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Title: Organizing for Value Appropriation: Configurations and Performance Outcomes of Price Management

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Corresponding Author: Prof. Bjoern Sven Ivens, Dr. rer. pol.

Corresponding Author's Institution: Otto-Friedrich-University

First Author: Michael Burkert

Order of Authors: Michael Burkert; Bjoern Sven Ivens, Dr. rer. pol.; Stephan Henneberg; Philipp Schradi

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Opposed Reviewers:

Response to Reviewers: Reviewer #1: A very well written and interesting paper based on an extensive review of the literature to synthesize into a comprehensive conceptual framework tested in a large scale survey to generate clusters to then test for performance of different organizational approaches to pricing.

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Dear reviewer, thank you very much for your positive feedback on our manuscript. We fully acknowledge that including actual data in the results section facilitates reading and comparing these results and, thus, improves the manuscript. Hence, we have inserted the numbers of our

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Kind regards.

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Research highlights

- Analyzes value appropriation through the organizational implementation of pricing processes
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- Reveals that more systematic approaches to pricing organization significantly improve value appropriation outcomes.

**Organizing for Value Appropriation:
Configurations and Performance Outcomes**

Corresponding author:

Bjoern Sven IVENS
Full professor, Management Department
Otto-Friedrich-University
Feldkirchenstrasse 21
D-96045 Bamberg
Germany
Bjoern.Ivens@uni-bamberg.de
Phone: ++49-951-863-2565

Co-authors:

Michael Burkert
Professor and Chair of Controlling
University of Fribourg
Switzerland

Stephan Henneberg
Chair Professor in Marketing and Strategy
Queen Mary - University of London
United Kingdom

Philipp Schradi
Head of Strategic Planning WE
Schaeffler Automotive Aftermarket
Germany

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Abstract

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Keywords

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1. INTRODUCTION

Value creation and value appropriation are fundamental strategic processes (Ghemawat 1991; Obloj & Capron, 2011; Reitzig and Puranam, 2009). They can be analyzed at the level of the individual manager, at an organizational level, or more generally related to systems such as business relationships, networks or society (Lepak, Smith & Taylor, 2007). Strategic management focuses primarily on the organizational level of value-related aspects and studies value creation and appropriation in different contexts, such as entrepreneurial opportunity recognition (e.g. Mahnke, Venzin, & Zahra, 2007), alliance management (Ness, 2009), or framing of innovation (van Burg, Berends, & van Raaji, .

Value creation and value appropriation have been researched with regard to their effects and determinants (e.g. Blocker, Cannon, Panagopoulos, & Sager, 2012; Obloj & Capron 2011; Priem, 2007), or their interactions and trade-offs (e.g. Bowman & Ambrosini, 2000; Mizik & Jacobsen, 2003). However, it has been argued that “*these developments have been curiously one-sided, with the emphasis on [...] value creation rather than value appropriation.*” (Reitzig & Puranam, 2009, p. 765). This asymmetry in scholarly interest is all the more surprising given that value appropriation “*is arguably the main objective of firms*” (Pitelis, 2009, p. 1124).

While *value creation* is important as a determinant of a firm’s competitive advantage, *value appropriation* refers to the degree to which a firm can capitalize on this advantage, i.e. to what extent it can extract value based on its competitive position (Mizik & Jacobsen, 2003). MacDonald and Ryall (2004) argue that competition determines whether a company can capture (i.e. appropriate) value. The more effective a company is in value appropriation, the better it is able to avoid *value slippage*, i.e. a situation where the firm creating a substantial part of value in a value network does not retain a corresponding share of the value it creates (Lepak, Smith, & Taylor, 2007; Parolini, 1999). Hence, extracting value from customers (i.e. monetary sacrifices) in exchange for value created by an offering, and retaining a maximum of this value in vertical competition within a value system (i.e. *vis-*

à-vis suppliers) is a key challenge for firms. Consequently, value appropriation is seen as a core *organizational capability* (Reitzig & Puranam, 2009).

In the context of value appropriation the general management literature has consistently stressed the importance of price (Hinterhuber, 2004; Monroe & Della Bitta, 1978; Rao, 1984). Pricing decisions affect firm profitability arguably more, and more directly, than any other business decision, and sound pricing has been regarded as a source of competitive advantage (Dutta, Zbaracki & Bergen, 2003). Although firms' awareness of the critical role of pricing has been increasing over the last two decades, there still exists some lack of knowledge about certain pricing aspects in managerial practice as well as in scholarly research (Baker, Marn & Zawada, 2010a). Some issues of pricing as an organizational value appropriation capability are well researched, for example pricing strategy (e.g. Forman & Hunt, 2005; Morris & Calantone, 1990), partly because of the immediate impact of getting pricing decisions wrong: Netflix's pricing fiasco in the U.S. in 2011 represents such a case. Netflix raised the price of its DVD-streaming bundle by almost 50%, resulting in a severe customer backlash, with the loss of almost 30% of its subscriber base of about 25mio. customers, and a 50% reduced share price. However, the same emphasis has not yet been given to issues about how to *organize for pricing*, although extant surveys of pricing professionals show that such organizational aspects are top-of-mind in practical value appropriation management (Homburg, Jensen & Hahn, 2012; Noble & Gruca, 1999; Roll, 2009).

Dutta et al. (2003) have argued that pricing is an organizational capability, which is linked to firm's organizational design choices. Such choices are important aspects of practical pricing management: in the automotive supply industry with its oligopolistic demand structure, supplier companies had to find optimal pricing organization designs by organizing 'near to the customer'. Thus, sales teams linked to project structures are responsible for pricing (in coordination with the controlling function), with the marketing department being side-lined. Other companies, such as a German tool manufacturer, developed new organizational structures around 'in-house pricing consultants' who are assigned to bidding teams for project acquisition activities (Batten, 2011).

Despite increasing attention regarding the importance of pricing, challenges to organizationally implementing pricing activities persist, resulting in many companies failing to take

advantage of value appropriation opportunities (Hinterhuber, 2008; Ingenbleek, 2007). Contrary to assumptions of prior research, pricing is neither easy nor costless (e.g. Dutta et al., 1999; Bergen et al., 2003). Profitable pricing as part of successful value appropriation involves considerable process costs (Dutta, Zbaracki & Bergen, 2003; Zbaracki et al., 2004) and can arouse intense intra-organizational controversy (Lancioni, Schau & Smith, 2005), making a firm's lack of enthusiasm for dealing with organizational pricing challenges more understandable: "*Few challenges cause more anxiety for senior executives than the implementation of pricing strategies*" (Nagle, Hogan & Zale, 2011, p. 174).

In an attempt to better understand value appropriation issues, recent academic work has paid greater attention to the *organizational context of pricing*. Several authors note that prior studies have neglected such organizational aspects of pricing (Carricano, Trinquencoste & Mondejar, 2010; Ingenbleek, 2007), and conceptual articles argued that failure to use advanced pricing approaches might be ascribed to the organizational context of pricing (Ingenbleek, 2007). Practical concerns by managers underline the relevance of a systematic pricing organization to make a difference: "*Successful companies deliberately build a strong pricing infrastructure that underpins and sustains pricing excellence*" (Baker, Marn & Zawada, 2010a, p. 2).

Recent value appropriation research most frequently studies selected and traditional bureaucratic organizational dimensions. For instance, some researchers have examined specialized pricing functions (Baker, Marn & Zawada, 2010b; Carricano, Trinquencoste & Mondejar, 2010; Nagle, Hogan & Zale, 2011), as well as issues around formalization (Argouslidis & Indounas, 2010; Ingenbleek, 2007), and centralization (Cavusgil, Kwong Chan & Chun Zhang, 2003; Frenzen et al., 2010; Homburg, Jensen & Hahn, 2012). They found that pricing organization may vary considerably among firms (Smith, 1995).

However, the variety of approaches to pricing organization across companies has not been investigated on the basis of large-scale empirical evidence. Often, uni-dimensional concepts are used. The result is not only a dearth of empirical research that systematically explores pricing organization but also the absence of a conceptual framework that includes a variety of relevant dimensions of pricing organization. To rectify this important gap, this paper builds on prior conceptual groundwork that discusses prototypes of pricing organization both conceptually and anecdotally (Baker, Marn and

Zawada, 2010b; Carricano, Trinquencoste & Mondejar, 2010; Nagle, Hogan & Zale, 2011; Smith, 1995). From this starting point, we develop an integrative conceptual framework for pricing organization and use data from 419 business units in the B2B sector that allow for the exploratory analysis of different configurations of pricing organizations and their performance implications.

Doing so, our study contributes to existing research by deriving the core characteristics of pricing organizations as part of an integrative conceptualization; by validating measurement instruments for these core characteristics; by identifying different configurational approaches to pricing organization in practice on the basis of a large-scale taxonomy, and by testing the relationship between different pricing organization approaches and organizational outcome variables.

The remainder of this article has the following structure. We review the literature on pricing organization and related research, and identify and introduce fundamental dimensions of pricing organization. We then outline our data collection and measurement approach and describe the taxonomical procedures. We present the taxonomy and the performance implications of configurations, and finally we discuss implications for academic research and managerial practice.

2. LITERATURE REVIEW

2.1. Research on pricing organization

During the last two decades, the management literature has increasingly considered pricing to be not just a one-time decision but a continuing organizational process (Baker, Marn & Zawada, 2010b; Dutta, Zbaracki & Bergen, 2003; Shipley & Jobber, 2001; Smith, 1995), requiring therefore the management of a set of interdependent activities (Shipley & Jobber, 2001). Building on previous frameworks, four critical decision fields can be identified: strategic pricing decisions, list or target price decisions, transactional pricing decisions, and price controlling (Baker, Marn & Zawada, 2010b; Dutta, Zbaracki & Bergen, 2003; Farley, Hulbert & Weinstein, 1980; Hinterhuber, 2004; Lancioni, 2005; Shipley & Jobber, 2001).

Activity-based research tends to focus on the activities related to such decision fields. So far, structural organizational issues play a minor role in this context, despite the findings of research on comparable marketing and management processes showing that such organizational aspects are a

major concern (Cadogan et al., 2005; Homburg, Workman & Jensen, 2002; Menon et al., 1999). While our study draws on an activity-based perspective of pricing, it takes the position that pricing organization is the structure that buttresses the pricing process, and therefore needs to be considered especially.

A review of the literature shows that few authors have addressed pricing organization either in a holistic manner, or related to specific organizational dimensions. Prior research can be divided into three categories (appendix 1): (1) studies that focus explicitly on pricing organization, (2) investigations that draw implicitly on the notion of pricing organization, and (3) examinations of single dimensions of pricing organization in a narrow context. Based on the analyzed literature, five main dimensions of pricing organization are identified: formalization, centralization, specialization, dispersion of influence, and top-management involvement.

