on the influence of firm size on information acquisition is very scant. Based on information acquisition studies from other contexts, such as environmental scanning (Franco et al. 2011; Haase and Franco 2011; Mohan-Neill 1995) and exporting (Souchon and Diamantopoulos 1999), it was argued that firm size exerts a positive influence on information acquisition, since larger SMEs have greater resource stocks to actually carry out information searches. This study's results, however, imply that micro, small

and medium-sized firms conduct an equal amount of pricing information acquisition. A possible logical explanation for this result might lie in the difference of the studied information types. While the aforementioned studies deal with environmental information for business strategy formulation and exporting decisions in SMEs (Franco et al. 2011; Haase and Franco 2011; Mohan-Neill 1995; Souchon and Diamantopoulos 1999), the underlying study deals with pricing information as a distinctive type of information. A search of pricing information might be more crucial for firm success and survival of smaller firms than environmental scanning activities. In this sense, it is likely that smaller firms can more easily dispense with additional environmental scanning activities or exporting information than with information gathered for pricing decisions, which are very crucial for success and survival of micro and small firms. Hence, the fact that firm size does not influence the amount of pricing information acquisition might be understandable and logical. From a practical perspective, the result that smaller firms engage in the same level of information acquisition as larger SMEs is encouraging.

### **Firm strategic orientation (H3, H4)**

From a strategic perspective, the results suggest that a *differentiation strategy* is related significantly to pricing information acquisition (Hypothesis H3 accepted). This finding is in accordance with the earlier study of Belich and Dubinsky (1995), which first established a significant link between differentiation strategy and information acquisition practices. Therefore, in this instance, this study's result is consistent. However, the scant prior research does not focus explicitly on pricing-related informational practices. Here, the underlying research departs and offers initial insights regarding the influence of competitive strategy on such specific practices. The supported hypothesis proposes a positive effect of an adopted differentiation strategy on the amount of pricing information acquisition. As theorised, this direction of the relationship could be confirmed empirically. It is plausible that firms pursuing a differentiation strategy rely on a greater variety of pricing information from a larger number of sources, since they need to incorporate data about customers, competitors as well as internal cost information. By contrast, the opposite low-cost competitive strategy predominantly relies on a smaller

amount of internal pricing information sources, ignoring external environment sources. In view of this argument, the empirical result is conclusive. From a practitioner's perspective, the result implies that in firms pursuing a differentiation strategy, managers responsible for pricing decisions should be especially aware and ready to proactively manage the pricing information acquisition practices, because this competitive strategy appears to involve greater search efforts than a low-cost strategy. Managers aiming to switch from a low-cost strategy to a differentiation strategy should implement appropriate acquisition processes to facilitate the increased information requirements of this type of competitive strategy.

In addition to the influence of competitive strategy, the underlying research investigated the impact of the construct *value pricing strategy*. Expectedly, the results show that SMEs with a greater extent of value pricing strategy are more likely to have a higher pricing information acquisition (Hypothesis H4 accepted). The construct value pricing strategy essentially captures a specific approach to price determination, in which firms base the price decision on the customer's perceived relative advantage of their products and services (Ingenbleek 2007). The results indicate that SMEs who set prices by means of this approach search a greater variety of pricing information from a larger number of sources. This fits well with the common perception in the literature that this type of pricing strategy requires a broad range of external information on customers and competitors, as well as internal cost information (Monroe 2003; Roll, Pastuch, and Buchwald 2012; Tzokas et al. 2000) and might be a possible logical explanation for the described result. This thesis' result is in line with the results of Ingenbleek, Frambach, and Verhallen (2010), which also imply that the value pricing strategy is significantly related to information acquisition practices. Altogether, this significant finding may well seem plausible and has implications for practitioners since the value pricing strategy is regarded as a superior approach to price setting, which has been shown associated with firm success (Ingenbleek, Frambach, and Verhallen 2010; Ingenbleek et al. 2003). SMEs pursuing this approach to price setting should be aware of facilitating the increased requirements regarding pricing information acquisition and establishing the respective organisational structures and processes.

**Management-related attributes and resources (H5a, H5b, H6, H7)**

Regarding the attributes and resources of the managers responsible for pricing decisions, it was found that the background and level of education significantly influence pricing information acquisition practices. As expected, *managerial education* appears to be a driver of pricing information acquisition (Hypotheses H5a and H5b accepted). This is a noticeable result drawing attention to the people actually carrying out pricing management tasks in SMEs. It was shown that managers with a business management educational background conducted significantly more pricing information acquisition than managers with a technical educational background. This finding is consistent with earlier research suggesting an influence of functional background on management behaviour (van Rossem and van Veen 2011). It further confirms results by Hausman and Neufeld (1989) who also found that engineers and economists solve pricing problems in distinctive ways. The finding that SMEs managers with a university degree in business management conduct more pricing information acquisition is also in line with earlier studies, suggesting a link between the level of education and information practices (Keh, Nguyen, and Ng 2007; Richbell, Watts, and Wardle 2006; Sciascia, Naldi, and Hunter 2006). These findings may reflect the greater customer and market orientation of managers with a business background. Given the higher level of their marketing expertise, it seems reasonable that these managers have increased information need awareness and a higher propensity for searching pricing information. This study's findings support Hankinson's (1995) qualitative study, in which he suggested that pricing weaknesses in SMEs might be critically related to educational shortcomings of the managers responsible for pricing decisions. Pricing information acquisition appears to require adequately educated management staff. SMEs should assure that the staff responsible for pricing information acquisition activities has significant business management education.

*Managerial experience* demonstrated a non-significant relationship with pricing information acquisition (Hypothesis H6 rejected). Contrary to expectations, the results suggest that experienced SME managers with primary responsibility for pricing decisions do not conduct more pricing information acquisition. This finding is, however, in line

with some earlier studies, which cast doubt on the influence of managerial experience on firms' informational activities (Richbell, Watts, and Wardle 2006; Williams 2006; Wright and Ashill 1998). These studies' results confirm the qualitative findings of Wright and Ashill (1998) who found, based on in-depth case studies, that job experience exerted a negligible effect on how managers met their marketing information needs. Similarly, in an exporting context, Williams (2006) found only limited correlations between experience and information acquisition. Richbell, Watts, and Wardle (2006) found no support that experience is related to business planning, which is closely related to information search practices. Overall, this thesis' results are consistent with studies suggesting that experience does not influence the amount of information acquisition. Inexperienced managers compared to experienced managers appear to have similar levels of motivation to search and acquire pricing information. This is plausible given the fact that dynamic environmental shifts and rapid market developments force managers to continually adapt their pricing decisions and search for the latest information, regardless of their existing level of managerial experience.

The results indicate that *perceived usefulness* is positively related to pricing information acquisition (Hypothesis H7 supported). This suggests that the manager's attitude toward information-based pricing decisions is a decisive factor and driver of pricing information acquisition. The results are in line with prior studies in the exporting context that found that managers' perceived usefulness of export information sources affected export information acquisition (McAuley 1993; Yeoh 2000). This study's result is plausible given suggestions in the literature contending that, in addition to the skills of the manager responsible for information acquisition, the subjective perception and belief in the utility of the information search are significant influencing factors in information acquisition practices (Yeoh 2005). This study is, to the best of my knowledge, the first confirming this relationship in the context of SME pricing. Although further research may be warranted to corroborate this study's initial findings, the results have implications for firms aiming to develop and improve pricing information acquisition capabilities. It is not enough to ensure that the managers responsible for pricing information acquisition have the knowledge and skills to search; it is equally important to discuss and challenge

the current motifs and beliefs about the search and acquisition of pricing information. If managers are not convinced of the utility of pricing information, this could lead to low levels of pricing information acquisition. SME owners delegating pricing tasks should acknowledge and address these motivational aspects in briefings and meetings to initiate a change in corporate culture and thinking. It could also be beneficial to set up an incentive system that encourages proactive pricing information acquisition.

### **5.4.6.2 Relationships between external market factors and pricing information acquisition**

The underlying research argues that while the previously discussed internal factors provide an important explanation of which and why firms gather pricing information, there is also a need to investigate how external situational factors influence information acquisition. Firms need to consider the variation in market conditions and align their pricing information practices. Consequently, applying the Contingency theory, the underlying research seeks to examine the influence of *external* antecedents on pricing information acquisition (Research Question 4, cf. Section 1.6). In the following, the results regarding the three situational determinants are used for interpretation and discussion. In the course of this discussion, Research Question 4 will be answered.

The results indicate that market-related complexity is positively related to pricing information acquisition (Hypothesis H8 accepted). SMEs operating in markets with high levels of complexity conduct more pricing information acquisition. This result is consistent with previous research showing that environmental complexity is an important determinant of information search. Daft, Sormunen, and Parks (1988) found that greater environmental complexity leads to greater information scanning in terms of frequency and overall amount of used information sources. Belich and Dubinsky (1995) also established a significant link between complexity and information acquisition. Similarly, Yeoh (2000) found that the immediate market-environment, in terms of competitors, customers and products is positively related to information acquisition. This study finds support for Wade and Hulland's (2004) assertion that as complexity increases, firms should develop efficient information capabilities and rely on them for effective deci-

sion-making. Overall, this thesis' findings are in agreement with the literature (Belich and Dubinsky 1995; Daft, Sormunen, and Parks 1988; Wade and Hulland 2004; Yeoh 2000), which, however, does not focus on the pricing function. Therefore, the underlying result is a departure from prior research indicating that firms should level the amount of pricing information acquisition depending on the complexity of different markets or market segments. This is even more important for SMEs characterised by a lack of pricing resources as the analysis has shown. SMEs should analyse and evaluate the complexity of the different markets in which they operate. It might be wise for SME managers to allocate a greater amount of the limited pricing resources to markets characterised by a greater complexity.

High growth markets are often very dynamic due to their high rate change in known decision factors and the frequent emergence of different and new factors influencing pricing decisions (Duncan 1972). The results of the t-tests provide support for a positive relationship between *market growth* and pricing information acquisition (Hypothesis H9 partially accepted). However, in light of the insignificant result of the correlational analysis, the findings should be interpreted with some caution. As expected, SMEs operating in markets with high levels of market growth conducted more pricing information acquisition. The results suggest a small effect of market growth on pricing information acquisition. Previous studies also indicate that managers might feel insecure and uncertain in dynamic market conditions and compensate for this with increased information searches. Similar to this study, Garg, Walters, and Priem (2003) confirmed that information acquisition depends on the level of dynamism in the external environment. Wright and Ashill (1998) also concluded that the gathering of marketing information needs to be frequent in volatile environments. Peters and Brush (1996) found significant relationships between growth and information acquisition practices of new manufacturing ventures. In this sense, the underlying result is plausible. Future verification of the found relationship may be warranted, given the partial support of the hypothesis and the lack of additional evidence of this relationship in the context of SME pricing.