Studies in category 1 consider pricing organization within a cross-functional decision-making process, with the most comprehensive conceptual framework being provided by Smith (1995). This view comes closest to our understanding of pricing organization, as it regards organizational dimensions as characteristics of decision-making processes in pricing. This line of research is largely conceptual (Baker, Marn & Zawada, 2010b; Nagle, Hogan & Zale, 2011; Smith, 1995), with some contributions being based on anecdotal evidence (Baker, Marn & Zawada, 2010a; Shapiro, 1983). The one empirical study in this category is based on qualitative interview data (Carricano, Trinquencoste & Mondejar, 2010). Some studies in this category suggest typologies describing several stages of the development of pricing organization (Baker, Marn & Zawada, 2010b; Carricano, Trinquencoste & Mondejar, 2010; Nagle, Hogan & Zale, 2011; Smith, 1995).

The second category of studies does not focus directly on pricing organization. However, descriptions within the studies suggest that pricing decisions are deeply embedded in organizational structures, and especially case study-based research implicitly refers to several dimensions of pricing organization (Dutta, Zbaracki & Bergen, 2003; Zbaracki & Bergen, 2010). For instance, pricing is described as a cross-functional process that includes several decision makers. Evidence is given for specialized pricing jobs and formalized procedures. Empirical studies examine the intra-organizational

environment of pricing (Lancioni, 2005), and other aspects are addressed by conceptual research (Hinterhuber, 2008; Ingenbleek, 2007) as well as anecdotal accounts (Smith & Nagle, 1994).

Category 3 comprises studies of single dimensions of pricing organization, primarily in two contexts. In the context of international pricing the literature has examined the issues of centralization (Alonso, Dessein & Matouschek, 2008; Cavusgil, Kwong Chan & Chun Zhang, 2003; Myers, Cavusgil & Diamantopoulos, 2002; Picard, Boddewyn & Grosse, 1998; Samiee, 1987; Solberg, Stöttinger & Yaprak, 2006; Stöttinger, 2001), as well as of formalization (Argouslidis & Indounas, 2010; Tzokas et al., 2000). In the context of transactional pricing (rather than the overall pricing process), especially the organizational dimension of centralization as the extent to which the firm delegates pricing authority to the sales force is explored. Research in this area is both empirical (Frenzen et al., 2010; Stephenson, Cron & Frazier, 1979) and analytical (Bhardwaj, 2001; Kissan, 2001; Mishra & Prasad, 2004).

The five main organizational dimensions, which can be synthesized from these three categories of studies on pricing organization are:

Formalization. The degree of formalization in pricing organizations differ between firms. Some pricing organizations are based on codified pricing processes (Baker, Marn & Zawada, 2010a; Smith, 1995), others on less structured ad-hoc approaches (Smith, 1995).

Centralization. This relates to discussions about how hierarchically centralized pricing should be, both in an activity-based context (i.e. covering the overall pricing context) (Smith 1995), and in a narrow context of transactional pricing (Bhardwaj, 2001; Frenzen et al., 2010; Kissan, 2001; Mishra & Prasad, 2004, 2005; Shipley & Jobber, 2001).

Specialization. This relates to the organizational implementation decision of either purely cross-functional organizations of pricing on the one hand, or the development of specialized roles dedicated to pricing activities (Baker, Marn & Zawada, 2010b; Carricano, Trinquencoste & Mondejar 2010; Nagle, Hogan & Zale, 2011).

Dispersion of Influence. Case studies describe cross-functional price decisions (Capon, Farley & Hulbert, 1975; Cyert & March, 1963; Dutta, Zbaracki & Bergen, 2003; Farley & Howard, 1971; Zbaracki and Bergen, 2010). Empirical research in management shows that sales, marketing, and

controlling can jointly influence pricing decisions (Homburg, Workman & Krohmer, 1999; Krohmer, Homburg & Workman, 2002; Lancioni, Schau & Smith, 2005; Troilo, de Luca & Guenzi, 2009; Verhoef & Leeflang, 2009).

Top-down involvement. Pricing success depends largely on the extent to which organizations emphasize continuous improvement of pricing capabilities in a directive manner, through management guidelines (Baker, Marn & Zawada, 2010b; Lancioni, Schau & Smith, 2005; Mizik & Jacobson, 2003). The strategy literature explains this arguing that an organization is the reflection of its top management team (Hambrick & Mason, 1984).

This literature analysis reveals several issues in pricing research that we aim to address. Our first observation is that prior research appears to be fragmented and mostly tends to study only single dimensions of pricing organization, thereby yielding no consolidated and integrative framework, which looks at configurations of such organizational dimensions. Moreover, quantitative empirical work on pricing organization is largely missing. Even though examinations include anecdotal and conceptual work as well as interview-based research, investigators have not developed validated empirical measures. Finally, while previous researchers have mentioned several organizational prototypes (Carricano, Trinqucoste & Mondejar, 2010; Smith, 1995), no study has used a large-scale setting to empirically analyze configurations of how companies organize for pricing, as well as their impact on value appropriation.

2.2. Related research

As pricing is an area of management with strong links to marketing, we consider research on marketing organization to be of relevance for our research question. Research on marketing organization has dealt with several topics that fall within the scope of this study.

First, investigators have proposed various conceptual frameworks for the organization of marketing activities (Håkansson & Östberg, 1975; Ruckert, Walker & Roering, 1985; Workman, Homburg & Gruner, 1998). Building on this line of research, we ensure that both structural and nonstructural dimensions of organization are included in our framework (Workman, Homburg & Gruner, 1998). *Structural dimensions* consist of conventional bureaucratic aspects such as formalization, specialization, and centralization (Hage & Aiken, 1967; Pugh, Hickson & Hinings,

1969; Pugh et al., 1963). *Nonstructural dimensions*, such as top-management involvement, “*have received increasing attention in marketing literature because there has been greater managerial locus on the use of cross-functional teams*” (Workman, Homburg & Gruner, 1998, p. 27). Thus, our conceptualization reflects current thinking within the broader context of organization research at the firm-market interface.

Secondly, our literature review reveals that specific and established empirical scales on pricing organization are scant. However, investigators in other fields have developed scales to measure organizational dimensions (Dastmalchian & Boag, 1990; Olson, Slater & Hult, 2005; Vorhies & Morgan, 2003; Cadogan et al., 2005; Workman, Homburg & Jensen, 2003; Krohmer, Homburg & Workman, 2002; Troilo, de Luca & Guenzi, 2009; Jaworski & Kohli, 1993; Song, Xie & Dyer, 2000; Verhoef & Leeflang, 2009). More recently, cluster analysis has come to be regarded as a useful tool for achieving further insights into intra-organizational issues such as different organizational configurations. Recent studies have used such taxonomies to explore how firms organize key account management (Homburg, Workman & Jensen, 2002) and the marketing–sales interface (Homburg, Jensen & Krohmer, 2008), as well as how firms relate to their markets and their customers (Cannon & Perreault, 1999). Some of these studies have included the examination of performance implications, thus establishing a link between organizational pattern and performance, which is grounded in configurative approaches of organizational analysis (Ketchen et al., 1997; Meyer, Tsui & Hinings, 1993; Vorhies & Morgan, 2003).

3. CONCEPTUAL FRAMEWORK DEVELOPMENT

3.1. Fundamental organizational dimensions

Formalization. Formalization is probably the most frequently studied organizational dimension (Homburg, Jensen & Krohmer, 2008; Vlaar, van gen Bosch & Volberda, 2006). However, empirical research on the role of formalization in pricing is sparse. Formalization in pricing is generally considered to be rather low. “*At many companies, the processes for making critical pricing decisions have a random, even reactive feel: they lack the structure, thoroughness, and underlying analytics that such profit-sensitive decisions deserve.*” (Baker, Marn & Zawada, 2010a, pp. 2,3).

However, formalization in terms of clearly defined roles and responsibilities is an important organizational dimension of pricing processes (Smith, 1995; Atkin & Skinner, 1977; Carricano, Trinquencoste & Mondejar, 2010; Nagle, Hogan & Zale, 2011; Shapiro, 1983). This is reflected by Nagle et al. (2011) who note “*failure to formally allocate pricing decision rights leads to more inconsistent pricing and greater conflict as managers attempt to influence pricing decisions*” (p. 180). Further aspects of formalization pertain to systematic price planning and execution by means of pricing plans (Lancioni, 2005) and pricing routines (Ingenbleek, 2007; Zbaracki & Bergen, 2010).

Two empirical studies have analyzed the effect of formalization in pricing in which investigators found a positive effect of formalization in terms of standardized behavior, procedures, and rules (Argouslidis & Indounas, 2010; Tzokas et al., 2000). Like these researchers, we define formalization as the extent to which formal rules and standard procedures govern the pricing process. However, we focus on formalization of the most important pricing decisions, which include setting and managing list and target prices, establishing pricing architectures, managing special price requests, and gathering competitive and market price intelligence (Baker, Marn & Zawada, 2010b).

Centralization. Centralization generally measures the extent to which decision-making authority is concentrated at higher levels of the SBU’s hierarchy (Zelfane, 1989; Dastmalchian & Boag, 1990; Olson, Slater & Hult, 2005; Vorhies & Morgan, 2003). Prior research has examined centralization of specific marketing processes (Cadogan et al., 2005; Homburg, Workman & Jensen, 2002; Menon, Jaworski & Kohli, 1997; Workman, Homburg & Jensen, 2003).

Investigators have studied centralization in pricing in three contexts, with most research focusing on the question of how much pricing authority should be granted to the sales force (Bhardwaj, 2001; Frenzen et al., 2010; Kissan, 2001; Mishra & Prasad, 2004; Mishra, 2005). This line of research has an exclusive focus on transactional pricing activities. A second stream of research primarily examines the question of the degree to which pricing authority should be delegated to local entities (Cavusgil, Kwong Chan & Chun Zhang, 2003; Myers, 1997; Picard, Boddewyn & Grosse, 1998; Samiee, 1987). Research in this area extends beyond transactional pricing to include strategic aspects like price positioning.

The activity-based literature of pricing proposes the most general understanding of centralization, discussing it as a characteristic of the overall organizational decision process (Nagle, Hogan & Zale, 2011; Smith, 1995). This understanding best fits our view. Drawing on prior research on activity-based pricing, we define centralization as the extent to which the most important decisions are made at the higher levels of the organization. Thus, our understanding of centralization is not limited to transactional pricing but encompasses all critical pricing decisions.

Specialization. The organization literature generally refers to specialization as the extent to which full-time employees deal exclusively with various specialized activities (Bryman et al., 1983; Dastmalchian & Boag, 1990; Postrel, 2002). Specialized roles have emerged in several areas of value creation and appropriation, e.g. key account managers (Homburg, Workman & Jensen, 2002; Workman, Homburg & Jensen, 2003) and product managers (Low & Fullerton, 1994; Shoker, Srivastava & Ruekert, 1994). However, specialized roles with respect to pricing are rather new (Calogridis, 2006; Carricano, Trinquencoste & Mondejar, 2010). They are often established in the course of change management initiatives (Aepfel, 2007; Carricano, Trinquencoste & Mondejar, 2010). Specialization in pricing occurs at different hierarchical levels and to varying degrees. At lower hierarchical levels, pricing analysts prepare pricing decisions by, for example, collecting relevant data (Carricano, Trinquencoste & Mondejar, 2010; Dutta, Zbaracki & Bergen, 2003; Zbaracki & Bergen, 2010). Pricing managers or pricing directors represent another specialization (Carricano, Trinquencoste & Mondejar, 2010; Morris & Calantone, 1990).