The results show that *customer power* is not significantly related to pricing information acquisition (Hypothesis H10 rejected). Although, firms confronted with high customer power conduct, on average, less pricing information acquisition than SMEs experiencing lower customer power, the difference was not substantial enough to reject the null hypothesis. Thus, customer power's influence appears to be marginal. The results imply that SMEs confronted with high customer power do not react with passivity in their information acquisition practices, since they search with the same effort as SMEs where this condition is not satisfied. Although contrary to expectations, this result is encouraging because the active search behaviour creates an opportunity to overcome the potentially critical situation, in which customers exert substantial pressure on SME prices. Not reducing search efforts in such circumstances might conceivably enable SMEs to find other market segments or product niches, in which customer power is lower, thus, finding an exit from this dependency. As compared to large multinational enterprises, considerable information searches in situations of high customer power might be especially important for SMEs since they are more vulnerable, given their limited impact on the marketplace and their constraint resource base (McCartan-Quinn and Carson 2003; Stokes and Wilson 2010). Although the results might seem credible, further research may be warranted to shed a more differentiated light on the influence of customer power on SME pricing practices.

### **5.4.6.3 Performance consequences of pricing information acquisition**

In the underlying research, performance is considered a key consequence of pricing practices in SMEs. Drawing on the Information Economics theory and the RBV, Research Question 5 aims to illuminate the success impact of pricing practices in SMEs (cf. Section 1.6). This section will discuss and interpret the findings regarding the performance consequences and provide an answer to Research Question 5 in the course of this discussion.

The results showed that *pricing performance* is impacted positively by pricing information acquisition (Hypothesis H11 accepted). This suggests that pricing information

practices are a crucial prerequisite of successful pricing practices in SMEs. The results reveal the importance of viewing informational pricing practices as a distinctive step in the pricing process, requiring considerable attention. This result can be explained by the Information Economics theory argument that information acquisition is a key mechanism in reducing uncertainty and to improve decision quality (Adler 1996; Weiber and Adler 1995). Similarly, the RBV suggests informational resources as valuable strategic assets to improve performance (Barney 1991; Ketchen, Hult, and Slater 2007). Thus, in this sense, the result seems plausible. Prior research on the specific relationship between pricing information acquisition and pricing performance is very scant. Nevertheless, support for the result can be found in other literature dealing with the link between information acquisition and performance. This thesis' result provided a consistent finding with those reported in the export marketing literature (Hart and Tzokas 1999; Köksal 2008; Yeoh 2000) and the environmental scanning literature (Daft, Sormunen, and Parks 1988; Garg, Walters, and Priem 2003; Peters and Brush 1996), since these studies suggested a positive relationship between information acquisition and firm performance. In addition, this thesis' result is plausible given some prior studies from the pricing literature. Wiltinger's (1998) qualitative results based on five in-depth LE case studies established a positive empirical link between pricing information and the quality of pricing decisions. This initial suggestion was supported in a quantitative study focusing on service pricing, which established significant links between pricing information and pricing performance (Indounas 2009). Furthermore, this study's finding is in line with the result of two studies, which found external market-related information generation to be associated with pricing performance (Totzek and Alavi 2010; Verhees and Meulenbergh 2004). This study contributes to the existing literature by extending these findings to the context of pricing in manufacturing SMEs. Pricing information acquisition is a strategic pricing capability, which should receive particular attention by SME managers.

As proposed in prior literature, *firm performance* was modelled as a separate sequence from pricing performance (Hooley et al. 2005; Merrilees, Rundle-Thiele, and Lye 2011; Totzek and Alavi 2010). This thesis' results regarding this relationship strongly support the contention that pricing performance is positively related to firm performance (Hy-

pothesis H12 supported). The result is notable in that it clearly shows that the development of appropriate pricing capabilities is crucial to SME success. This is consistent with suggestions in pricing textbooks that have highlighted the importance of pricing as a major profit lever and basis for superior firm performance (Cram 2006; Marn, Roegner, and Zawada 2004; Mohammed 2010; Roll, Pastuch, and Buchwald 2012). In the context of SMEs, there is limited evidence in the literature regarding this relationship. Lacking an explicit SME focus, Schuppar (2006) found support for a positive relationship between pricing performance and firm performance in terms of profitability. In their SME study, Merrilees, Rundle-Thiele, and Lye (2011) confirm a positive relationship between marketing performance and firm performance. The underlying study explicitly focused on the relationship between pricing performance and firm performance, adding additional insight into this relationship. The confirmed positive relationship appears credible against the background of the existing literature and implies that SMEs should invest in their pricing capabilities to benefit from increased firm performance. Pricing is an important task in SMEs, which should receive significant managerial attention.

### **5.5 Summary**

Chapter 5 has presented a comprehensive data analysis and discussion of findings based on the collected data set provided by 173 SMEs. Specifically, it has given a detailed overview of the demographic characteristics of the underlying sample. Subsequently, the analysis has helped achieve a deeper understanding of the current status quo of pricing information acquisition and related constructs in SMEs. It illuminated the structural properties of pricing information acquisition and also shed light on the status quo of related influencing factors and consequences. The empirical testing of the theoretical framework presented the statistical results regarding the 12 formulated hypotheses and discussed explanations why the hypotheses were accepted or rejected. Table 5.19 comprises the summary of the investigated hypotheses.

**Table 5.19: Summary of the investigated hypotheses**

<b>Hypotheses</b>	<b>Results</b>
<i>Relationships between internal factors and pricing information acquisition</i>	
H1 SMEs with greater levels of pricing resources are likely to conduct more pricing information acquisition.	Confirmed
H2 Larger SMEs are more likely to conduct more pricing information acquisition.	Not confirmed
H3 SMEs with a differentiation strategy will conduct more pricing information acquisition than SMEs pursuing a cost leadership strategy.	Confirmed
H4 SMEs with a greater extent of value pricing strategy are more likely to have a higher pricing information acquisition.	Confirmed
H5a SME managers having a business management educational background with primary responsibility for pricing decisions will conduct more pricing information acquisition than SME managers having a technical educational background with primary responsibility for pricing decisions.	Confirmed
H5b SME manager having a university degree in business management with primary responsibility for pricing decisions will conduct more pricing information acquisition.	Confirmed
H6 Experienced SME managers with primary responsibility for pricing decisions will conduct more pricing information acquisition.	Not confirmed
H7 Higher perceived usefulness leads to greater pricing information acquisition.	Confirmed
<i>Relationships between external market factors and pricing information acquisition</i>	
H8 SMEs operating in markets with high levels of complexity will conduct more pricing information acquisition.	Confirmed
H9 SMEs operating in markets with high levels of market growth will conduct more pricing information acquisition.	Partially confirmed
H10 SMEs operating in markets with high levels of customer power will conduct less pricing information acquisition.	Not confirmed
<i>Performance consequences of pricing information acquisition</i>	
H11 SME pricing information acquisition positively relates to pricing performance.	Confirmed
H12 SME pricing performance positively relates to firm performance.	Confirmed

## **6 Conclusion**

### **6.1 Introduction**

Chapter 6 will provide a summary of the thesis and its findings and highlight the achievement of its aims and objectives. In addition, based on the theoretical and empirical analysis, this chapter will draw conclusions in response to the formulated research questions. Subsequently, it will highlight the contributions and implications for academic research and discuss in detail several recommendations for managerial practice. This chapter concludes by revealing potential limitations and considers possible avenues for future research.

### **6.2 Summary of the thesis**

The introductory chapter presented the background of the study and the rationale for the underlying thesis. Potential benefits for research and practice were highlighted and the scope of the thesis was delimited. The introductory chapter concluded with an identification of the study's aims and objectives, research questions and methodological approach.

The literature review commenced with a structural overview of pricing. Subsequently, it analysed in detail the SME sector and the current state of SME pricing research. Furthermore, a detailed analysis of the contributions of three key management theories, namely, the Information Economics theory, the RBV and the Contingency theory, provided the theoretical underpinning for the influencing factors and potential consequences of pricing information practices. The extensive analysis of the existing conceptual and empirical literature relevant to this study yielded several research challenges that must be addressed in order to alleviate the pricing challenges faced by SMEs. In sum, despite the highly practical relevance of the issue under investigation, the literature review found the existing research on pricing information practices in SMEs to be inconclusive.

Chapter 3 presented the conceptual background and foundation of this study. It developed a coherent theoretical framework and discussed all key model variables in light of

the management theories from which they were deduced. Moreover, the chapter incorporated all factors into the final research framework and developed hypotheses regarding the relationships between the selected constructs. Based on the synthesised findings of Information Economics theory, RBV and Contingency theory, 12 hypotheses were developed and subjected to empirical analysis.