In addition to manifesting in single jobs, specialization can take other forms involving several managers. In one approach, multiple functional areas assume responsibility for pricing through pricing committees (Capon, Farley & Hulbert, 1975; Lancioni, 2005). In an opposite approach, a fully responsible pricing unit takes on specialization tasks (Baker, Marn & Zawada, 2010b; Homburg, Workman & Jensen, 2000, p. 466; Nagle, Hogan & Zale, 2011). The diverse ways of implementing specialized pricing functions reflect the variation in the extent of specialization within firms. Specialization occurs at two extremes: “*At the [one] extreme we hear the statement: ‘Pricing is everybody’s job’; and at the other end is the declaration: ‘We have a special pricing group and only they have to worry about pricing’*” (Shapiro, 1983, p. 32). We build on the concept of specialization

as exhibiting differing degrees rather than being binary (Olson, Slater & Hult, 2005; Vorhies & Morgan, 2003). As a result, we define specialization as the extent to which employees are exclusively dedicated to pricing activities.

Dispersion of influence. Dispersion of influence is a typical phenomenon of cross-functional decision processes and a nonstructural dimension of value creation and appropriation organization (Homburg, Workman & Jensen, 2000; Workman, Homburg & Gruner, 1998). Dispersion is concerned with the distribution of power among different functional groups (Krohmer, Homburg & Workman, 2002; Troilo, de Luca & Guenzi, 2009). More precisely, it is “*the degree of coherence with an identical influence distribution across all the functional groups*” (Krohmer, Homburg & Workman, 2002, p. 454).

Dispersion of influence is also a critical dimension of pricing organization. Conceptually, pricing is a ‘spanning capability’ (Day, 1994), and as a consequence, pricing must integrate inside-out and outside-in capabilities. This integration involves a certain level of cross-functional interaction as organizations tend to develop capabilities in different functional areas (Homburg & Jensen, 2007; Lawrence & Lorsch, 1967). Empirical evidence confirms the presence of a high degree of cross-functional decision-making in pricing, as several studies show that pricing is one of the activities where influence is most dispersed (Homburg, Workman & Krohmer, 1999; Krohmer, Homburg & Workman, 2002; Lancioni, Schau & Smith, 2005; Troilo, de Luca & Guenzi, 2009; Verhoef & Leeflang, 2009). While sales, marketing, and controlling are the most influential departments in pricing, the distribution of influence varies across companies (Krohmer, Homburg & Workman, 2002).

No empirical study to date has focused on dispersion of influence as a dimension of pricing organization. However, studies that consider dispersion in the context of market-directed activities show that it improves collaboration at the marketing–sales interface (Troilo, de Luca & Guenzi, 2009) and seems to increase effectiveness, efficiency, and adaptability on the firm level (Krohmer, Homburg & Workman, 2002). Drawing on this line of research, we define dispersion of influence as the extent to which sales, marketing, and controlling influence pricing decisions equally. As decision influence might vary across activities relating to pricing (Troilo, de Luca & Guenzi, 2009), we distinguish

dispersion of influence for four decision areas: strategic decisions, list or target price decisions, transactional pricing decisions, and price controlling (Baker, Marn & Zawada, 2010b; Dutta, Zbaracki & Bergen, 2003; Farley, Hulbert & Weinstein, 1980; Hinterhuber, 2004; Lancioni, 2005; Shipley & Jobber, 2001).

Top-management involvement. The role of top management for the efficiency and effectiveness of various activities has been studied several times (Antioco et al., 2008; Cadogan et al., 2005; Jaworski & Kohli, 1993; Le Meunier-FitzHugh & Piercy, 2009; Menon, Jaworski & Kohli, 1997; Song, Xie & Dyer, 2000). The importance of top management is attributed to normative influences on employees' behaviors as well as the ability to provide clear objectives and appropriate organizational structures (Cadogan et al., 2005; Jaworski & Kohli, 1993; Song, Xie & Dyer, 2000). As the pricing literature shows, top-management involvement is a unique organizational feature and is regarded as crucial to the development of professional pricing skills (Hinterhuber, 2008; Ingenbleek et al., 2003). In fact, “[g]etting top management attention seems to be one of the critical drivers of a genuine value orientation” (Carricano et al., 2010, p. 472). However, “managers tend give a larger weight to value creation variables than to pricing” (Ingenbleek, 2007, p. 451)—a remarkable finding given that research has shown that companies focusing on value extraction (such as pricing) tend to be more successful (Mizik & Jacobson, 2003).

Some evidence indicates that top-management involvement might foster an organization-wide pricing culture, especially as the term ‘culture’ has been linked to pricing in several publications (Baker, Marn & Zawada, 2010b; Lancioni, 2005; Lancioni, Schau & Smith, 2005). In the corporate culture literature, culture often refers to a set of shared values and beliefs initiated by a top-down process (Deshpande & Webster, 1989). In a similar vein, the pricing literature ascribes internal resistance to pricing decisions to “management cultures that do not place a high priority on pricing and regard the price setting as a ‘seat of the pants’ quick response decision” (Lancioni, Schau & Smith, 2005, p. 130). We therefore define top-management involvement as the extent to which top executives view pricing as a core activity and support its continuous improvement.

3.2. Outcome variables

In addition to organizational dimensions we study how pricing organization configurations relate to outcome variables. We distinguish between outcomes with respect to pricing organization, and outcomes on the level of the overall firm.

First, we examine pricing process effectiveness, pricing process efficiency, and adaptability of pricing as outcome variables directly linked to pricing organization. These aspects cover several facets of organizational outcomes often discussed in the literature. We define pricing process effectiveness as the extent to which a company succeeds in capturing a high share of the value it creates (Dutta, Zbaracki & Bergen, 2003). Pricing process efficiency takes into account the “*relationship between organizational outputs and the inputs required to reach those outputs*” (Ruekert, Walker & Roering, 1985, p. 15). As pricing decisions can consume considerable internal managerial effort and costs (Zbaracki et al., 2004), we define pricing process efficiency as the extent to which the pricing process is productive considering the internal efforts. Adaptability of pricing is the extent to which the pricing organization allows flexible reaction to changes in the marketplace (Ruekert, Walker & Roering, 1985).

A fourth outcome variable, quality of cooperation, is a frequently used behavioral variable in the organizational interface literature and refers to the extent to which actors involved in pricing collaborate through combined efforts (Homburg & Jensen, 2007; Homburg, Jensen & Krohmer, 2008). Pricing decisions affect an intra-organizational political system consisting of several departments (Lancioni, Schau & Smith, 2005). As a result, pricing decisions are prone to intra-organizational conflicts and competing interests (Capon & Hulbert, 1975; Farley, Hulbert & Weinstein, 1980; Myers, 1997; Smith, 1995; Zbaracki & Bergen, 2010), which make achieving a unified effort a thorny undertaking.

Secondly, we include subjective outcome measures on the SBU-level. Strong conceptual evidence indicates that pricing affects overall firm performance (Dolan & Simon, 1997; Dutta, Zbaracki & Bergen, 2003; Hinterhuber, 2004). Pricing objectives are usually derived from goals relating to the overall business strategy (Oxenfeldt, 1973). In line with current thinking in the pricing literature about trade-offs between profit-oriented and market-oriented objectives (Simon, Bilstein &

Luby, 2006), we distinguish market performance from financial performance (Day & Fahey, 1988; Morgan, Clark & Gooner, 2002).

Thirdly, we study objective performance measures on the SBU-level, particularly return-on-sales (ROS; i.e. operating profit divided by operating revenues) (Homburg, Jensen & Krohmer, 2008).

3.3. Control variables

When we investigate whether configurations of pricing organization differ in terms of outcomes, we control for two internal and one external contextual variables. First, we consider SBU-size as one of the most frequently used control variables of organization research (Homburg, Workman & Krohmer, 1999; Troilo, de Luca & Guenzi, 2009; Verhoef & Leeflang, 2009). SBU size has also been shown to affect strategic pricing decisions (Diamantopoulos & Mathews, 1994; Jobber & Hooley, 1987). Secondly, we control for the extent to which firms adopt a differentiation strategy. The pricing literature repeatedly discusses differentiated offerings as a source of pricing advantage (Hinterhuber, 2004; Monroe, 2005; Nagle, Hogan & Zale, 2011). Strategy in general is a frequently studied variable in organization research (Olson, Slater & Hult, 2005; Vorhies & Morgan, 2003). Thirdly, as competitive intensity has been shown to affect both organizational outcomes (Jaworski & Kohli, 1993) and pricing decisions (Forman & Lancioni, 2002; Ingenbleek et al., 2003), we control for it as an important external factor.

4. METHODOLOGY

4.1. Data collection procedure

To conduct an exploratory survey, we obtained information from a commercial address provider about executives from 3,247 firms in six different B2B industry sectors (see Table 1). We sent all executives personalized e-mails and a follow-up reminder to motivate participation in the study. Promising strict confidentiality, we asked respondents to refer to their SBU or, if their company had only one SBU, to their company.

 INSERT TABLE 1

In total, we obtained 470 questionnaires, of which 51 could not be used because of missing data. When assessing the response rate, we took into account the sensitivity of the pricing topic and its inherent confidentiality concerns. Quantitative empirical studies on pricing have shown response rates of around 13% (Forman & Hunt, 2005; Ingenbleek et al., 2003), placing our response rate of 12.9% within the range of comparable research. We tested for a potential nonresponse bias by comparing construct means for early and late respondents (Armstrong & Overton, 1977). The fact that we did not find significant differences between early and late respondents ($p < .05$) speaks against any strong nonresponse bias.

To address the common method bias issue resulting from relying on a single respondent per company (Podsakoff et al., 2003; Podsakoff et al., 2012), we collected objective financial performance data from annual reports and the firms' websites. For almost half of the companies, we obtained the ROS for the last three years. In addition, we managed to obtain objective data regarding the pricing organization variable of specialization. We defined specialization as the extent to which companies have employees that are exclusively dedicated to pricing activities, thus we expect firms with a high degree of specialization to have dedicated pricing jobs. We used job descriptions as an objective validation of specialization. To test whether responding firms make use of specialized pricing positions such as pricing managers, pricing analysts, or pricing directors, we used information from a social network of professionals as well as our respondents' position. This approach has limitations, however, as it proves the existence of titled pricing jobs but fails to encompass pricing positions for which the job title does not reflect the specialization. Moreover, not all pricing specialists are enrolled in professionals' social networks, internal job titles may differ from our search terms, and cross-functional appearances of specialization such as dedicated pricing committees would be undetectable. Despite these limitations, we believe that our approach provides valid and useful additional objective proxies.

Our data collection procedures yielded objective financial data for 165 cases. Owing to publicity restrictions in Europe, we could not obtain financial data for all companies (Homburg, Jensen & Krohmer, 2008). On the basis of the objective performance data, we tested for an availability bias by comparing construct means for data sets with and without objective financial performance data

(Homburg, Jensen & Krohmer, 2008). We did not find any significant differences ($p < .05$) in variables describing the pricing organization or in outcome variables. Thus, this test speaks against the existence of a major availability bias, and we conclude that the companies for which we have hard financial performance data are not different from others in the sample.