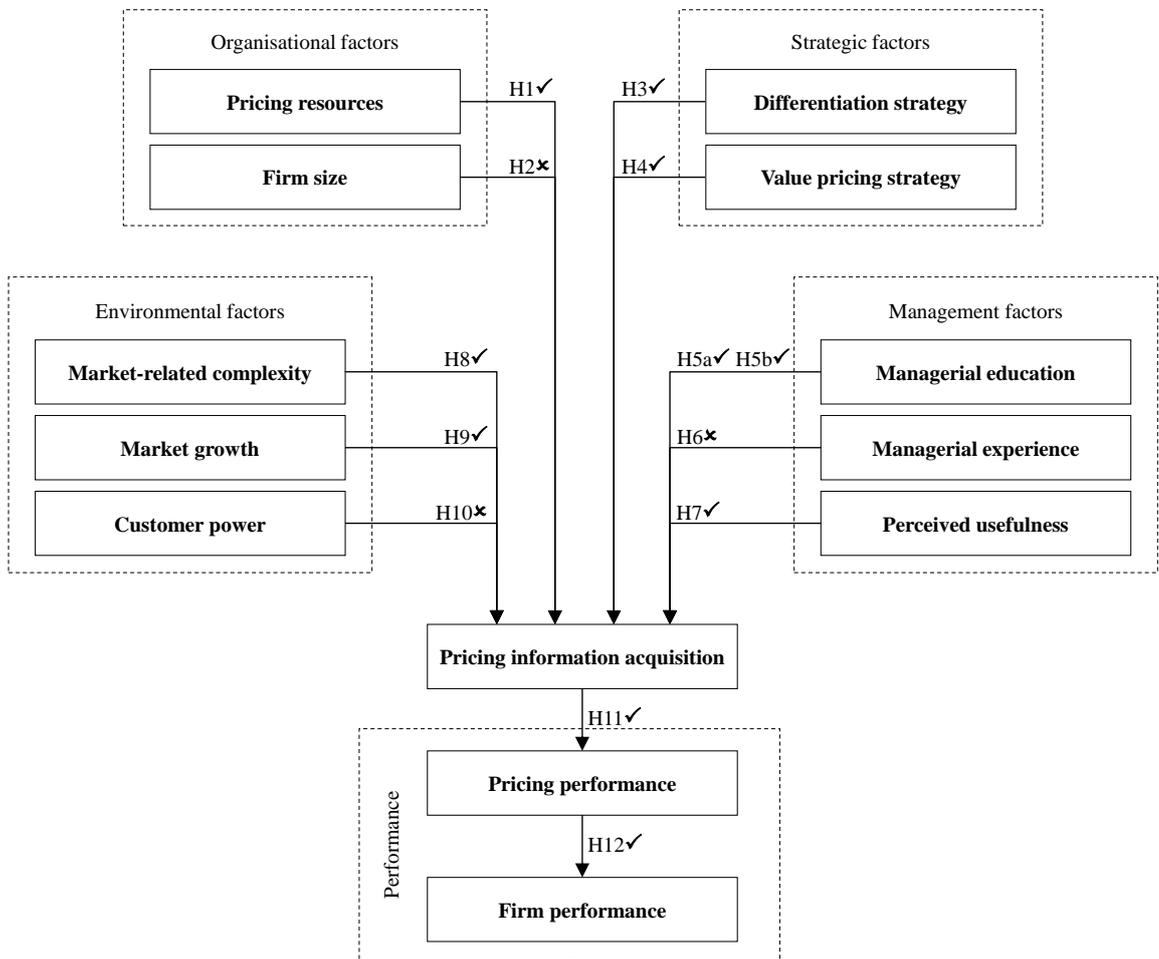
Chapter 4 outlined in detail the methodological foundations of the underlying thesis. Resting on the positivist research philosophy, the chapter thoroughly justified the adopted online questionnaire survey design and elaborated upon the development of the empirical measures and scales for the variables investigated. After discussion of the development of the research instrument and the extensive pilot testing, the sample design and the data analysis strategy were outlined in detail. The employed online questionnaire, which addressed the general management of manufacturing SMEs at the executive level, yielded 173 responses. This represents a response rate of seven per cent.

The results and discussions chapter commenced with a thorough overview of the underlying sample's demographic profile. The chapter's second part presented the results of a comprehensive descriptive analysis that covered all variables addressed in this study, including the interpretation and discussion of the interim findings. Subsequently, the third part of the chapter addressed the statistical testing of the research model as put forward in the theoretical framework chapter by presenting the statistical results of each of the 12 hypotheses. Based on these results, the chapter concluded with a comprehensive interpretation and discussion of these hypotheses testing results.

### **6.3 Summary of the findings**

This thesis developed a theoretical framework capable of closing the research gap identified in the literature review. The theoretical framework is a chain of effects that leads from the organisational, strategic, management and environmental antecedent factors via pricing information acquisition to performance. Pricing information acquisition is the focal variable of this research. This thesis' findings are summarised graphically in the final research framework, which is depicted in the following Figure 6.1.

**Figure 6.1: Final research framework**



Note: ✓ = hypothesis confirmed ✗ = hypothesis rejected

The analysis yields several insights into the antecedents and consequences of pricing information acquisition practices. First, regarding the influence of organisational characteristics and resources on pricing information acquisition, the findings suggest a differential impact of the two constructs in this antecedent group. While the empirical evidence provides support for an effect of pricing resources on pricing information acquisition, no significant relationship could be identified between firm size and pricing information acquisition. Second, regarding the influence of firms’ strategic orientation, it is evident that differentiation strategy and value pricing strategy are significantly related to pricing information acquisition. Both hypotheses in this antecedent group were confirmed. Third, the analysis of management-related attributes and characteristics revealed

that although the influence of managerial experience proved to be non-significant, the ability to search in terms of the managerial education and motivational characteristics in terms of the construct of perceived usefulness are important predictors of pricing information acquisition practices. Fourth, in addition to the previous internal antecedents, this thesis also investigated the effects of external influences. Regarding environmental market factors, this thesis found support for a significant relationship between market-related complexity and pricing information acquisition. The influence of market growth could be partially accepted, and there appears to be no empirical support for a relationship between customer power and pricing information acquisition. Finally, Figure 6.1 summarises the findings regarding the performance consequences. As theorised, pricing information acquisition is related positively to pricing performance. In addition, the second hypothesis in this group was also confirmed. Pricing performance is positively related to firm performance.

### **6.4 Aims and objectives**

The main aim of this thesis was to critically investigate and explore in detail the role of pricing information acquisition in SMEs, and to structure and model the antecedents and consequences of SME pricing information acquisition practices as crucial constituents of market-oriented pricing management. In pursuing this primary aim, this thesis achieved the following previously stated objectives:

1. To introduce the construct pricing information acquisition into the SME pricing literature and to contribute to theory building regarding this issue. Relevant antecedent factors and the performance consequences will be conceptualised to understand in detail the pricing information practices of SMEs.

To achieve this objective, this study conducted extensive theoretical analysis and development in order to address the limited conceptual overview, clarity and understanding of pricing information practices uncovered in the literature review. More precisely, this first objective was accomplished through the development of an innovative theoretical framework, which is a chain of effects that leads from the influencing factors via pricing

information acquisition to performance. Based on prior theories, this study conceptualised pricing information acquisition as its focal variable. The introduction of this construct represents a significant contribution to SME pricing literature. In addition, as a result of in-depth theoretical analysis, several internal and external factors were conceptualised as relevant antecedent factors and pricing and firm performance were conceptualised as central consequences of pricing information acquisition. Therefore, this objective has been achieved.

2. To explore empirically the level of pricing information acquisition in SMEs and, by doing this, giving initial insights into how pricing information acquisition is carried out by SME practitioners.

The second objective was to explore the level of pricing information acquisition in SMEs. This objective was duly met by way of detailed empirical analysis of the structural properties of pricing information acquisition in SMEs. The underlying thesis was thus able to sufficiently illuminate the actual pricing information acquisition practices of SMEs. In addition to exploring the overall level of pricing information acquisition, this thesis also provided differentiated insights into the SMEs' use of a broad set of different pricing information sources. Therefore, the study has accomplished its second objective.

3. To investigate the influence of selected internal contextual determinants on firms' pricing information acquisition.

The third objective aimed to investigate and understand the influence of internal contextual determinants on SMEs' pricing information acquisition practices in order to explain which and why certain firms search for pricing information. The study achieved its third objective by investigating three groups of internal antecedent factors, namely, organisational characteristics and resources, firm strategic orientation and management-related attributes and resources. The influence that the seven variables pertaining to these three groups exerted on pricing information acquisition was investigated based on the comprehensive SME sample and further analysed by means of statistical hypotheses testing.

This procedure shed significant light on the internal mechanisms underlying pricing information acquisition. Thus, overall, this objective was met.

4. To study the influence of external situational determinants on SME pricing information acquisition practices.

The fourth objective concerns the study and understanding of the external situational factors driving pricing information acquisition practices in SMEs. To satisfy this objective, the study drew on Contingency theory and conceptualised three important external market factors, which were then empirically investigated as antecedent factors of the focal variable pricing information acquisition by means of statistical hypotheses testing. As a result, the situational environmental context of pricing information acquisition was significantly illuminated and this fourth objective was thus achieved.

5. To look at the relationship between a firm's pricing information acquisition and the success of the SME in order to shed light on the performance impact of the main construct.

The fifth objective involves the study of the success implications of a firm's pricing information acquisition. In pursuit of this objective, the study considered pricing performance to be a key consequence of pricing information acquisition. In addition, the objective necessitated the investigation of the relationship between pricing performance and firm performance. The study of these relationships by means of statistical hypotheses testing shed light on the performance impact of SMEs' pricing information acquisition. Therefore, the fifth research objective was met.

All aims and objectives have thus been accomplished. In the following section, the thesis' main results, derived from extensive analysis and discussion, will be summarised by the drawing of conclusions for the investigated research questions.

### **6.5 Conclusions for research questions**

In summary, the study's detailed theoretical and empirical analysis has offered the following conclusions in response to the five formulated research questions:

Research Question 1: How should the pricing information acquisition practices and its antecedents and consequences be conceptualised in an SME context?

This thesis aimed to introduce the construct of pricing information acquisition into the pricing literature and to contribute to theory building regarding this issue. In addition, it pursued clarifying the key mechanisms behind this important construct. The theoretical analysis and development suggests conceptualising pricing information acquisition as a strategic pricing capability and a distinct sub-challenge of the pricing process. It consists of a set of organisational routines and processes by which individuals gather and accumulate informational assets for pricing purposes from internal and external information sources, which include relationship sources, primary market research sources and secondary market research and intelligence sources. Theoretical analysis based on the RBV and Contingency theory suggests the investigation of organisational characteristics and resources, firms' strategic orientation, management-related attributes and resources as well as environmental market factors in order to clarify and establish a broad understanding of the basic relationships and drivers behind firms' pricing information practices. Based on Information Economics theory and the RBV, this study considered pricing performance and firm performance as the consequences of pricing information practices so as to understand the success impact of informational practices prior to pricing decision making.

Research Question 2: What is the current status quo of pricing information acquisition in SMEs?

The underlying research empirically investigated the level of pricing information acquisition in SMEs and provided initial insight into how pricing information acquisition is carried out by SME practitioners. The results show that SMEs conduct a low amount of pricing information acquisition. It was shown that the pricing information acquisition capability tends to be overlooked in SMEs. Furthermore, the results show that SMEs do not adopt a balanced approach toward pricing information acquisition. Such an approach would use a broad set of different types of pricing information sources. By contrast, it was found that while people and relationships sources were used more frequent-

ly to acquire pricing information by SMEs, primary market research and consulting sources were largely overlooked, and secondary market research and intelligence sources were only used to a small extent. This finding indicates an imbalanced use of pricing information acquisition sources in SMEs.

Research Question 3: Which internal factors drive the pricing information acquisition practices in SMEs?

The underlying thesis investigated the influence of internal contextual determinants on firms' pricing information acquisition. It was found that if the managers responsible for pricing decisions had a favourable attitude toward pricing information, this exerted a substantial positive influence on the firms' pricing information acquisition practices. In addition, the results show that in conditions in which managers responsible for pricing decisions have a business management educational background, SMEs appeared to conduct significantly more pricing information acquisition as compared to managers with technical engineering backgrounds. At a strategic level, the results show that strategic orientation exerts considerable influence on pricing information practices. The differentiation strategy and the value pricing strategy were both significantly related to pricing information acquisition. Finally, the firms' resources influence pricing information practices. Specifically, the findings show that firms engage in a higher level of pricing information acquisition when they allocate a greater amount of human resources to the pricing capability. On the other hand, the results propose that firm size and managerial experience are not important drivers of pricing information acquisition practices.

Research Question 4: Which external situational factors drive the pricing information acquisition practices in SMEs?

This study aimed to investigate the influence of external situational determinants on firms' pricing information acquisition. Based on the results, environmental uncertainty appears to exert considerable influence on pricing information acquisition practices. Specifically, it was found that as market-related complexity increases, firms conduct more pricing information acquisition. Similarly, market growth is also positively related

to pricing information acquisition. Overall, it became apparent that higher levels of uncertainty caused by variation in market conditions induce firms to seek pricing information prior to decision-making. Contrary to expectations, the results do not support the contention that customer power lessens the amount of pricing information acquisition.

Research Question 5: What is the success impact of SME pricing information acquisition practices?

Finally, this study looked at the success implications of SME pricing practices. Specifically, the underlying study investigated the relationship between pricing information acquisition practices and performance. It was confirmed that pricing information acquisition, as a distinctive constituent of the pricing process, positively influences firms' pricing performance, thus, supporting the notion that pricing information practices are an important key capability of the pricing function. In addition, the results highlight the importance of pricing management for overall firm success. The results show that pricing performance is critically related to firm performance, suggesting that pricing excellence ensures long-term firm success and survival of SMEs.

## **6.6 Recommendations**

### **6.6.1 Contributions and implications for research**

In view of the aforementioned results, this thesis yields several implications for research. The contributions to research are presented from a content-related, contextual, theoretical and methodological perspective. A first content-related contribution is the systematisation of the existing literature pertinent to the previously overlooked issue of pricing information acquisition. In addition to contributing to an understanding of the significance of pricing information practices as a crucial prerequisite of professional pricing practices and as a distinctive step in the pricing process, conceptual and empirical literature has been rigorously reviewed yielding a number of research challenges in which the literature requires development.

Second, the underlying research contributes to the pricing literature focusing on intra-organisational pricing processes by providing initial conceptual and empirical investigation of the crucial but previously rather neglected first step of the pricing process, which deals with the informational prerequisites of pricing decisions. Pricing scholars have highlighted the information-related component of the pricing process as an important avenue for future research. Specifically, the second content-related contribution of the underlying research is that it integrates a broad and fragmented body of literature from different research streams into one coherent, integrated framework of organisational pricing information acquisition behaviour. The conceptual development identifies and acknowledges pricing information acquisition as a strategic pricing capability and a distinct sub-challenge within pricing management. Additionally, prior pricing research fell short in investigating the conditions that influence the amount of pricing information practices. The developed conceptualisation of antecedents and consequences of pricing information acquisition clarifies key mechanisms behind this important construct. By doing so, this study sheds initial light on the important issue of pricing information acquisition and advances conceptual overview and clarity in order to pave the way for further theoretical investigation in the literature dealing with intra-organisational pricing processes.

A third content-related contribution of this research is the implementation-oriented conceptualisation of pricing information acquisition practices. Based on a rigorous analysis of prior conceptual contributions, this research develops a typology of pricing information acquisition behaviour at the information sources level and clarifies the dimensionality of this complex construct. This makes the phenomena of pricing information acquisition more tangible and enables discussion on the modes of organisational pricing information acquisition behaviour. An implementation-oriented conceptualisation of pricing information acquisition focusing on information sources is lacking in the literature to date, making this a promising starting point for future research.

In addition, this thesis makes important contextual contributions to the existing research. First, it advances the literature on SME marketing. This study found that pricing,

as a crucial constituent of marketing in SMEs, represents an overlooked area of study, heretofore characterised by scant conceptual and empirical investigation. The findings of this thesis suggest that SMEs tend to undervalue the potential of systematic practices regarding the first step in the pricing process. The identified overall low amount of pricing information acquisition provides a possible explanation of claims and initial qualitative empirical results in the existing SME literature that suggests that pricing in SMEs is frequently guided by intuition or gut feelings. This might be due to a lack of appropriate pricing information acquisition. In addition, the findings suggest that professional pricing information practices are important because they were found to be associated with higher pricing performance. Pricing performance in turn was associated with greater firm performance, showing that pricing is a highly important management task in SMEs. Given the high relevance of pricing information acquisition, the analysis of antecedent factors put forward in this thesis develops an initial understanding about the determinants of SMEs' pricing information acquisition practices. Hence, this thesis makes an important contribution to the scarce existing literature focusing on SME pricing and can guide future investigations into this largely ignored research issue by providing initial results.

A second contextual contribution of this research is its focus on pricing information practices in manufacturing firms. Despite the fact that much of the pricing research considers manufacturing firms, product pricing in the emerging field of pricing information practices has not been given the necessary attention. Given the considerable economic importance of the manufacturing sector and its distinctive pricing characteristics, this thesis adds considerable value to the existing pricing literature by providing initial results on pricing information practices in firms producing physical products.

Besides the content-related and contextual contributions, this study also advances the theoretical understanding of pricing management. Empirical pricing studies have been criticised for lacking a theoretical foundation or simply applying classical price theory, which was not meant to serve that purpose in research studying pricing from an organisational perspective (Kaiser 2011). Given these circumstances, the theoretical contribu-

tions are threefold. First, this thesis develops a broadened theoretical perspective on informational pricing activities by synthesizing and integrating findings from the three key management theories: Information Economics theory, RBV and the Contingency theory.

Second, this research contributes to the RBV (Barney 1991; Wernerfelt 1984). The RBV has successfully been applied and carried forward to the field of pricing management by Dutta, Zbaracki, and Bergen (2003) and nowadays, pricing is viewed as a key marketing capability (Morgan 2012). By introducing pricing information acquisition as a strategic sub-capability and distinct sub-challenge within the meta-capability of pricing, this thesis provides initial conceptual and empirical evidence in response to the demands in the recent pricing literature to explore organisational pricing practices in information acquisition from a RBV perspective.

Third, the investigated hypotheses were consistently deduced from key management theories. Nine of the twelve hypotheses were empirically confirmed showing the appropriateness of the adopted theoretical foundation in explaining pricing information acquisition practices.

Finally, this thesis makes a methodological contributions to the research field of SME pricing. Specifically, this research contributes methodologically by gathering a large cross-sectional sample involving a variety of manufacturing sectors. It includes many important industry sectors, such as machinery, metal processing, printing, electronics, textiles, food, chemicals and construction. By doing this, generalisability of findings is increased and the existing empirical research on pricing information activities that largely draws on scattered industry sectors is advanced.

### **6.6.2 Recommendations for the industry**

In addition to the different theoretical contributions, this thesis' findings also yield several strong implications and recommendations for practitioners. The first managerial implication is that SMEs should pay particular attention to the strategic management

task of pricing and deliberately set it on the management agenda. This study suggests that SME managers perceive pricing to be a strategic management task with a high need for action. Additionally, SMEs are increasingly put under pressure by tremendous shifts in the business environment, such as an intensifying global competition, shortened product life cycles, and decreasing brand loyalty to name just a few. At the same time, they are more vulnerable compared to their LEs counterparts due to limited resources, lack of specialist expertise and limited impact on the marketplace. Considering these enormous challenges faced by SMEs, the findings suggest that pricing success is positively associated with overall firm performance. This implies that superior pricing capabilities are an important lever for firm success. SMEs investing in their pricing capabilities benefit from greater firm performance, which is essential in ensuring long-term firm success and survival. Nevertheless, the findings indicate that SMEs' current pricing performance must be characterised as merely satisfactory. This implies that SMEs have considerable potential for optimisation with regard to their existing pricing capabilities. Against this backdrop, this research strongly suggests that pricing is a highly important management task in SMEs. SME managers should emphasise the importance of pricing management and attempt to improving their firms' pricing practices.

A further important managerial implication relates to the significance of the pricing information acquisition capability as a distinctive sub-challenge within pricing management. The overall picture that emerges from this thesis' findings is that systematic pricing information practices are found to be a promising opportunity and starting point for firms interested in installing a plan for professional pricing management. Specifically, pricing information acquisition was found to be positively associated with pricing performance and should, therefore, receive particular attention by SME managers. However, findings also suggest that the overall amount of pricing information acquisition must be characterised as rather low indicating that this issue seems to be largely overlooked by SMEs. This is an important finding because it suggests that SME managers should pay more attention to their pricing information practices to avoid gut-based and informal pricing practices. An important first step on the road to professional pricing for SMEs, therefore, seems to be the adoption of a structured approach to pricing infor-

mation acquisition to guide and facilitate optimal pricing decision-making. SME managers should acknowledge and emphasise pricing information acquisition as a strategic pricing capability and a distinct sub-challenge within pricing management by allocating financial resources because these investments yield considerable improvements in pricing performance. In addition to this increase in attention, SME managers should proactively approach and manage this first step of the pricing process to improve their pricing performance.

In pursuing this proactive management approach, this study's findings yield another implication for practitioners. Specifically, it was found that a favourable managerial attitude toward pricing information search exerted a positive influence on SMEs' pricing information acquisition practices. This implies that a shift in importance regarding this issue requires a change in the way SME managers think about pricing. SME owners and chief executives should embrace the notion that pricing information is a valuable strategic pricing asset and resource that requires considerable managerial attention. The finding also implies that SME managers should challenge and reflect on their current assumptions about the informational dimension of pricing decision-making. The findings imply that SME managers should challenge the assumptions of other organisations' members involved in pricing decisions, such as the sales force, accounting staff and other related marketing personnel. It might be beneficial to set up an internal incentive system that encourages the proactive gathering and processing of pricing information.