As we found a strong relationship between the existence of pricing jobs and the value of our specialization construct, we were also able to externally validate the organizational dimension of specialization. Within the top fifty firms showing the highest extent of specialization, we identified explicit pricing jobs for sixteen firms (32.0%). The remaining 369 firms with lower specialization scores accounted for only six additional pricing specialists. In addition, mean values of the specialization construct show a fundamental difference between the twenty-two companies with objectively validated pricing specialists and the rest of the sample (5.6 vs. 2.7). Our sample size for companies with a second objective source of data for latent variables is comparable to prior research (Homburg, Droll & Totzek, 2008). Owing to the small sample size of fewer than 30 validated pricing specialists, we use the nonparametric Mann–Whitney U test to evaluate the significance of the differences between the group of companies with objectively validated pricing specialists and the rest of the sample. The resulting z -scores are highly significant ($z = -6.67$, $p = 0.000$). Thus, the specialization value of companies with objectively validated pricing experts is significantly higher. This finding underscores the validity of our pricing organization constructs.

4.2. Measurement procedure

Consistent with their operationalization in prior research (Verhoef & Leeflang, 2009; Vorhies & Morgan, 2003), the constructs used in this study (except dispersion of influence) are reflective in nature. That is, causality goes from the unobservable variable to the single items (Bollen & Lennox, 1991; Jarvis et al., 2003). We developed the questionnaire based on an extensive literature review and sense-checked it via qualitative interviews with both academics and experienced pricing specialists. In a second step, we pre-tested the draft version of the questionnaire with pricing experts, which led to minor changes in the wording of some questions. The appendix contains all questions used as well as references indicating their source. We assessed reliability and validity of the reflective measures with

an exploratory factor analysis in SPSS 12.0 and confirmatory factor analyses in Mplus 6.1. Table 2 shows the results.

 INSERT TABLE 2

Confirmatory factor analysis is a powerful complement to exploratory factor analysis because it offers additional fit indices to assess the quality of constructs used (Bagozzi, Youjae Yi & Phillips, 1991). For the assessment of the constructs, we used composite reliability, indicator reliability of each item, and average variance extracted (AVE). To examine the quality of the constructs, we relied on χ^2/df , RMSEA (root mean square error of approximation), TLI (Tucker-Lewis Index), CFI (comparative fit index), and SRMR (standardized root mean square residual). Overall, the obtained fit indices suggest a high quality of our measurement instruments. AVE values as well as correlations between all constructs are provided in table 3.

Comparing the AVE from each construct with the squared correlations between all pairs of constructs allowed us to conclude that high levels of discriminatory validity exist (Fornell & Larcker, 1981, cf. table 4). Table 5 presents all fit indices. Consistent with prior research, we measured dispersion of influence by assessing the influence of sales, marketing, and finance over four pricing areas (activities) by using a 100-point constant-sum scale. We computed a single index reflecting the extent to which dispersion of influence occurs (Krohmer, Homburg & Workman, 2002; Troilo, de Luca & Guenzi, 2009). High index values indicate high levels of dispersion. We further used a single question for objective financial performance (return on sales).

 INSERT TABLES 3, 4 & 5

4.3. Exploratory configurational analysis: taxonomic procedure

We use the different dimensions of pricing organization to identify an empirical taxonomy of configurations. We employ latent class analysis in Mplus 6.1 (Muthen & Muthen, 2007), because of its methodological strengths (Magidson & Vermunt, 2002; Nylund, Asparoutiov & Muthen, 2007). In particular, probabilistic cluster algorithms can better reflect the ambiguity in cluster assignments than traditional approaches. Hence, latent class analysis overcomes concerns that clusters “*might be*

understood best by thinking of them as hybrids or combinations of the 'pure' types" (Cannon & Perreault, 1999, p. 458).

Consistent with previous research, we opted for a three-stage clustering approach to address three main issues: determining the number of clusters, assessing the stability of cluster assignments, and assigning observations to clusters (Cannon & Perreault, 1999; Homburg, Jensen & Krohmer, 2008; Homburg, Workman & Jensen, 2002). Building on Nylund et al. (2007), we used three criteria to determine the number of clusters: Bayes' Information Criterion (BIC), Lambda-Mu-Rho (LMR) p values, and the Bootstrap Likelihood Ratio Test (BLRT). BIC and LMR were used to reduce the number of possible solutions. Because of the increased amount of computing time, BLRT served as a validator for the most likely solution. In the interest of rigor, we probed for all possible solutions (1–8 clusters). We found strong support for a five-cluster solution. First, the minimum BIC statistic is clearly associated with the five-cluster model. Second, the LMR p value of this model shows a good relative fit, as does the BLRT. Following a procedure used in comparable taxonomy research, we additionally clustered ten randomly selected subsamples from our data, each containing two-thirds of the sample (Homburg, Jensen & Krohmer, 2008; Homburg, Workman & Jensen, 2002). The five-cluster solution was confirmed as the BIC measure was lowest for five clusters in most of the subsamples.

To assess the stability of the cluster assignment, we conducted a number of tests. First, we increased the number of random starts of the expectation-maximization (EM) algorithm and tightened the convergence value (McLachlan & Peel 2000). None of the solutions revealed an improved value of the log-likelihood function, providing evidence for a global optimum. Secondly, we assessed the average latent class probability for the most likely class membership in each cluster. Four of the five clusters revealed an average of well above 85%. We consider this result to be further evidence for distinctive and stable cluster assignments. Third, we used a split sample approach to verify stability (Homburg, Workman, & Jensen, 2002). Results showed that most of the observations in the overlapping sample had been assigned to the same cluster. Fourth, we compared our cluster means with those of a deterministic cluster analysis based on a hybrid clustering approach (Cannon &

Perreault, 1999; Homburg, Jensen & Krohmer, 2008). The most remarkable difference was cluster size. In terms of the interpretation of clusters, both methods led to very similar results.

Finally, we assigned the observations to clusters by computing a five-cluster solution for the complete sample using a high number of random starts and a high convergence value. Even though the EM algorithm calculates probabilities of class membership, every observation is eventually assigned to a single cluster. The non-overlapping assignment was the basis for our further analyses.

5. RESULTS

A central step towards a taxonomy is to validate whether the clusters have meaningful interpretations (Rich, 1992). Table 6 shows the cluster means for each of the five cluster variables (for a verbalization see appendix 2). Following the interpretation steps suggested in previous research (Homburg, Jensen & Krohmer, 2008), we first compared the clusters on the basis of Duncan's multiple-range test and then transferred the resulting bands into verbal descriptions of a configuration with respect to the cluster variables.

 Insert Table 6

5.1. Interpretation of configurations (clusters)

In accordance with previous cluster analysis work, we assigned names to the different configurations to reflect an interpretation of each cluster. The names are intended to catch the most distinctive aspects of the different approaches to pricing organization. We introduce the prototypes by cluster size, from largest to smallest.

Rock-Solid Handcrafter. This cluster was the most commonly used approach (47.3% of the cases in the sample). Its firms have a well-defined organization that underpins critical pricing processes and have made investments in a systematic pricing infrastructure. As a result, centralization and formalization as well as top-management involvement are high (5.6, 6.0, and 6.0). These characteristics imply that upper management levels are involved in important pricing decisions and that the pricing process takes place in a rather formalized environment. Top management regards pricing as a critical capability, which ensures the necessary attention. A top-down driven pricing

culture is likely to have emerged. A remarkable feature of the Rock-Solid Handcrafter is, however, the very limited use of dedicated pricing specialists. Pricing seems to be managed in a purely activity-based way. Pricing is not implemented as a separate function in the organizational structure, and the dispersion of influence is rather low (51.5). Firms in the Rock-Solid Handcrafter tend to make price decisions in a dominant department, which is usually the sales department.

Eager Beaver. While the Eager Beaver approach to pricing is also widely used (19.6% of cases), it is less common than the previous cluster. Although the Eager Beaver differs little from the Rock Solid Handcrafter as far as centralization, formalization, and top-management involvement are concerned, it diverges strongly in the organizational dimensions of specialization and dispersion of influence (5.2 vs. 2.2, and 57.2 vs. 51.5). In contrast to the Rock Solid Handcrafter, the Eager Beaver firm implements pricing as a dedicated function. As a result, specialization scores top values. Moreover, firms in the Eager Beaver cluster allow a greater dispersion of influence across sales, marketing, and finance/accounting leading to a system of checks-and-balances across several departments. The fact that specialization does not lead to concentrated decision influence may seem initially surprising. However, the wide dispersion of influence suggests that specialized pricing functions assume a coordination and integration role.

Monocracy. This approach to price organization (12.9% of all cases) is less systematic than the two previous clusters. While centralization is strong, limited formalization and hardly any specialization occur in Monocracy firms (4.0 and 1.8). The nonstructural dimensions of top-management involvement and dispersion of influence are also less developed (3.4 and 53.3). These characteristics indicate that no systematic pricing organization has been set up, and usually a dominant personality located in higher management levels makes the important pricing decisions. Most likely, this manager is situated either on the management board or in sales management. While the Monocracy firm has the ability to make decisive pricing decisions, concerns may exist about its ability to consolidate and integrate relevant internal and external perspectives. Ad-hoc decisions by a dominant manager are likely, and as a result, decisions are less efficient and effective.

Talk the Talk. This smaller cluster of firms (11.9%) also takes a less systematic approach to pricing organization although they have relatively high top-management involvement. Companies in

this cluster tend to neglect implementing important aspects of pricing, that is, formalization and specialization are low (3.2 and 1.7). The difference between Talk the Talk and Monocracy firms is the low degree of centralization (1.7) in Talk the Talk firms. This suggests a certain neglect of the actual pricing organization, with little structure and a laissez-faire attitude on the part of the firm. Thus, a systematic pricing approach is invoked as the “*flavor of the month*” (Baker, Marn & Zawada, 2010b, p. 284), although it is not implemented in daily practice. These firms describe price management as being very important and top-management driven, but ultimately the involvement of senior executives to developing a more professional and systematic pricing organization is limited (5.8).

Stuck in the Middle. This cluster (8.4%) shows ambiguous results for most of the dimensions. While formalization and specialization as well as dispersion of influence are toward the higher end of scale values (4.5, 4.3, and 59.0), they are still considerably below the top performers. At the same time, low centralization and rather low top-management involvement prevail (4.8 and 4.6). Organizational structure seems to evolve without the involvement and support of top management, and the development of pricing organization is driven bottom-up. This approach endangers the potentially positive effects of formal processes and specialization as they may face acceptance issues in the organization. When top-down support is lacking, pricing initiatives may not be fully implemented. Holders of specialist positions may become ‘gray eminences,’ whose expertise is always appreciated but whose opinion is not considered in decision making.

5.2. Outcome implications of configurations

The description of clusters reveals diverse configurations of pricing organization. To test the performance implications of the different configurations, we analyzed three distinct types of outcome variables. First, we included perceptual pricing-specific outcomes, as well as a behavioral variable, i.e. quality of cooperation. Secondly, we analyzed effects on firm performance, specifically relative financial and market performance. We acknowledge that unlike pricing-specific outcomes, firm performance differences are influenced by variables other than price organization. Finally, we use objective firm profitability data.

The results show that the Eager Beaver and the Rock-Solid Handcrafter configurations consistently achieve superior performance in all outcome variables, with the Eager Beaver slightly

outperforming the Rock-Solid Handcrafter (maximum difference between performance outcomes = 0.2). The three remaining approaches (Stuck in the Middle, Talk the Talk, and Monocracy) are less successful. Objective ROS data confirm the existence of two groups of clusters with differing performances (2.9% vs. 0.8%). A few notable exceptions emerge. We find a relatively high level of market performance for Stuck in the Middle configurations (4.7). This result reflects the ambiguous character of this cluster. The fact that Monocracy reaches a reasonable degree of process effectiveness (4.2) may be less surprising, given the assumed ad-hoc decision-making by a single person. However, in terms of relative financial performance it achieves the poorest level (4.3) of all clusters.

The overall result shows that investments in a systematic pricing organization pay off, confirming that companies should “*deliberately build a strong pricing infrastructure that underpins and sustains pricing excellence*” (Baker, Marn & Zawada, 2010a, p. 2). The most successful configurations (Eager Beaver and Rock-Solid Handcrafter) have a well-defined pricing organization, and firms in both clusters make intensive use of formalized procedures and centralize the most critical pricing processes. In addition, management cultivates a pricing culture across the organization by extensive top-management involvement to pricing. Less successful organizations fail in the three dimensions of formalization, centralization, and top-management involvement. When embedded in these three dimensions, specialization and horizontal delegation of price authority seem to be a way to enhance performance. However, less successful clusters show that specialization and dispersion of influence might be tricky, with ambiguous isolated effects. Remarkably, Talk the Talk shows the lowest performance in terms of all outcome dimensions. “*Believing it is enough for the CEO to assert that pricing is a priority*“ has been assumed to be a common pitfall (Baker, Marn & Zawada 2010a, p. 284), and the low performance of the Talk the Talk cluster seems to underscore this statement.

For further rigor we tested for omitted variable bias by including strategic orientation, SBU-size, and competitive intensity as control variables in the analysis. Similar to previous research (e.g. Homburg, Workman & Jensen, 2002), we used an analysis of covariance (ANCOVA) to test for performance differences. Appendix 3 shows that although control variables have significant effects on most outcome variables, the effects of cluster memberships are still significant.

6. DISCUSSION

6.1. Theoretical implications

Although prior research has not empirically established different pricing organization configurations, we juxtapose our findings to previous discussions on the options companies have for organizing pricing. We identified three relevant studies describing typologies of pricing organization. One of them analyzes the overall pricing organization (Smith, 1995), whereas two mainly, but not exclusively, focus on a specialized pricing function (Baker, Marn & Zawada, 2010b; Carricano, Trinquencoste & Mondejar, 2010).

Smith (1995) suggests four clusters of pricing orientation: cost-oriented, sales-oriented, competitor-oriented, and strategy-oriented. From our empirical results we cannot confirm that the most fundamental difference between configurations is the horizontal delegation of pricing authority as implied by Smith's (1995) taxonomy. Instead, we observe a high dispersion of influence among departments, with sales playing a crucial role. This observation is consistent with prior research (Homburg, Workman & Krohmer, 1999; Krohmer, Homburg & Workman, 2002; Lancioni, Schau & Smith, 2005; Troilo, de Luca & Guenzi, 2009; Verhoef & Leeflang, 2009). In addition, we cannot confirm decentralized types with little interdepartmental interaction. Instead, our results show that decentralized clusters tend to delegate authority vertically to several departments, which leads to a higher dispersion of influence.

However, we find similarities with Smith's (1995) clusters in some of the configurations. Most outstanding is the similarity of the strategy-oriented cluster and the Eager Beaver. The strategy-oriented type is characterized by integrated decision processes, formalized and centralized processes, and low inter-functional conflict. This profile reflects typical features of the Eager Beaver. Further similarities regarding centralization, formalization, dispersion of influence, and quality of cooperation appear between the Monocracy firm and the cost-oriented type.

Other quantitative research suggests three degrees of maturity of the pricing function: commodity, control, and value (Carricano et al., 2010), although the results are not immediately comparable with our study as the research is based on interviews with holders of specialized pricing

functions, which our study shows to be rather infrequent. A bias exists toward companies that have already specialized the pricing function to some extent. However, some interesting similarities exist, as two of our configurations have a higher degree of specialization. More specifically, the benchmarking clusters of Value and Control are similar to our Eager Beaver cluster. In Carricano et al. (2010) study's Commodity cluster, price management is regarded as an impossible dream. A systematic price management process is non-existent or inefficient. This description parallels typical features of Stuck in the Middle configurations.

Baker et al. (2010b) distinguishes two clusters of specialized pricing organizations: active and passive. A main difference between active and passive is the level of top management support, with much greater support present in the active pricing organization. In a similar vein, we find that while the clusters Eager Beaver and Stuck in the Middle both have specialized pricing functions, only the Eager Beaver enjoys explicit top-management involvement. However, the different performance outcomes of both clusters are consistent with the assumptions made by Baker et al. (2010b).

Comparing our findings to earlier proposed conceptual typologies reveals that our work contributes significantly to knowledge in this area. This comparison concerns not only the dimensions examined but also the number and type of identified clusters. While we found similarities to other proposed typologies, we could not empirically corroborate them. Our results emphasize the relevance for theory and practice of empirically validating and complementing such conceptual typologies.

6.2. Implications for academic research

Despite the relevance of pricing organization for achieving profitability, the topic has long been neglected in empirical research, and conceptual and anecdotal evidence is fragmented and largely subjective in nature. We contribute to the literature with both our conceptualization of pricing organization and our empirically derived taxonomy. To the best of our knowledge, our research is the first to explore organizational issues of pricing on the basis of a large empirical database allowing for generalizability among similar industry contexts. In addition, this study provides conceptual clarity to the dimensions of pricing organization.

We propose a framework consisting of structural and nonstructural organizational dimensions. More specifically, we consider formalization, centralization, and specialization as structural

dimensions, and dispersion of influence and top-management involvement as nonstructural dimensions of pricing organization. Structural dimensions have been studied extensively in other contexts but have never been comprehensively explored in the pricing field. Nonstructural dimensions have been less explored in general, and in pricing research, empirical evidence of nonstructural dimensions is nonexistent. Our multidimensional conceptualization may be helpful not only for studying pricing organization itself but also for exploring potential contingencies between organization and pricing practices (Ingenbleek, 2007).

As a pioneering research approach to pricing organization, this article is the first to empirically classify pricing organization designs as configurations. Our findings challenge ad hoc conceptual and anecdotal classifications in previous studies that had not been empirically validated. While our results confirm several previous statements on the relevance of the dimensions, they lead to rejection of others. For example, we did not find pricing power to be concentrated in sales, marketing, or controlling. Rather, we identified that influence is usually spread across all departments and that dispersion of influence rather than concentration matters. An important contribution of our research is to address the link between intra-organizational pricing issues and performance. With a few exceptions (Frenzen et al., 2010; Ingenbleek et al., 2003), empirical pricing research has not considered performance implications. Our research considers not only perceptual pricing-specific performance measures but also outcome variables on the organizational level as well as objective performance data, and the significantly superior results of systematically-organized clusters confirm the importance of pricing organization and of pricing in general. Our multidimensional assessment of performance provides a helpful basis for further empirical research in pricing.

Finally, we used a probabilistic cluster analysis to derive our taxonomy. This represents an advanced approach to cluster analysis (Magidson & Vermunt, 2002). Probabilistic cluster analysis is particularly well suited to reflect the hybrid nature of clusters. This is important because pure types of clusters are rarely found in practice (Cannon & Perreault, 1999).

6.3. Implications for managerial practice

When introducing sophisticated pricing methods, tools, and systems, managers should not overlook the importance of the organizational backbone of pricing. Our research confirms that successful

pricing requires a systematic design of the pricing organization. Setting up organizational structures and initiating organizational change are usually top-down decisions made by top executives. In addition, given the profit impact of pricing, managerial insights into how pricing can be improved are highly relevant.

Our research has two main managerial implications. First, our conceptualization offers managers a structured guideline for evaluating pricing organization and price management in their companies. In making this evaluation, managers should discuss the following questions with colleagues involved in the pricing organization: *How formalized are their pricing processes? Are the most important pricing decisions made at higher or lower hierarchical levels? To which extent do they use specialized roles and functions in their pricing? Do multiple decision makers participate, and does a system of checks and balances exist between departments? Are pricing and value appropriation assumed to be a strategic priority in the pricing organization?* Working through these questions allows managers to discover neglected areas and to motivate the need for action in those areas.

Second, our results show that a laissez-faire approach is not an option in pricing organization. The most successful pricing organizations unanimously show a higher degree of formalization, centralization, and top-management involvement. Specialization and dispersion of influence can be used as additional (or peripheral) levers to further enhance performance. As the Talk the Talk cluster shows, merely asserting that pricing is a priority is inadequate. Managers can make a difference only if their ‘strategic talk’ is followed by an ‘operational walk’. In addition, a half-way approach to pricing organization excellence proved to be far less successful than fully developed organizational forms. Thus, the development of pricing organization is a task that needs to be systematically completed before superior results can be achieved. Overall, based on our findings, pricing organization appears to be a highly relevant issue for managerial value appropriation practice. Our study indicates clear variety of different organizational pricing configurations, which are visible in practice.

6.4. Limitations and avenues for further research

In using a large-scale sample to systematically explore pricing organization, we made several choices that might limit the interpretation of the results. Further research should assess the effect of the environment on dimensions of pricing organization, as the literature has assumed that the pricing

organization might depend on environmental factors (Nagle, Hogan & Zale, 2011). Potential influencing factors could be drawn from research on pricing objectives and pricing strategies (Diamantopoulos & Mathews, 1994; Jobber & Hooley, 1987). Second, further research should assess whether the type of pricing organization influences the adoption of certain pricing practices. The literature has hypothesized a contingency relationship between organizational set-up and value-informed pricing (Ingenbleek, 2007). Third, our study uses key informant data, an approach commonly employed in empirical marketing research (Homburg, Jensen & Krohmer, 2008; Verhoef & Leeflang, 2009). Future research should collect data from multiple respondents. Fourth, we collected our data in a European country. As the societal context might influence marketing organization (Homburg, Workman & Krohmer, 1999), future research should verify whether the same configurations appear in Asian or U.S.-based companies. Fifth, ideally the effects on performance would be analyzed in a longitudinal research design to better assess causality. Understanding the dynamics of pricing organization would be an important influence in changing management initiatives.