An additional managerial implication concerns the purposeful development of the pricing information processing capability in SMEs. Given the relevance of pricing information practices as the first step of the pricing process, it is recommended that SME managers address this capability strategically and consciously. Such a proactive approach could begin with an initial audit of current practices initiated by chief executives responsible for pricing decisions. This thesis' findings provide SME managers with a useful starting point for such a self-assessment. Specifically, the items developed based on the new conceptualisation of pricing information acquisition practices provide SME managers with directions for an internal discussion about the current use of the different

types of pricing information. SME managers could compare their level of pricing information acquisition to the level found in this research and identify areas for improvement.

In this context, another recommendation relates to the influence of information technology. With regard to the enormous evolvments in information technology and potentially great amounts of pricing information that can be gathered and stored (Dixit et al. 2008), SMEs should make an informed decision as to how the first step of the pricing process can be enhanced by appropriate information technology infrastructure and software. Such solutions could help SME managers integrate and condense large amounts of pricing information into a distinctive set of key performance indicators capable of supporting strategic pricing decisions.

In the process of developing appropriate pricing information practices, SMEs should also be aware of potential influencing factors. SME managers can benefit from this thesis' insights about the situations and circumstances of pricing information behaviour. A clear first managerial implication in this context relates to the prerequisites of a more information driven pricing management. The findings suggest that SMEs appear to engage in a higher level of pricing information acquisition when they allocate a greater amount of human resources to the pricing capability. In addition, this study found that in conditions in which the manager responsible for pricing decisions possessed considerable levels of business management expertise, SMEs appeared to conduct more pricing information acquisition. These findings imply that SMEs should allocate an adequate level of human resources to this important pricing capability. Specifically, care should be taken that management staff responsible for pricing information practices have substantial business management education.

With regard to the influencing factors of pricing information acquisition, a final implication for practitioners relates to the adaptation of pricing information practices to external market factors. For instance, the results suggest that SMEs operating in market environments characterised by higher market-related complexity and increased growth dynamics also tend to conduct a greater amount of pricing information practices. Since

SMEs are characterised by constrained resources and limited impact on the marketplace, it may be beneficial for SMEs to pool their efforts and resources regarding pricing information processing. SME managers could analyse and evaluate the dynamics and level of complexity of the various market segments they are serving and focus their pricing information search efforts cost-efficiently to markets or market segments characterised by high complexity and growth.

### **6.7 Limitations and avenues for future research**

Resting on a positivist research philosophy, the main contribution of this thesis is the proposition of a novel theoretical framework of organisational pricing information acquisition behaviour including its antecedents and consequences, and, in addition, the empirical testing of this framework and the theorised relationships.

The empirical findings of this thesis are based on a large cross-sectional sample, which was selected using probability sampling. The final sample of 173 companies consisted of manufacturing SMEs situated in a larger economic region in the northwestern part of Germany and covers diverse and varied manufacturing industry sectors. This thesis' theoretical framework focuses on organisational pricing information acquisition behaviour and, therefore, facilitates a considerable transferability to other contexts and research settings. Apart from SME managers in Germany, LE managers as well as SME managers in other countries and other industry sectors, such as retailing and services, should be aware of the properties, antecedents and consequences of organisational pricing information acquisition behaviour. However, if transferred to other contexts, care should be taken to eventually adjust this study's research instrument to the specifics of these settings in order to prevent overgeneralizing.

Every study bears limitations and this thesis is no exception. In the following section, a few limitations will be described, which will provide directions for future research. First, the findings of this research are limited to some degree due to its focus on German manufacturing companies. This thesis' focus on one specific region and one specific industry sector could not be avoided due to resource and time constraints. Given this

limitation, the findings should be generalised with some caution. As a result, a promising avenue for future research could, for instance, be to replicate this study's approach in other countries and compare the results to this thesis' findings. Similarly, it could also be a promising direction for future research to adapt this study's approach to other industry sectors, such as the service or retailing sector, since it has been noted that firms operating in these areas are regarded as distinctive objects of study in pricing research.

Second, another potential limitation is that this thesis does not focus on LEs and multinationals. Amongst others, the various and considerable differences between the pricing in SMEs, on the one hand, and LEs and multinationals on the other hand, were a major reason for selecting the SME sector as the context for this study. In addition, resource and time constraints led to the focus on this specific firm type. The findings of this research, thus, should be generalised with some awareness to LEs and multinationals. Future research could study the pricing information acquisition practices of LEs and multinationals and compare the results to this thesis' findings in order to identify potential differences. Such an approach could yield additional insights and recommendations for LEs and advance knowledge on the informational dimensions of pricing decision-making.

A third limitation may be the use of perceptual sources to measure performance. This thesis' use of subjective performance measures was unavoidable due to the fact that privately held small companies are frequently reluctant to disclose financial key performance indicators. In addition, objective performance measures are very difficult to compare among firms because they are influenced by industry effects and changing accounting practices. Future studies may wish to corroborate the findings of this thesis by means of objective measures of performance. For instance, future research could attempt to measure the performance variables based on archival data of small publicly held companies.

Fourth, this research focused on the acquisition of pricing information and, thus, has not captured processes dealing with the dissemination and utilisation of pricing information. The rationale for this study's focus on the acquisition of information was that the litera-

ture analysis revealed a significant gap regarding this aspect of firms' information processing practices. In addition, Information Economics theory highlights information acquisition as the first crucial step in reducing uncertainty and fostering optimal decision making. By providing initial evidence of the considerable importance of pricing information acquisition for pricing success, this study has the potential to spark future investigations on pricing information processing practices. Future studies may wish to investigate the dissemination or utilisation of pricing information, drawing, for instance, on organisational learning theory. This may enable a more holistic picture of pricing information processing practices in SMEs. For instance, the interactions among pricing information acquisition, dissemination and utilisation could be illuminated in a longitudinal study examining the creation of pricing knowledge over time by means of time series analysis, since the cross-sectional design of this study hinders conclusions regarding such organisational learning processes.

Fifth, this thesis does not deny the existence of other effects on pricing information practices. The objective was to provide initial results into this previously largely ignored issue by investigating a broad variety of influencing factors. The findings may guide further research efforts.

Sixth, this research uses pricing performance as a focal dependent variable, since this has been suggested as an important objective of firms' pricing practices. In this context, an interesting opportunity for future research could be to expand the findings of this research to the new product development literature. For instance, innovation management researchers may wish to examine the relationship between pricing information acquisition practices and new product performance.

### **6.8 Summary**

This final chapter concluded the thesis by highlighting its central outcomes and findings and the achievement of all its aims and objectives. The chapter also suggested this thesis' larger contribution to knowledge in terms of its implications for academic research as well as for practice. Specifically, this thesis yielded several recommendations for the

## Conclusion

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industry, which SME managers should find useful in the development of pricing strategy. Furthermore, by pointing to certain limitations of the study, this chapter provided ample direction for future research on the informational dimensions of pricing decision making. Finally, this challenging but very insightful PhD journey has come to an end.

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## Appendices

### Appendix 1: Survey invitation letter

«Firmenname»  
«Ansprechpartner»  
«Straße»  
«Postleitzahl, Stadt»

#### Studie zum Thema Preismanagement – Optimierung Ihrer Preissetzung

Sehr geehrte Damen und Herren,

durch ein systematisches Preismanagement lassen sich in Unternehmen erhebliche Ertragspotenziale realisieren. Keine andere Maßnahme führt auf derart schnellem und direktem Weg zu einer so hohen Ergebniswirkung wie die Optimierung Ihrer Preissetzung. Dennoch wird das Preismanagement viel zu oft vernachlässigt.

Deshalb haben wir, die Hochschule Osnabrück in Kooperation mit der IHK Osnabrück-Emsland ein Forschungsprojekt ins Leben gerufen, welches das Ziel hat, das Preismanagement in Unternehmen der Region zu optimieren.

Wenn Sie an unserer Studie teilnehmen, können Sie mehrfach profitieren:

- Durch das Ausfüllen des Fragebogens können Sie Ihr eigenes Preismanagement kritisch reflektieren
- Sie erhalten eine Einladung zu unserem Ergebnisworkshop, der in der Hochschule Osnabrück stattfinden wird
- Ihnen werden die Studienergebnisse kostenlos zur Verfügung gestellt
- Wir verlosen 5 Bücher zum Thema Preismanagement unter den Teilnehmern

Bitte nehmen Sie sich 8-9 Minuten Zeit und rufen folgende Seite auf:

**[www.hs-osnabrueck.de/ihk-studie](http://www.hs-osnabrueck.de/ihk-studie)**

Alle Ihre Angaben werden selbstverständlich **anonym** und **streng vertraulich** behandelt und zu keiner Zeit an Dritte weitergegeben.

Wir freuen uns auf Ihre Teilnahme!

Mit freundlichen Grüßen

Unterschrift  
Industrie- und Handelskammer

Unterschrift  
Hochschule Osnabrück

**Note:** The following English survey invitation letter was translated from German.

«Company name»

«Contact name»

«Street»

«Postcode, City»

### **Survey about pricing management – optimisation of your price setting**

Dear Sir or Madam,

Companies can fully realise their earnings potential by using systematic pricing management. No other measure yields a comparably high profit impact as the optimisation of price setting. However, pricing management is all too often a neglected issue in companies.

Therefore, the University of Applied Sciences Osnabrück has embarked on a research project with our cooperation partner, the local chamber of industry and commerce. This research project aims to optimise the pricing management in the companies in the region.

You can benefit in multiple ways if you participate in our survey:

- Completing the questionnaire enables you to critically reflect your own pricing management.
- You will receive an invitation to our results workshop taking place at the University of Applied Sciences Osnabrück.
- The findings of the research study are made available to you free of charge
- All participants will be entered into a prize drawing for five pricing management books.

Please take 8-9 minutes and go to the following website:

**[www.hs-osnabrueck.de/ihk-studie](http://www.hs-osnabrueck.de/ihk-studie)**

All the information you provide will be treated **anonymously** and will be **strictly confidential**. No details identifying respondents or their companies will be disclosed to third parties at any time.

We are looking forward to your participation!

Kind regards,

Signature  
Chamber of Industry and Commerce

Signature  
University of Applied Sciences Osnabrück

## Appendix 2: Questionnaire instructions

### **Umfrage zum Thema „Preismanagement in kleinen und mittleren Unternehmen“ (KMU)**

Sehr geehrte Damen und Herren,

vielen Dank für Ihr Interesse an dieser Studie. Die Beantwortung der Fragen dauert ca. acht bis neun Minuten.

Alle Ihre Angaben werden selbstverständlich anonym und streng vertraulich behandelt und zu keiner Zeit an Dritte weitergegeben.

Zu Beginn möchten wir Sie kurz auf einige wichtige Punkte hinweisen:

- Antworten Sie bitte möglichst spontan. Es gibt keine richtigen oder falschen Antworten, allein Ihre persönliche Einschätzung ist gefragt.
- Sollte es einmal schwierig sein, eine Antwortalternative auszuwählen, so markieren Sie bitte diejenige Antwort, die am ehesten zutrifft.
- Manchmal kann der Eindruck entstehen, dass Fragen sich wiederholen. Die Fragen sind aber nicht identisch, sondern teilweise nur sehr ähnlich, um Sachverhalte aus verschiedenen Perspektiven betrachten zu können.
- Im Fragebogen wird oft eine Skala von 1 bis 6 verwendet. Was 1 und 6 bedeutet, können Sie jeweils den Spaltenüberschriften entnehmen. Mit den Werten dazwischen können Sie Ihre Meinung abstufen.
- Für die korrekte Auswertung des Fragebogens ist es wichtig, dass Sie diesen bis zum Ende ausfüllen und keine Frage auslassen.

**Note:** The following English questionnaire instructions were translated from German.

**Survey about “price management in small and medium sized enterprises” (SMEs)**

Dear Sir or Madam,

Thank you very much for your interest in this study. Answering the questions will take about eight to nine minutes.

All information you provide will be treated anonymously and will be strictly confidential. No details identifying respondents or their companies will be disclosed to third parties at any time.

Before you begin answering the questions, please note the following important points:

- Please answer the questions as spontaneously as possible. There are no right or wrong answers. It is your personal opinion that counts.
- If you are having problems choosing an answer, please pick the answer that corresponds best with your situation.
- In some cases, you might get the impression that some questions recur in the questionnaire. However, the questions are not identical, but are somewhat similar to assess issues from different perspectives.
- In the questionnaire, you will frequently find a scale ranging from 1 to 6. You can see what 1 and 6 mean in the column heading. Please use the values in between to gradate your opinion.
- To enable proper data analysis, it is important that you answer all questions. Please do not skip questions.

**Appendix 3: Questionnaire**

**TEIL 1 – Die Rolle von Preisinformationen in Ihrem Unternehmen**

Sind Sie als Führungskraft verantwortlich für Preisentscheidungen in Ihrem Unternehmen?

- Ja  
 Nein

**Wenn „Ja“:** Fortfahren mit der nächsten Frage.

**Wenn „Nein“:** Vielen Dank für Ihre Teilnahme. Hierdurch wird die Befragung beendet.

Bitte beziehen Sie Ihre Antworten in diesem Fragebogen auf Ihre **allgemeinen Preismanagement-Aktivitäten** auf **Unternehmensebene**. Wenn in Ihrem Unternehmen verschiedene Geschäftsbereiche existieren, beziehen Sie sich bei der Beantwortung der Fragen bitte auf Ihren **wichtigsten Geschäftsbereich, Produktgruppe oder Produkt**.

	Sehr wichtig					Sehr unwichtig
	1	2	3	4	5	6
Wie hoch ist die Bedeutung des Preismanagements in Ihrem Unternehmen?						

Zur Vorbereitung von **Preisentscheidungen** ziehe ich folgende Quellen heran:

	Häufig					Nie
	1	2	3	4	5	6
Fachzeitschriften / Wirtschaftsmagazine						
Wissenschaftliche Veröffentlichungen						
Markt- und Branchenberichte, Statistiken						
Unternehmensberater						
Informationsveranstaltungen, Vorträge						
Nicht-preisbezogene Marktforschung (z.B. Umfragen zu Kundenzufriedenheit, Kaufkriterien oder Qualitätswahrnehmung)						
Preisbezogene Marktforschung (z.B. direkte Abfrage der Zahlungsbereitschaft, Conjoint-Analysen, Van-Westendorp-Methode)						
Gespräche mit Endkunden						
Kundenveröffentlichungen						
Kataloge / Veröffentlichungen von Wettbewerbern						
Eigene Vertriebsmitarbeiter						
Mitarbeiter aus dem Rechnungswesen/Controlling						
Freunde / Familie						
Lieferanten						
Messen und Ausstellungen						

## Appendices

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. 1 bedeutet „Stimme voll und ganz zu“ und 6 bedeutet „Stimme überhaupt nicht zu“. Mit den Werten dazwischen können Sie Ihre Meinung abstimmen.

	Stimme voll und ganz zu					Stimme überhaupt nicht zu
	1	2	3	4	5	6
Unser Vertrauen in Preisentscheidungen wird durch die Verwendung von Preisinformationen positiv beeinflusst.	1	2	3	4	5	6
Von uns getroffene Entscheidungen, die auf Preisinformationen basieren, sind präziser als solche, die auf Intuition basieren.	1	2	3	4	5	6
Preisinformationen reduzieren in hohem Maße die Unsicherheit, die mit unseren Preisaktivitäten verbunden ist.	1	2	3	4	5	6

Inwieweit haben Sie bei der Ermittlung des Preises des **letzten neuen Produktes**, das Ihr Unternehmen in den Markt eingeführt hat, die folgenden Elemente berücksichtigt?

	Spielte eine wichtige Rolle bei der Preisgestaltung					War überhaupt nicht wichtig bei der Preisgestaltung
	1	2	3	4	5	6
Vom Kunden wahrgenommener Wert des Produktes	1	2	3	4	5	6
Vorteile des Produktes im Vergleich zu Wettbewerbsprodukten	1	2	3	4	5	6
Vorteile des Produktes im Vergleich zu Substituten	1	2	3	4	5	6
Die Balance zwischen den Vorteilen des Produktes und dessen Preis	1	2	3	4	5	6

Bitte beziehen Sie Ihre Antworten in diesem Abschnitt auf Ihren **wichtigsten Markt**. Wie lässt sich Ihre Firmenstrategie am ehesten charakterisieren?

Wettbewerbsvorteil durch höherwertige Produkte	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Wettbewerbsvorteil durch Effizienzsteigerungen und Kostensenkung
Hohe Preise am Markt durchsetzen	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Mit niedrigen Preisen Erfolg haben
Entwicklung innovativer Produkte mit Premiumpreisen	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Vorwiegend Standardprodukte zu attraktiven Preisen
Hoher Kundennutzen durch Individualisierung	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Effiziente Produktion durch Massenproduktion
Erzeugung eines erhöhten Kundennutzen durch begleitende Services	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Standardservice, um Kosten gering halten zu können

## TEIL 2 – Grundlegende Informationen über Ihren Markt

Inwieweit spiegeln die folgenden Aussagen die Situation in Ihrem wichtigsten Markt wider?

	Stimme voll und ganz zu		Stimme überhaupt nicht zu
	1 2 3 4 5 6		
Die Anzahl der Produkte in unserem wichtigsten Markt ist sehr hoch.	1 2 3 4 5 6		
Die Kommunikation mit den Kunden variiert stark in den verschiedenen Kundensegmenten.	1 2 3 4 5 6		
Die Kundenanforderungen variieren stark in den verschiedenen Kundensegmenten.	1 2 3 4 5 6		
Es gibt viele Personen neben den direkten Kunden, die beeinflusst werden müssen, um zu verkaufen.	1 2 3 4 5 6		

Bitte beantworten Sie die folgenden Fragen in Bezug auf Ihren wichtigsten Markt:

	Kurzlebige Güter		Langlebige Güter
	1 2 3 4 5 6		
Welche Güterarten produziert Ihr Unternehmen hauptsächlich?	1 2 3 4 5 6		

	Nur Unternehmen		Nur Privatpersonen
	1 2 3 4 5 6		
Sind Ihre Kunden mehrheitlich Privatpersonen oder Unternehmen?	1 2 3 4 5 6		

	Wachstum ist sehr hoch		Kein Wachstum/Negativ
	1 2 3 4 5 6		
Bitte bewerten Sie das durchschnittliche Marktwachstum in Ihrem wichtigsten Markt in den vergangenen zwei Jahren:	1 2 3 4 5 6		

	Käufer haben erhebliche Verhandlungsmacht		Käufer haben keine Verhandlungsmacht
	1 2 3 4 5 6		
Bitte bewerten Sie die Verhandlungsmacht Ihrer Käufer in Ihrem wichtigsten Markt:	1 2 3 4 5 6		

### TEIL 3 – Grundlegende Informationen zu Ihrer Person und Ihrem Unternehmen

	Sehr viele					Sehr wenige
Wie viele Personen beschäftigen sich in Ihrem Unternehmen intensiv und qualifiziert mit Preismanagement?	1	2	3	4	5	6

Wie bewerten Sie Ihre Unternehmensleistung auf Ihrem wichtigsten Markt im letzten Jahr?

	Sehr gut					Sehr schlecht
Umsatzwachstum	1	2	3	4	5	6
Marktanteil	1	2	3	4	5	6
Rentabilität	1	2	3	4	5	6
Kundenzufriedenheit	1	2	3	4	5	6
Kundentreue	1	2	3	4	5	6

Bitte geben Sie an inwieweit Sie den folgenden Aussagen zustimmen. 1 bedeutet „Stimme voll und ganz zu“ und 6 bedeutet „Stimme überhaupt nicht zu“. Mit den Werten dazwischen können Sie Ihre Meinung abstufen.

	Stimme voll und ganz zu					Stimme überhaupt nicht zu
In unserem Unternehmen setzen wir unsere Preisvorstellungen im Markt meistens durch.	1	2	3	4	5	6
In unserem Unternehmen zahlen die Kunden die Preise, die wir für unsere Produkte und Leistungen verlangen.	1	2	3	4	5	6
In unserem Unternehmen können Forderungen der Kunden nach Preisnachlässen gut abgewehrt werden.	1	2	3	4	5	6
In unserem Unternehmen erreichen wir in Preisverhandlungen mit Kunden in der Regel unsere Ziele.	1	2	3	4	5	6

Was ist Ihre Position im Unternehmen?

- Top Management (z.B. Geschäftsführung)
- Marketingabteilung
- Vertriebsabteilung
- Produktmanagement
- Finanz-/ Controlling Abteilung
- Sonstige (bitte angeben):

\_\_\_\_\_

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Bitte geben Sie Ihr Alter an:

\_\_\_\_\_ Jahre

---

Bitte beantworten Sie die folgenden Fragen zu Ihrer Managementenerfahrung:

Wie lange waren Sie in Ihrem **derzeitigen** Unternehmen in einer **Führungs-**  
**position** tätig? \_\_\_\_\_  
Jahre

Waren Sie in der Vergangenheit für ein anderes Unternehmen in einer Füh-  
rungsposition tätig?  Ja  Nein

Wie lange waren Sie insgesamt bei **sämtlichen vorherigen** Arbeitgebern in  
einer **Führungsposition** tätig? Hinweis: Ohne Ihren jetzigen Arbeitgeber. \_\_\_\_\_  
Jahre

---

Bitte beantworten Sie die folgenden Fragen zu Ihrer Ausbildung:

Haben Sie eine abgeschlossene Berufsausbildung?