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Table 1: Sample composition

Industry		Position of respondent		Number of employees in SBU/company (in m€)	
Machinery	29.8%	General manager/director	59.5%	< 15	5.0%
Fabricated Metal Products	17.0%	Head of Sales	20.5%	16-30	14.9%
Electronics	16.8%	Head of Marketing	16.0%	31 – 60	26.7%
Measurement, Control, Medical	16.3%	Pricing Manager	4.0%	61 – 100	18.5%
Chemicals	11.0%			101 – 300	20.7%
Rubber and Plastics	9.0%			301 – 600	6.2%
				601 – 1500	5.1%
				> 1500	2.9%

Table 2: Results of confirmatory factor analyses

Constructs	No. of items	Cronbach's alpha	Indicator reliabilities	Composite reliability	χ^2/df	AVE	RMSEA	CFI	TLI	SRMR
Formalization	4	0.83	0.45-0.76	0.83	3.34	0.55	0.075	0.99	0.98	0.016
Centralization	4	0.83	0.37-0.79	0.84	0.95	0.57	0.000	1.00	1.00	0.000
Specialization	3	0.75	0.46-0.54	0.75	-	0.51	-	-	-	-
Top-management involvement	3	0.87	0.60-0.87	0.88	-	0.70	-	-	-	-
Pricing process effectiveness	4	0.88	0.58-0.73	0.89	1.91	0.66	0.046	1.00	0.99	0.009
Pricing process efficiency	3	0.76	0.40-0.63	0.77	-	0.52	-	-	-	-
Pricing process adaptability	3	0.83	0.44-0.86	0.84	-	0.63	-	-	-	-
Quality of cooperation	4	0.92	0.70-0.79	0.92	0.34	0.75	0.000	1.00	1.00	0.003
Financial performance	3	0.95	0.80-0.94	0.95	-	0.87	-	-	-	-
Market performance	3	0.88	0.64-0.74	0.88	-	0.70	-	-	-	-
Competitive intensity	3	0.86	0.58-0.76	0.86	-	0.68	-	-	-	-
Differentiation strategy	4	0.80	0.40-0.60	0.80	2.63	0.50	0.062	0.99	0.98	0.016

N=419

Table 3: Statistical cluster description

Category	Variable	Stuck in the Middle	Monocracy	Talk the Talk	Rock-Solid Handcrafter	Eager Beaver
	(Cluster size)	(8.4%)	(12.9%)	(11.9%)	(47.3%)	(19.6%)
Structural dimensions	Formalization	4.5 (c)	4.0 (b)	3.2 (a)	5.6 (d)	5.9 (d)
	Centralization	4.8 (a)	5.8 (c)	5.2 (b)	6.0 (c)	5.7 (c)
	Specialization	4.3 (c)	1.8 (a)	1.7 (a)	2.2 (b)	5.2 (d)
Nonstructural dimensions	Dispersion of influence	59.0 (c)	53.3 (ab)	59.6 (c)	51.5 (a)	57.2 (bc)
	Top-management involvement	4.6 (b)	3.4 (a)	5.8 (c)	6.0 (c)	6.4 (d)
Pricing-level outcomes	Pricing process effectiveness	4.0 (a)	4.2 (ab)	4.1 (a)	4.5 (bc)	4.6 (c)
	Pricing process efficiency	4.3 (b)	3.9 (b)	3.8 (a)	4.9 (c)	5.1 (c)
	Pricing process adaptability	4.1 (ab)	3.8 (a)	3.8 (a)	4.5 (bc)	4.7 (c)
	Quality of cooperation in pricing	4.1 (a)	4.4 (a)	4.3 (a)	5.3 (b)	5.4 (b)
Firm-level outcomes	Relative financial performance	4.5 (a)	4.3 (a)	4.5 (a)	5.0 (b)	5.0 (b)
	Relative market performance	4.7 (bc)	4.7 (ab)	4.3 (a)	5.0 (bc)	5.1 (c)
	ROS*	0.8% (a)			2.9% (b)	

Notes: Reported values are mean values. In each row, cluster means that have the same letter in brackets are not significantly different ($p < .05$) on the basis of Duncan's multiple-range test. Means in the lowest band are assigned "a," means in the next highest band "b," and so forth. Means in the highest band are printed in bold.

* ROS data were pooled with objective performance data on the basis of subjective outcome measures owing to the smaller sample size; means of the two groups were compared by a t -test, and differences were significantly different ($p < .05$)

Appendix: Questionnaire items

Construct	Items
<p>Formalization (adapted from Argouslidis and Indounas 2010; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Responsibility for pricing decisions has been clearly assigned to organizational individuals in our firm. • Within our organization, formal internal communication channels are followed when working on pricing. • In our firm, the rationale for pricing decisions is well-documented and filed for future reference • To coordinate the parts of our organization working in pricing, standard operating procedures have been established. • In our firm, prior to submitting price quotations, we keep detailed records of the policies and methods used to set the prices on a standard form (document) pertaining to price decision-making.*
<p>Centralization (adapted from Cadogan et al. 2005; Frenzen et al. 2010; Menon, Jaworski and Kohli 1997; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Important pricing decisions have to be referred to someone higher up for a final answer. • People involved in important pricing decisions have to ask their boss before they do almost anything. • Employees making important pricing decisions need to have the boss's approval first. • Managers generally make important pricing decisions only after checking them with someone of the management team. • People are allowed flexibility in getting pricing-related work done. (R)*
<p>Specialization (adapted from Olson, Slater and Hult 2005; Vorhies and Morgan 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • In our organization there are "pricing specialists" who direct their efforts to price management. • Pricing is everybody’s task and is performed by employees who are generalist for a wide variety of tasks. (R)* • Standardized training procedures exist for jobs that involve pricing activities. • Written position descriptions are provided to pricing specialists.
<p>Top Down Commitment (adapted from Cadogan et al. 2005; Verhoef and Leeftang 2009; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Our top management considers efforts to improve price management to be a valuable investment of resources. • Our top management considers our pricing activities as a critical success factor. • Our top management intends to increase the company's pricing awareness. • Our management formally promotes and encourages employees to deal with pricing issues.
<p>Pricing process effectiveness (based on Dutta, Zbaracki and Bergen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We manage to enforce our anticipated prices in the market.* • Our customers usually pay the prices we set. • We manage to avoid price reductions. • In bargaining situations vis-à-vis customers we reach our price-related targets. • We successfully fight price erosion.
<p>Pricing process efficiency (adapted from Ayers, Dahlstrom and Skinner 1997; Krohmer, Homburg and Workman 2002; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We achieve efficiency in all activities of the price management process • We perform pricing activities right the first time. • The amount of time and effort we spend in price management activities is worthwhile. • The quality of our pricing decisions justify the amount of time and effort we invest in pricing decisions.*

<p>Pricing process adaptability (adapted from Homburg, Workman, and Jensen 2002; Krohmer, Homburg and Workman 2002; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We adapt our pricing adequately to changes in the business environment of your business unit.* • We adapt our pricing approach quickly to the changing needs of customers. • We use our pricing to react quickly to new market threats. • We use our pricing to quickly exploit new market opportunities.
<p>Quality of cooperation (adapted from Homburg and Jensen 2007; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<p>In price management, the departments involved...</p> <ul style="list-style-type: none"> • ...collaborate frictionless.* • ...act in concert. • ...have few problems in their cooperation. • ...achieve their common goals. • ...trust each other.
<p>Financial performance (adapted from Krohmer, Homburg and Workman 2002; Vorhies and Morgan 2003; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “very poor” and 7 = “excellent”)</p>	<p>Relative to your competitors, how has your organization performed with respect to ...</p> <ul style="list-style-type: none"> • EBIT • ROS • ROI • Cash-Flow*
<p>Market performance (adapted from Krohmer, Homburg and Workman 2002; Vorhies and Morgan 2003; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “very poor” and 7 = “excellent”)</p>	<p>Relative to your competitors, how has your organization performed with respect to ...</p> <ul style="list-style-type: none"> • Market share* • Market share development • Revenue development • Attracting new customers
<p>Differentiation strategy (adapted from Homburg, Workman and Krohmer 1999; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Competitive advantage through superior products. • Creating superior customer value through services accompanying the products. • New product development. • Building up a premium product or brand image. • Obtaining high prices from the market.*
<p>Competitive intensity (adapted from Workman, Homburg, Jensen 2003; Jaworski and Kohli 1993; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Competition in our industry is cutthroat. • There are many "promotion wars" in our industry. • Anything that one competitor can offer, others can match readily. • Price competition is a hallmark of our industry.*

* Items dropped during scale purification

(R) Reverse-coded item

Table 3: Pearson correlations between constructs used.

			1	2	3	4	5	6	7	8	9	10	11	12
		AVE	0.55	0.51	0.57	0.70	0.66	0.52	0.63	0.75	0.87	0.70	0.50	0.68
1	Formalization	0.55	-											
2	Specialization	0.51	0.269**	-										
3	Centralization	0.57	0.201**	-0.145**	-									
4	Top-management involvement	0.70	0.382**	0.235**	0.031	-								
5	Pricing process effectiveness	0.66	0.234**	0.050	0.058	0.190**	-							
6	Pricing process efficiency	0.52	0.535**	0.187**	0.101	0.346**	0.527**	-						
7	Pricing process adaptability	0.63	0.322**	0.135**	0.076	0.227**	0.194**	0.448**	-					
8	Quality of Cooperation	0.75	0.493**	0.065	0.170**	0.264**	0.378**	0.606**	0.345**	-				
9	Financial Performance	0.87	0.201**	0.79	0.050	0.219**	0.416**	0.331**	0.148**	0.211**	-			
10	Market Performance	0.70	0.279**	0.044	0.032	0.198**	0.328**	0.379**	0.354**	0.259**	0.369**	-		
11	Differentiation Strategy	0.50	0.224**	0.071	0.014	0.217**	0.319**	0.302**	0.163**	0.200**	0.282**	0.251**	-	
12	Competitive Intensity	0.68	0.120*	0.087	0.144**	0.052	-0.211**	0.036	0.217**	0.035	-0.073	0.074	0.037	-

*p=0.05, **p=0.01

Table 4: Test for discriminant validity (Fornell & Larcker, 1981).