- Ja  
    **Wenn „Ja“:** Bitte machen Sie genauere Angaben! (Mehrfachauswahl möglich)
- Kaufmännische Berufsausbildung
  - Technische Berufsausbildung
  - Sonstiges: \_\_\_\_\_
- Nein

Haben Sie einen Hochschulabschluss?

- Ja  
    **Wenn „Ja“:** Bitte machen Sie genauere Angaben! (Mehrfachauswahl möglich)
- Volkswirtschaftslehre
  - Betriebswirtschaftslehre ohne Schwerpunkt Marketing
  - Betriebswirtschaftslehre mit Schwerpunkt Marketing
  - Ingenieurwissenschaften
  - Wirtschaftsingenieurwesen
  - Physik / Chemie
  - Informatik
  - Sonstiges: \_\_\_\_\_
- Nein
- 

Bitte beantworten Sie die folgenden Fragen zu Ihrer Unternehmensgröße:

Wie viele Mitarbeiter (Angabe als Äquivalent in Vollzeitstellen) hatte Ihr Unternehmen am  
Ende des letzten Geschäftsjahres?

\_\_\_\_\_ Mitarbeiter

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Wie hoch war Ihr Umsatz im letzten Geschäftsjahr?

\_\_\_\_\_ Mio. € Jahresumsatz

Ist Ihr Unternehmen Teil eines Konzerns?

Ja

**Wenn „Ja“:** Wie viel Prozent hält der Konzern an Ihrer Firma?

\_\_\_\_\_ %

Nein

---

In welcher Branche ist Ihr Unternehmen *hauptsächlich* tätig?

Automobil

Maschinenbau

Chemische Industrie

Metallverarbeitung

Ernährungsindustrie

Elektronik

Kunststoffe/Gummi

Andere (bitte angeben): \_\_\_\_\_

---

Ist Ihr Unternehmen inhabergeführt?

Ja

Nein

---

Wann wurde Ihr Unternehmen gegründet?

\_\_\_\_\_

---

**Vielen Dank für Ihre Teilnahme!**

---

Die folgenden Angaben sind freiwillig:

Ja, ich möchte eine Einladung zum Ergebnisworkshop (Veranstaltungsort: Hochschule Osnabrück) erhalten.

Ja, ich möchte die Studienergebnisse zugesandt bekommen.

Ja, ich möchte an der Verlosung teilnehmen und eines von 5 Preismanagement Büchern gewinnen.

E-Mail Adresse: \_\_\_\_\_

**Note:** The following English questionnaire was translated back from German.

**PART 1 – The role of pricing information in your company**

Are you a manager responsible for pricing decisions in your company?

- Yes
- No

**If “Yes”:** Proceed to the next question.

**If “No”:** Thank you very much for your participation. This concludes the survey.

Please relate your answers in this questionnaire to your **general price management activities at the corporate level**. In cases of different business units in your firms, please answer the questions for your **most important business unit, product group or product**.

	Very im- portant					Not im- portant at all
	1	2	3	4	5	6
Please rate the importance of price management within your firm.						

I gather pricing-relevant information from the following sources to prepare pricing decisions:

	Frequently					Never
	1	2	3	4	5	6
Trade / business magazines						
Research publications						
Trade directories / statistics / market sector reports						
Professional consultants						
Information events, presentation						
Non-pricing related market research (e.g. customer satisfaction, buying criteria or quality perception surveys)						
Pricing related market research (e.g. direct questioning of willingness-to-pay, conjoint analysis , van Westendorp-method)						
Talking to end customers						
Customers' publications						
Competitors' catalogues / publications						
Own marketing / sales team						
Controlling / accounting staff						
My friends / family						
My suppliers						
Business / trade shows and exhibitions						

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For the following items, select the most appropriate number. 1 means “Strongly agree” and 6 means “Strongly disagree”. Please use the values in between to gradate your opinion.

	Strongly agree					Strongly disagree
Our confidence in pricing decisions is increased as a result of pricing information.	1	2	3	4	5	6
Decisions based on pricing information are more accurate than wholly intuitive ones.	1	2	3	4	5	6
Pricing information greatly reduces the uncertainty associated with our pricing activities.	1	2	3	4	5	6

To what extent did you take into account the following elements while determining the price of the ***last new product*** that your firm introduced into the marketplace?

	Played a major role in price setting					Was not important at all in price setting
The customers’ perceived value of the product	1	2	3	4	5	6
The advantages of the product compared to competitors’ products	1	2	3	4	5	6
The advantages of the product compared to substitutes	1	2	3	4	5	6
The balance between advantages of the product and price	1	2	3	4	5	6

In this section, please refer only to your <b><i>most important market</i></b> . How do you rate your firm’s strategy regarding the following aspects?		
Competitive advantage through superior products	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Competitive advantage through operating efficiencies and cost reductions
Enforce high prices on the market	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Be successful with low prices
Development of innovative products with premium prices	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Focus on standard products at attractive prices
Superior customer value through individualised products	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Pursuing economies of scale
Creating superior customer value through services accompanying the products	<input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/> ----- <input type="checkbox"/>	Standard services to keep costs down

## PART 2 – Basic facts about your market

---

To what extent do the following statements reflect the situation in your most important market?

	Strongly agree					Strongly disagree
The number of products in our most important market is very high.	1	2	3	4	5	6
Communication varies very much across different customer segments.	1	2	3	4	5	6
Customer requirements vary considerably across different customer segments.	1	2	3	4	5	6
There are many people other than direct customers who must be influenced in order to sell.	1	2	3	4	5	6

---

Please answer the following questions for your ***most important market***.

	Non-durable goods					Durable goods
What type of goods does your firm mainly produce?	1	2	3	4	5	6

---

	Only companies					Only private individuals
Are your customers predominantly private individuals or companies?	1	2	3	4	5	6

---

	Growth is very high					No growth/negative
Please rate the average market growth in your principal market in the past two years:	1	2	3	4	5	6

---

	Buyers have substantial bargaining power					Buyers do not have substantial bargaining power
Please rate the bargaining power of your buyers in your principal market:	1	2	3	4	5	6

**PART 3 – Basic facts about yourself and your business**

---

	Many			Few		
In your firm, how many people deal intensively and well-qualified with price management?	1	2	3	4	5	6

---

Please indicate your firm’s performance over the last year in the primary market that you serve:

	Very good				Very bad	
Sales growth	1	2	3	4	5	6
Market share	1	2	3	4	5	6
Profitability	1	2	3	4	5	6
Customer satisfaction	1	2	3	4	5	6
Customer loyalty	1	2	3	4	5	6

---

For the following items, tick the most appropriate number. 1 means “Strongly agree” and 6 means “Strongly disagree”. Please use the values in between to gradate your opinion.

	Strongly agree				Strongly disagree	
In our company we enforce our price expectations more often than not.	1	2	3	4	5	6
In our company the customers pay the prices that we ask for our products and services.	1	2	3	4	5	6
In our company requests for price discounts can be warded off well.	1	2	3	4	5	6
In our company we generally reach our goals during price negotiations with customers.	1	2	3	4	5	6

---

What is your position in your company?

- Top management (e.g. CEO)
- Marketing department
- Sales department
- Product management
- Finance/ controlling department
- Other (please specify):

\_\_\_\_\_

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Please indicate your age:

\_\_\_\_\_ years

---

Please answer the following questions about your managerial experience:

How long have you been working in a ***managerial position*** at your ***current*** place of employment? \_\_\_\_\_  
Years

Had you served in a managerial position before working for your current employer?  Yes  
 No

How long had you been worked in a ***managerial position*** at ***all previous employers***? Note: Do not include your current employer. \_\_\_\_\_  
Years

---

Please answer the following question about your educational background:

Did you complete a vocational training?

- Yes  
    **If “Yes“:** Please specify (Multiple selections allowed)  
         Commercial vocational training  
         Technical vocational training  
         Other: \_\_\_\_\_
- No

Do you have a college degree?

- Yes  
    **If “Yes“:** Please specify (Multiple selections allowed)  
         Economics  
         Business Management Minor in Marketing  
         Business Management Major in Marketing  
         Engineering  
         Industrial Engineering  
         Physics/Chemistry  
         Computer Science  
         Other: \_\_\_\_\_
- No
- 

Please answer the following question about your firm’s size:

How many full-time equivalent employees did your business have at the end of the last financial year?

\_\_\_\_\_ employees.

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What was your turnover for the last financial year?

\_\_\_\_\_ € million turnover.

Is your business part of a group?

Yes

If “Yes“: What per cent of your firm does the group hold?

\_\_\_\_\_ %

No

---

In which sector does your business *mainly* operate?

Automotive

Machinery

Chemical products

Metal processing

Food industry

Electronic goods and computers

Plastics industry

Other manufacturer (please specify): \_\_\_\_\_

---

Is the CEO of your firm also the owner?

Yes

No

---

When was your company established?

\_\_\_\_\_

---

**Thank you very much for your participation!**

---

The following information is voluntary:

Yes, I would like to receive an invitation to the results workshop taking place at the University of Applied Sciences Osnabrück.

Yes, I would like to receive the findings of the research.

Yes, I would like to participate in the prize drawing for five pricing management books.