			1	2	3	4	5	6	7	8	9	10	11	12
		AVE	0.55	0.51	0.57	0.70	0.66	0.52	0.63	0.75	0.87	0.70	0.50	0.68
1	Formalization	0.55	-											
2	Specialization	0.51	0.07	-										
3	Centralization	0.57	0.04	0.02	-									
4	Top-management involvement	0.70	0.15	0.06	0.00	-								
5	Pricing process effectiveness	0.66	0.05	0.00	0.00	0.04	-							
6	Pricing process efficiency	0.52	0.29	0.03	0.01	0.12	0.28	-						
7	Pricing process adaptability	0.63	0.10	0.02	0.01	0.05	0.04	0.20	-					
8	Quality of Cooperation	0.75	0.24	0.00	0.03	0.07	0.14	0.37	0.12	-				
9	Financial Performance	0.87	0.04	0.62	0.00	0.05	0.17	0.11	0.02	0.04	-			
10	Market Performance	0.70	0.08	0.00	0.00	0.04	0.11	0.14	0.13	0.07	0.14	-		
11	Differentiation Strategy	0.50	0.05	0.01	0.00	0.05	0.10	0.09	0.03	0.04	0.08	0.06	-	
12	Competitive Intensity	0.68	0.01	0.01	0.02	0.00	0.04	0.00	0.05	0.00	0.01	0.01	0.00	-

Table 5: Constructs, items, and fit indices

Latent construct and survey items	Item-to-Total correlation	Indicator reliability	Min	Max	Item mean	Std. dev.
Please indicate to what extent the following statements characterise performance indicators available in your company.						
FORMALIZATION:						
Fit indices: Cronbach α = 0.83; proportion of variance extracted = 66%; Composite reliability = 0.83; Average variance extracted = 55%; χ^2-value = 6.69 (2); p-value = 0.04; RMSEA = 0.075; CFI/TLI = 0.992 / 0.977; SMRM = 0.016.						
1 Responsibility for pricing decisions has been clearly assigned to organizational individuals in our firm.	0.62	0.49	1	7	5.80	1.35
2 Within our organization, formal internal communication channels are followed when working on pricing.	0.75	0.76	1	7	5.06	1.52
3 In our firm, the rationale for pricing decisions is well documented and filed for future reference.	0.62	0.45	1	7	4.89	1.50
4 To coordinate the parts of our organization working in pricing, standard operating procedures have been established.	0.63	0.51	1	7	4.60	1.66
CENTRALIZATION:						
Fit indices: Cronbach α = 0.83; proportion of variance extracted = 67%; Composite reliability = 0.84; Average variance extracted = 57%; χ^2-value (degrees of freedom) = 1.19 (2); p-value = 0.38; RMSEA = 0.000; CFI/TLI = 1.00 / 1.00; SMRM = 0.008.						
1 Important pricing decisions have to be referred to someone higher up for a final answer.	0.56	0.37	1	7	5.97	1.33
2 People involved in important pricing decisions have to ask their boss before they do almost anything.	0.68	0.60	1	7	5.87	1.06
3 Employees making important pricing decisions need to have the boss's approval first.	0.75	0.79	1	7	5.57	1.34
4 Managers generally make important pricing decisions only after checking them with someone on the management team.	0.64	0.51	1	7	5.50	1.45
SPECIALIZATION:						
Fit indices: Cronbach α = 0.75; proportion of variance extracted = 70%; Composite reliability = 0.75; Average variance extracted = 51%						
1 In our organization there are "pricing specialists" who direct their efforts to price management.	0.57	0.50	1	7	3.23	2.14
2 Standardized training procedures exist for jobs that involve pricing activities.	0.59	0.54	1	7	2.67	1.71
3 Written position descriptions are provided to pricing specialists.	0.56	0.46	1	7	2.65	2.05
TOP-MANAGEMENT INVOLVEMENT:						
Fit indices: Cronbach α = 0.87; proportion of variance extracted = 80%; Composite reliability = 0.88; Average variance extracted = 70%						

Latent construct and survey items	Item-to-Total correlation	Indicator reliability	Min	Max	Item mean	Std. dev.
Please indicate to what extent the following statements characterise performance indicators available in your company.						
1 Our top management considers efforts to improve price management to be a valuable investment of resources.	0.72	0.60	1	7	5.34	1.44
2 Our top management considers our pricing activities as a critical success factor.	0.82	0.87	1	7	5.90	1.21
3 Our top management intends to increase the company's pricing awareness.	0.73	0.64	1	7	5.58	1.34

PRICING PROCESS EFFECTIVENESS:

Fit indices: Cronbach α = 0.88; proportion of variance extracted = 74%; Composite reliability = 0.89; Average variance extracted = 66%; χ^2 -value (degrees of freedom) = 3.81 (2); p-value = 0.15; RMSEA = 0.046; CFI/TLI = 0.998 / 0.994; SMRM = 0.009.

1 Our customers usually pay the prices we set.	0.71	0.58	1	7	4.40	1.29
2 We manage to avoid price reductions.	0.78	0.73	1	7	4.23	1.29
3 In bargaining situations vis-à-vis customers we reach our price-related targets.	0.77	0.69	2	7	4.58	1.29
4 We successfully fight price erosion.	0.74	0.64	1	7	4.46	1.43

PRICING PROCESS EFFICIENCY:

Fit indices: Cronbach α = 0.76; proportion of variance extracted = 68%; Composite reliability = 0.77; Average variance extracted = 52%

1 We achieve efficiency in all activities of the price management.	0.64	0.63	1	7	4.28	1.32
2 We perform pricing activities right the first time.	0.61	0.54	1	7	4.29	1.25
3 The amount of time and effort we spend in price management activities is worthwhile.	0.54	0.40	1	7	5.36	1.17

PRICING PROCESS ADAPTABILITY:

Fit indices: Cronbach α = 0.83; proportion of variance extracted = 75%; Composite reliability = 0.84; Average variance extracted = 63%

1 We adapt our pricing approach quickly to the changing needs of customers.	0.61	0.44	1	7	4.62	1.38
2 We use our pricing to react quickly to new market threats.	0.77	0.86	1	7	4.30	1.56
3 We use our pricing to quickly exploit new market opportunities.	0.69	0.60	1	7	4.05	1.48

Latent construct and survey items	Item-to-Total correlation	Indicator reliability	Min	Max	Item mean	Std. dev.
Please indicate to what extent the following statements characterise performance indicators available in your company.						

QUALITY OF COOPERATION:

In price management, the departments involved...

Fit indices: Cronbach α = 0.92; proportion of variance extracted = 81%; Composite reliability = 0.92; Average variance extracted = 75%; χ^2 -value (degrees of freedom) = 0.67 (2); p-value = 0.72; RMSEA = 0.000; CFI/TLI = 1.000 / 1.000; SMRM = 0.003.

1	...act in concert.	0.80	0.70	2	7	4.96	1.31
2	...have few problems in their cooperation.	0.84	0.79	1	7	4.96	1.30
3	...achieve their common goals.	0.82	0.74	2	7	5.07	1.29
4	...trust each other.	0.83	0.76	2	7	5.05	1.37

FINANCIAL PERFORMANCE:

Relative to your competitors, how has your organization performed with respect to ...

Fit indices: Cronbach α = 0.95; proportion of variance extracted = 91%; Composite reliability = 0.95; Average variance extracted = 87%

1	EBIT.	0.91	0.89	1	7	4.83	1.27
2	ROS.	0.93	0.94	1	7	4.80	1.27
3	ROI.	0.88	0.80	1	7	4.78	1.24

MARKET PERFORMANCE:

Relative to your competitors, how has your organization performed with respect to ...

Fit indices: Cronbach α = 0.88; proportion of variance extracted = 80%; Composite reliability = 0.88; Average variance extracted = 70%

1	Market share development.	0.77	0.73	1	7	4.84	1.20
2	Revenue development.	0.77	0.74	2	7	5.00	1.18
3	Attracting new customers.	0.74	0.64	1	7	4.79	1.19

Latent construct and survey items	Item-to-Total correlation	Indicator reliability	Min	Max	Item mean	Std. dev.
Please indicate to what extent the following statements characterise performance indicators available in your company.						

DIFFERENTIATION STRATEGY:

Fit indices: Cronbach α = 0.80; proportion of variance extracted = 62%; Composite reliability = 0.80; Average variance extracted = 50%; χ^2 -value (degrees of freedom) = 5.25 (2); p-value = 0.07; RMSEA = 0.062; CFI/TLI = 0.99 / 0.98; SMRM = 0.016.

1	Competitive advantage through superior products.	0.65	0.60	1	7	5.62	1.23
2	Creating superior customer value through services accompanying the products.	0.56	0.40	1	7	5.33	1.40
3	New product development.	0.62	0.54	1	7	5.34	1.44
4	Building up a premium product or brand image.	0.60	0.45	1	7	4.96	1.49

COMPETITIVE INTENSITY:

Fit indices: Cronbach α = 0.86; proportion of variance extracted = 78%; Composite reliability = 0.86; Average variance extracted = 68%

1	Competition in our industry is cutthroat.	0.76	0.76	1	7	5.58	1.23
2	There are many "promotion wars" in our industry.	0.70	0.58	1	7	5.12	1.48
3	Anything that one competitor can offer, others can match readily.	0.74	0.69	1	7	5.43	1.32

Table 6: Statistical cluster description

Category	Variable	Stuck in the Middle	Monocracy	Talk the Talk	Rock-Solid Handcrafter	Eager Beaver
	(Cluster size)	(8.4%)	(12.9%)	(11.9%)	(47.3%)	(19.6%)
Structural dimensions	Formalization	4.5 (c)	4.0 (b)	3.2 (a)	5.6 (d)	5.9 (d)
	Centralization	4.8 (a)	5.8 (c)	5.2 (b)	6.0 (c)	5.7 (c)
	Specialization	4.3 (c)	1.8 (a)	1.7 (a)	2.2 (b)	5.2 (d)
Nonstructural dimensions	Dispersion of influence	59.0 (c)	53.3 (ab)	59.6 (c)	51.5 (a)	57.2 (bc)
	Top-management involvement	4.6 (b)	3.4 (a)	5.8 (c)	6.0 (c)	6.4 (d)
Pricing-level outcomes	Pricing process effectiveness	4.0 (a)	4.2 (ab)	4.1 (a)	4.5 (bc)	4.6 (c)
	Pricing process efficiency	4.3 (b)	3.9 (b)	3.8 (a)	4.9 (c)	5.1 (c)
	Pricing process adaptability	4.1 (ab)	3.8 (a)	3.8 (a)	4.5 (bc)	4.7 (c)
	Quality of cooperation in pricing	4.1 (a)	4.4 (a)	4.3 (a)	5.3 (b)	5.4 (b)
Firm-level outcomes	Relative financial performance	4.5 (a)	4.3 (a)	4.5 (a)	5.0 (b)	5.0 (b)
	Relative market performance	4.7 (bc)	4.7 (ab)	4.3 (a)	5.0 (bc)	5.1 (c)
	ROS*	0.8% (a)			2.9% (b)	

Notes: Reported values are mean values. In each row, cluster means that have the same letter in brackets are not significantly different ($p < .05$) on the basis of Duncan's multiple-range test. Means in the lowest band are assigned "a," means in the next highest band "b," and so forth. Means in the highest band are printed in bold.

* ROS data were pooled with objective performance data on the basis of subjective outcome measures owing to the smaller sample size; means of the two groups were compared by a t -test, and differences were significantly different ($p < .05$)

Appendix 1: Questionnaire items

Construct	Items
<p>Formalization (adapted from Argouslidis and Indounas 2010; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Responsibility for pricing decisions has been clearly assigned to organizational individuals in our firm. • Within our organization, formal internal communication channels are followed when working on pricing. • In our firm, the rationale for pricing decisions is well-documented and filed for future reference • To coordinate the parts of our organization working in pricing, standard operating procedures have been established. • In our firm, prior to submitting price quotations, we keep detailed records of the policies and methods used to set the prices on a standard form (document) pertaining to price decision-making.*
<p>Centralization (adapted from Cadogan et al. 2005; Frenzen et al. 2010; Menon, Jaworski and Kohli 1997; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Important pricing decisions have to be referred to someone higher up for a final answer. • People involved in important pricing decisions have to ask their boss before they do almost anything. • Employees making important pricing decisions need to have the boss's approval first. • Managers generally make important pricing decisions only after checking them with someone of the management team. • People are allowed flexibility in getting pricing-related work done. (R)*
<p>Specialization (adapted from Olson, Slater and Hult 2005; Vorhies and Morgan 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • In our organization there are "pricing specialists" who direct their efforts to price management. • Pricing is everybody’s task and is performed by employees who are generalist for a wide variety of tasks. (R)* • Standardized training procedures exist for jobs that involve pricing activities. • Written position descriptions are provided to pricing specialists.
<p>Top Down Commitment (adapted from Cadogan et al. 2005; Verhoef and Leeftang 2009; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Our top management considers efforts to improve price management to be a valuable investment of resources. • Our top management considers our pricing activities as a critical success factor. • Our top management intends to increase the company's pricing awareness. • Our management formally promotes and encourages employees to deal with pricing issues.
<p>Pricing process effectiveness (based on Dutta, Zbaracki and Bergen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We manage to enforce our anticipated prices in the market.* • Our customers usually pay the prices we set. • We manage to avoid price reductions. • In bargaining situations vis-à-vis customers we reach our price-related targets. • We successfully fight price erosion.
<p>Pricing process efficiency (adapted from Ayers, Dahlstrom and Skinner 1997; Krohmer, Homburg and Workman 2002; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We achieve efficiency in all activities of the price management process • We perform pricing activities right the first time. • The amount of time and effort we spend in price management activities is worthwhile. • The quality of our pricing decisions justify the amount of time and effort we invest in pricing decisions.*

<p>Pricing process adaptability (adapted from Homburg, Workman, and Jensen 2002; Krohmer, Homburg and Workman 2002; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We adapt our pricing adequately to changes in the business environment of your business unit.* • We adapt our pricing approach quickly to the changing needs of customers. • We use our pricing to react quickly to new market threats. • We use our pricing to quickly exploit new market opportunities.
<p>Quality of cooperation (adapted from Homburg and Jensen 2007; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<p>In price management, the departments involved...</p> <ul style="list-style-type: none"> • ...collaborate frictionless.* • ...act in concert. • ...have few problems in their cooperation. • ...achieve their common goals. • ...trust each other.
<p>Financial performance (adapted from Krohmer, Homburg and Workman 2002; Vorhies and Morgan 2003; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “very poor” and 7 = “excellent”)</p>	<p>Relative to your competitors, how has your organization performed with respect to ...</p> <ul style="list-style-type: none"> • EBIT • ROS • ROI • Cash-Flow*
<p>Market performance (adapted from Krohmer, Homburg and Workman 2002; Vorhies and Morgan 2003; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “very poor” and 7 = “excellent”)</p>	<p>Relative to your competitors, how has your organization performed with respect to ...</p> <ul style="list-style-type: none"> • Market share* • Market share development • Revenue development • Attracting new customers
<p>Differentiation strategy (adapted from Homburg, Workman and Krohmer 1999; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Competitive advantage through superior products. • Creating superior customer value through services accompanying the products. • New product development. • Building up a premium product or brand image. • Obtaining high prices from the market.*
<p>Competitive intensity (adapted from Workman, Homburg, Jensen 2003; Jaworski and Kohli 1993; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Competition in our industry is cutthroat. • There are many "promotion wars" in our industry. • Anything that one competitor can offer, others can match readily. • Price competition is a hallmark of our industry.*

* Items dropped during scale purification

(R) Reverse-coded item

Appendix 2: Verbal cluster description

Category	Variable	Stuck in the Middle	Monocracy	Talk the Talk	Rock-Solid Handcrafter	Eager Beaver
	(Cluster size)	(8.4%)	(12.9%)	(11.9%)	(47.3%)	(19.6%)
Structural dimensions	Formalization	Moderately high	Moderately low	<i>Low</i>	High	High
	Centralization	<i>Low</i>	High	Medium	High	High
	Specialization	Moderately high	<i>Low</i>	<i>Low</i>	Moderately low	High
Non-structural dimensions	Dispersion of influence	High	Low – medium	High	<i>Low</i>	High - medium
	Top-management involvement	Moderately Low	<i>Low</i>	Moderately high	Moderately High	High
Pricing-level outcomes	Pricing process effectiveness	<i>Low</i>	<i>Low-medium</i>	<i>Low</i>	Medium-high	High
	Pricing process efficiency	Medium	Medium	<i>Low</i>	High	High
	Pricing process adaptability	<i>Moderately low</i>	<i>Low</i>	<i>Low</i>	Moderately high	High
	Quality of cooperation in pricing	<i>Low</i>	<i>Low</i>	<i>Low</i>	High	High
Firm-level outcomes	Financial performance	<i>Low</i>	<i>Low</i>	<i>Low</i>	High	High
	Market performance	Medium-high	<i>Low-medium</i>	<i>Low</i>	Medium-high	High
	ROS*	<i>Low</i>			High	

Notes: Means in the highest band are printed in bold; means in the lowest band are in italics.

* ROS data were pooled with objective performance data owing to the smaller sample size

Appendix 3: Results of ANCOVA

	Total model		Cluster		Competitive intensity		Differentiation strategy		Firm size	
	Mean of Squares	F (p)	Mean of Squares	F (p)	Mean of Squares	F (p)	Mean of Squares	F (p)	Mean of Squares	F (p)
Pricing process effectiveness	13.5	13.3 (0.000)	14.7	3.60 (0.007)	31.2	30.60 (0.000)	43.0	42.22 (0.000)	1.8	1.71 (0.191)
Pricing process efficiency	17.4	22.48 (0.000)	19.1	24.68 (0.000)	0.3	0.39 (0.531)	17.8	22.98 (0.000)	5.3	6.89 (0.009)
Pricing process adaptability	13.1	9.14 (0.000)	8.46	5.93 (0.000)	23.2	16.22 (0.000)	8.3	5.81 (0.016)	10.6	7.45 (0.007)
Quality of cooperation in pricing	18.7	16.8 (0.000)	22.8	20.48 (0.000)	0.2	0.20 (0.652)	7.2	6.41 (0.012)	11.2	10.20 (0.002)
Financial performance	10.9	8.42 (0.000)	4.4	3.39 (0.010)	6.8	5.2 (0.023)	31.2	24.05 (0.000)	6.3	4.86 (0.028)
Market performance	6.5	6.48 (0.000)	3.8	3.65 (0.006)	0.6	0.55 (0.460)	20.21	19.41 (0.000)	0.0	0.010 (0.920)
ROS*	65.5	3.7 (0.007)	17.8	5.0 (0.027)	5.3	0.30 (0.586)	87.0	4.90 (0.028)	13.8	0.78 (0.380)

* Test for ROS data based on a pooled sample of two groups

Appendix 4: Scale Items for Constructs

Construct	Items
<p>Formalization (adapted from Argouslidis and Indounas 2010; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Responsibility for pricing decisions has been clearly assigned to organizational individuals in our firm. • Within our organization, formal internal communication channels are followed when working on pricing. • In our firm, the rationale for pricing decisions is well documented and filed for future reference • To coordinate the parts of our organization working in pricing, standard operating procedures have been established. • In our firm, prior to submitting price quotations, we keep detailed records of the policies and methods used to set the prices on a standard form (document) pertaining to price decision-making.*
<p>Centralization (adapted from Cadogan et al. 2005; Frenzen et al. 2010; Menon, Jaworski and Kohli 1997; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Important pricing decisions have to be referred to someone higher up for a final answer. • People involved in important pricing decisions have to ask their boss before they do almost anything. • Employees making important pricing decisions need to have the boss's approval first. • Managers generally make important pricing decisions only after checking them with someone on the management team. • People are allowed flexibility in getting pricing-related work done. (R)*
<p>Specialization (adapted from Olson, Slater and Hult 2005; Vorhies and Morgan 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • In our organization there are "pricing specialists" who direct their efforts to price management. • Pricing is everybody's task and is performed by employees who are generalist for a wide variety of tasks. (R)* • Standardized training procedures exist for jobs that involve pricing activities. • Written position descriptions are provided to pricing specialists.
<p>Top-management involvement (adapted from Cadogan et al. 2005; Verhoef and Leeflang 2009; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Our top management considers efforts to improve price management to be a valuable investment of resources. • Our top management considers our pricing activities as a critical success factor. • Our top management intends to increase the company's pricing awareness. • Our management formally promotes and encourages employees to deal with pricing issues.
<p>Pricing process effectiveness (based on Dutta, Zbaracki and Bergen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We manage to enforce our anticipated prices in the market.* • Our customers usually pay the prices we set. • We manage to avoid price reductions. • In bargaining situations vis-à-vis customers we reach our price-related targets. • We successfully fight price erosion.
<p>Pricing process efficiency (adapted from Ayers, Dahlstrom and Skinner 1997; Krohmer, Homburg and Workman 2002; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We achieve efficiency in all activities of the price management process • We perform pricing activities right the first time. • The amount of time and effort we spend in price management activities is worthwhile. • The quality of our pricing decisions justifies the amount of time and effort we invest in pricing decisions.*

<p>Pricing process adaptability (adapted from Homburg, Workman and Jensen 2002; Krohmer, Homburg and Workman 2002; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • We adapt our pricing adequately to changes in the business environment of your business unit.* • We adapt our pricing approach quickly to the changing needs of customers. • We use our pricing to react quickly to new market threats. • We use our pricing to quickly exploit new market opportunities.
<p>Quality of cooperation (adapted from Homburg and Jensen 2007; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<p>In price management, the departments involved...</p> <ul style="list-style-type: none"> • ...collaborate frictionless.* • ...act in concert. • ...have few problems in their cooperation. • ...achieve their common goals. • ...trust each other.
<p>Financial performance (adapted from Krohmer, Homburg and Workman 2002; Vorhies and Morgan 2003; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “very poor” and 7 = “excellent”)</p>	<p>Relative to your competitors, how has your organization performed with respect to ...</p> <ul style="list-style-type: none"> • EBIT • ROS • ROI • Cash flow*
<p>Market performance (adapted from Krohmer, Homburg and Workman 2002; Vorhies and Morgan 2003; Workman, Homburg and Jensen 2003; reflective scale, scored on a seven-point scale with anchors 1 = “very poor” and 7 = “excellent”)</p>	<p>Relative to your competitors, how has your organization performed with respect to ...</p> <ul style="list-style-type: none"> • Market share* • Market share development • Revenue development • Attracting new customers
<p>Differentiation strategy (adapted from Homburg, Workman and Krohmer 1999; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Competitive advantage through superior products. • Creating superior customer value through services accompanying the products. • New product development. • Building up a premium product or brand image. • Obtaining high prices from the market.*
<p>Competitive intensity (adapted from Workman, Homburg, Jensen 2003; Jaworski and Kohli 1993; reflective scale, scored on a seven-point scale with anchors 1 = “strongly disagree” and 7 = “strongly agree”)</p>	<ul style="list-style-type: none"> • Competition in our industry is cutthroat. • There are many "promotion wars" in our industry. • Anything that one competitor can offer, others can match readily. • Price competition is a hallmark of our industry.*

* Items dropped during scale purification

(R) reverse-coded item