E-Mail address: \_\_\_\_\_

**Appendix 4: Measurement of constructs**

<b>Construct</b>	<b>Measurement</b>	<b>No. of items</b>	<b>Item description<sup>a</sup></b>	<b>Cronbach's alpha</b>	<b>Item sources</b>
<b>Main variable</b>					
Pricing information acquisition <sup>b</sup>	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Frequently," 6 = "Never"</li> </ul>	15	<p>I gather pricing-relevant information from the following sources to prepare pricing decisions:</p> <ul style="list-style-type: none"> <li>• Talking to end customers</li> <li>• My suppliers</li> <li>• Controlling / accounting staff</li> <li>• Own marketing / sales team</li> <li>• My friends / family</li> <li>• Non-pricing related market research (e.g. customer satisfaction, buying criteria or quality perception surveys)</li> <li>• Pricing related market research (e.g. direct questioning of willingness-to-pay, conjoint analysis , van Westendorp-method)</li> <li>• Research publications</li> <li>• Professional consultants</li> <li>• Competitors' catalogues / publications</li> <li>• Customers' publications</li> <li>• Trade / business magazines</li> <li>• Trade directories / statistics / market sector reports</li> <li>• Business / trade shows and exhibitions</li> <li>• Information events, presentation</li> </ul>	0.81	Keh, Nguyen, and Ng 2007, Hart and Tzokas 1999, Williams 2006
<b>Antecedents</b>					
Pricing resources	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Many," 6 =</li> </ul>	1	<ul style="list-style-type: none"> <li>• In your firm, how many people deal intensively and well-qualified with price management?</li> </ul>	n/a	Williams 2006, Gaur, Vasudevan, and Gaur 2011

Construct	Measurement	No. of items	Item description <sup>a</sup>	Cronbach's alpha	Item sources
Firm size	<p>“Few”</p> <ul style="list-style-type: none"> <li>• Single item, open question</li> </ul>	1	<p>Please answer the following question about your firm's size:</p> <ul style="list-style-type: none"> <li>• How many full-time equivalent employees did your business have at the end of the last financial year?</li> </ul>	n/a	European Commission 2005, Yeoh 2000, Haase and Franco 2011
Differentiation strategy	<ul style="list-style-type: none"> <li>• Four-point semantic differential</li> <li>• Anchors: see column item description</li> </ul>	5	<p>Please refer only to your most important market. How do you rate your firm's strategy regarding the following aspects:</p> <ul style="list-style-type: none"> <li>• Competitive advantage through superior products vs. Competitive advantage through operating efficiencies and cost reductions</li> <li>• Enforce high prices on the market vs. Be successful with low prices</li> <li>• Development of innovative products with premium prices vs. Focus on standard products at attractive prices</li> <li>• Superior customer value through individualised products vs. Pursuing economies of scale</li> <li>• Creating superior customer value through services accompanying the products vs. Standard services to keep costs down</li> </ul>	0.85	Scale inspired by Homburg, Workman, and Krohmer 1999, Pelham 1999 and Narver and Slater 1990
Value pricing strategy	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = “Played a major role in price setting,” 6 = “Was not important at all in price setting”</li> </ul>	4	<ul style="list-style-type: none"> <li>• The customers' perceived value of the product</li> <li>• The advantages of the product compared to competitors' products</li> <li>• The advantages of the product compared to substitutes</li> <li>• The balance between advantages of the product and price</li> </ul>	0.86	Ingenbleek et al. 2003, Ingenbleek, Frambach, and Verhallen 2010
Managerial education	<ul style="list-style-type: none"> <li>• Multichotomous</li> </ul>	n/a	Please answer the following question about	n/a	Kaynak and Kara 2004

Construct	Measurement	No. of items	Item description <sup>a</sup>	Cronbach's alpha	Item sources
	question		your educational background: Did you complete a vocational training? • Yes <ul style="list-style-type: none"> <li>○ Commercial vocational training</li> <li>○ Technical vocational training</li> <li>○ Other: Please specify</li> </ul> • No Do you have a college degree? • Yes <ul style="list-style-type: none"> <li>○ Economics</li> <li>○ Business Management Minor in Marketing</li> <li>○ Business Management Major in Marketing</li> <li>○ Engineering</li> <li>○ Industrial Engineering</li> <li>○ Physics/Chemistry</li> <li>○ Computer science</li> <li>○ Other: Please specify</li> </ul> • No		
Managerial experience	• Single item, open question	2	Please answer the following questions about your managerial experience: • How long have you been working in a managerial position at your current place of employment? (Years) • How long had you been worked in a managerial position at all previous employers? Note: Do not include your current employer. (Years)	n/a	Richbell, Watts, and Wardle 2006, Pansiri and Temtime 2008
Perceived usefulness	• Six-point scale • Anchors: 1 = “Strongly agree,” 6 = “Strongly disagree”	3	For the following items, select the most appropriate number. 1 means “Strongly agree” and 6 means “Strongly disagree”: • Our confidence in pricing decisions is increased as a result of pricing infor-	0.76	Diamantopoulos and Souchon, Williams 2006

Construct	Measurement	No. of items	Item description <sup>a</sup>	Cronbach's alpha	Item sources
			<p>mation.</p> <ul style="list-style-type: none"> <li>• Decisions based on pricing information are more accurate than wholly intuitive ones.</li> <li>• Pricing information greatly reduces the uncertainty associated with our pricing activities.</li> </ul>		
Market-related complexity	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Strongly agree," 6 = "Strongly disagree"</li> </ul>	4	<p>To what extent do the following statements reflect the situation in your most important market?</p> <ul style="list-style-type: none"> <li>• The number of products in our most important market is very high.</li> <li>• Communication varies very much across different customer segments.</li> <li>• Customer requirements vary considerably across different customer segments.</li> <li>• There are many people other than direct customers who must be influenced in order to sell.</li> </ul>	0.64	Homburg, Workman, and Krohmer 1999, Peltier, Schibrowsky, and Zhao 2009
Market growth	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Growth is very high," 6 = "No growth/negative"</li> </ul>	1	<ul style="list-style-type: none"> <li>• Please rate the average market growth in your principal market in the past two years</li> </ul>	n/a	Slater and Narver 2000a
Customer power	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Buyers have substantial bargaining power," 6 = "Buyers do not have substantial bargaining power"</li> </ul>	1	<ul style="list-style-type: none"> <li>• Please rate the bargaining power of your buyers in your principal market</li> </ul>	n/a	Slater and Narver 2000a

Construct	Measurement	No. of items	Item description <sup>a</sup>	Cronbach's alpha	Item sources
<b>Consequences</b>					
Pricing performance	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Strongly agree," 6 = "Strongly disagree"</li> </ul>	4	<p>For the following items, tick the most appropriate number. 1 means "Strongly agree" and 6 means "Strongly disagree":</p> <ul style="list-style-type: none"> <li>• In our company we enforce our price expectations more often than not.</li> <li>• In our company unit the customers pay the prices that we ask for our products and services.</li> <li>• In our company requests for price discounts can be warded off well.</li> <li>• In our company we generally reach our goals during price negotiations with customers.</li> </ul>	0.89	Totzek and Alavi 2010, Schuppar 2006
Overall firm performance	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Very good," 6 = "Very bad"</li> </ul>	5	<p>Please indicate your firm's performance over the last year in the primary market that you serve:</p> <ul style="list-style-type: none"> <li>• Sales growth</li> <li>• Market share</li> <li>• Profitability</li> <li>• Customer satisfaction</li> <li>• Customer loyalty</li> </ul>	0.71	Moorman and Rust 1999, Verhoef and Leeflang 2009
<b>Demographic characteristics</b>					
Legal independence	<ul style="list-style-type: none"> <li>• Dichotomous question, open question</li> </ul>	n/a	<p>Is your business part of a group?</p> <ul style="list-style-type: none"> <li>• Yes <ul style="list-style-type: none"> <li>○ If Yes: What per cent of your firm does the group hold?</li> </ul> </li> <li>• No</li> </ul>	n/a	European Commission 2005
Private ownership	<ul style="list-style-type: none"> <li>• Dichotomous question</li> </ul>	n/a	<p>Is the CEO of your firm also the owner?</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>	n/a	Boeker and Wiltbank 2005

<b>Construct</b>	<b>Measurement</b>	<b>No. of items</b>	<b>Item description<sup>a</sup></b>	<b>Cronbach's alpha</b>	<b>Item sources</b>
Firm's age	<ul style="list-style-type: none"> <li>• Single item, open question</li> </ul>	1	<ul style="list-style-type: none"> <li>• When was your company established?</li> </ul>	n/a	Boeker and Wiltbank 2005
Firm's turnover	<ul style="list-style-type: none"> <li>• Single item, open question</li> </ul>	1	<ul style="list-style-type: none"> <li>• What was your turnover for the last financial year? (€ million)</li> </ul>	n/a	European Commission 2005
Pricing importance	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Very important," 6 = "Not important at all"</li> </ul>	1	<ul style="list-style-type: none"> <li>• Please rate the importance of price management within your firm.</li> </ul>	n/a	
Manufacturing sectors	<ul style="list-style-type: none"> <li>• Multichotomous question</li> </ul>	n/a	<p>In which sector does your business mainly operate?</p> <ul style="list-style-type: none"> <li>• Automotive</li> <li>• Machinery</li> <li>• Chemical products</li> <li>• Metal processing</li> <li>• Food industry</li> <li>• Electronic goods and computers</li> <li>• Plastics industry</li> <li>• Other manufacturer (please specify)</li> </ul>	n/a	Totzek and Alavi 2010, Schuppar 2006, Statistisches Bundesamt 2008
Type of customers	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Only companies," 6 = "only private individuals"</li> </ul>	1	<ul style="list-style-type: none"> <li>• Are your customers predominantly private individuals or companies?</li> </ul>	n/a	Merrilees, Rundle-Thiele, and Lye 2011, Herdzina and Seiter 2009
Type of goods	<ul style="list-style-type: none"> <li>• Six-point scale</li> <li>• Anchors: 1 = "Non-durable goods," 6 = "durable goods"</li> </ul>	1	<ul style="list-style-type: none"> <li>• What type of goods does your firm mainly produce?</li> </ul>	n/a	Merrilees, Rundle-Thiele, and Lye 2011, Herdzina and Seiter 2009
Pricing responsibility of re-	<ul style="list-style-type: none"> <li>• Dichotomous</li> </ul>	n/a	Are you a manager responsible for pricing	n/a	

Construct	Measurement	No. of items	Item description <sup>a</sup>	Cronbach's alpha	Item sources
respondents	question		decisions in your company? <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>		
Position of respondents	<ul style="list-style-type: none"> <li>• Multichotomous question</li> </ul>	n/a	What is your position in your company? <ul style="list-style-type: none"> <li>• Top management (e.g. CEO)</li> <li>• Marketing department</li> <li>• Sales department</li> <li>• Product management</li> <li>• Finance/controlling department</li> <li>• Other (please specify)</li> </ul>	n/a	Walsh and Lipinski 2009, Homburg, Workman, and Krohmer 1999
Age of respondents	<ul style="list-style-type: none"> <li>• Single item, open question</li> </ul>	n/a	<ul style="list-style-type: none"> <li>• Please indicate your age</li> </ul>	n/a	Kaynak and Kara 2004

<sup>a</sup>Items were translated back from German

<sup>b</sup>Items were rotated in online survey