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# Antecedents and consequences of strategic price management: An analysis in the New Zealand industrial service context

Kostis Indounas [a,1], Stefan Roth [b,*]

[a] Department of Marketing and Communication, Athens University of Economics and Business, 76, Patission Street, 104 34 Athens, Greece
[b] Department of Marketing, Faculty of Business Studies and Economics, University of Kaiserslautern, PO Box 3049, 67653 Kaiserslautern, Germany

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ABSTRACT

The purpose of the present study is to (a) measure the extent to which selected contextual variables have an impact on the adoption of strategic pricing by industrial service providers and (b) determine the effect of the adoption of strategic pricing on the process that industrial service providers use for levying their prices. The current study represents the first attempt to empirically examine the aforementioned topics in an industrial service context. Data were collected from 120 industrial service providers operating in four different service sectors in New Zealand through a mail survey. Moreover, qualitative research through 16 in-depth interviews was carried out. Regarding the antecedents of strategic pricing, customer orientation, interfunctional co-ordination and higher formality were found to boost its adoption. With reference to the effect of strategic pricing on the pricing process used, differences were found among low and high strategic prices.


## 1. Introduction

According to Shipley and Jobber (2001, p. 301), "price management is a critical element in marketing and competitive strategy and a key determinant of performance. Price is the measure by which industrial and commercial customers judge the value of an offering, and it strongly impacts brand selection among competing alternatives." Similarly, Yeoman and McMahon-Beattie (2004, p. xiii) argue "Apart from world-class product development, pricing is key to success. Pricing is vital in attracting and capturing demand. Pricing is also fundamental in optimizing your product's true worth out there in the real market place." Furthermore, pricing is the most flexible element of the marketing mix and the only element that generates revenue for the firm (Lowengart and Mizrahi, 2000).

A number of different researchers have stressed the importance of treating pricing from a strategic point of view if effective pricing decisions are to be made. For instance, Smith (1995, p. 37) postulated that "a fundamental advantage to adopting a strategic pricing orientation is that pricing decisions are viewed as policy decisions with long-term consequences on strategic performance and competitive advantage." Strategic orientation of price management relates to a systematic planning process where price decision-making is derived from the overall corporate goals and strategy and is strongly associated with the company's marketing strategy.

Some authors have stressed the fact that more successful companies follow a proactive rather than reactive pricing approach (Ross, 1984; Dolan and Simon, 1996; Nagle and Holden, 2006). Companies following a strategic, proactive approach of pricing focus on profit goals rather than sales goals, seek competitive advantage rather than market share, and communicate the value customers receive rather than small costs. Also, practitioners emphasize that companies not following a strategic pricing approach may miss opportunities on the industry level for a number of reasons. Marn et al. (2004) argue that many companies do not have anyone assigned to maintain an overview of industry pricing by systematically looking for patterns of competitive behavior suggesting price leader or follower strategy. In addition, these companies, especially in the case of small and medium-size enterprises, often underestimate how much influence they have on industry prices.

However, strategic pricing orientation has not been discussed extensively in the existing literature so far, either from a theoretical or an empirical point of view. An exemption to this fact is the study by Tzokas et al. (2000), who have attempted to shed some light on the antecedents of strategic pricing in an industrial setting.

Given the fact that strategic pricing has almost been neglected in the existing literature, the focus of the current paper is to provide insights regarding the notion of strategic pricing. Building upon the work of Tzokas et al. (2000), the present research sets out to investigate the role of strategic pricing in an industrial

* Corresponding author. Tel.: +49 631 2053746; fax: +49 631 2053394.
*E-mail addresses:* indounas@aueb.gr (K. Indounas), roth@wiwi.uni-kl.de (S. Roth).
[1] Tel.: +30 210 8203473; fax: +30 210 6655587.

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service context by intending to (a) measure the extent to which selected contextual variables have an impact on the adoption of strategic pricing and (b) determine the effect of the adoption of strategic pricing on the process that industrial service providers use for levying their prices.

The rationale for focusing on industrial services rather than products was twofold: First, the empirical research that has been undertaken in the field of service pricing is limited when compared to product pricing. As Docters et al. (2004, p. 23) suggest, "Pricing of services has long been given less attention than product pricing. However, as services become an increasingly important part of the economy - and a bigger source of profit for many companies - the need to understand service pricing has grown." Moreover, the distinctive characteristics of services (i.e., intangibility, heterogeneity, perishability, inseparability, the critical role of employees in customer contact, the need for a more extended marketing mix) pose a real challenge to service providers and necessitate a closer look at how services are priced (Zeithaml et al., 2006).

The remainder of the paper is organized as follows. In the next section a conceptual framework of strategic pricing is developed. This is followed by the development of the research hypotheses. The following section presents the research methodology and the operationalization of variables. Subsequently, the results are reported and, finally, the paper concludes with the implications and limitations of the findings as well as with directions for future enquiry.

## 2. Conceptual framework and research hypotheses

### 2.1. The concept of strategic pricing

Smith's (1995, p. 29) concept of "managerial pricing orientation" is a useful starting point for defining strategic pricing. The managerial pricing orientation is delineated as "the pattern of policies, activities, and behaviors that business units typically engage in with regard to information gathering and processing; objectives, decision rules and beliefs; organizational decision processes; and organizational responsiveness relating to setting or changing price." Additionally, Nagle and Holden (2006) describe the notion of proactive pricing and set a number of criteria on the basis of which a company can be characterized as proactive pricer. These criteria relate, among others, to replacing sales goals with profit goals when determining prices, seeking competitive advantage rather than market share, communicating the value that customers attach to a product and taking into account only those costs that are associated directly with a specific pricing decision (i.e., incremental unavoidable costs).

Based on the above arguments and especially those made by Smith (1995), and Tzokas et al. (2000) provide an alternative empirically derived operationalization for strategic pricing. Its premises rely on (a) placing equal importance to pricing decisions when compared with firm's other decisions (e.g., new product development, advertising), (b) monitoring the existing prices regularly, (c) determining final prices through a systematic planning process, and (d) paying attention to pricing decisions on a continuous basis. Within this context, pricing is regarded as a task of similar equity to other tasks in the firm, while price determination and reviewing is undertaken through a formalized planning process on a regular basis rather than as a response to ad hoc situations.

Adopting the above definition of strategic pricing, the current research aims to investigate its antecedents along with the effect that its adoption has on the pricing process used for levying prices in an industrial service context. Fig. 1 presents the conceptual framework of the research, which consists of two parts. In the upper part strategic pricing is treated as a dependent measure and is related to a set of contextual variables which, based on the reasoning that we explain later, may shape the extent to which it is adopted by industrial service firms. The lower part of the conceptual framework treats strategic pricing as an independent variable in order to determine its role on the actual pricing process. The latter process is of paramount importance to the formulation of a firm's pricing strategy (Shipley and Jobber, 2001) and consists of (a) the pursued pricing objectives, (b) the adopted pricing policies and (c) the adopted pricing methods (Avlonitis and Indounas, 2005; Hoffman et al., 2002; Fill and Fill, 2005; Kasper et al., 2000; Zeithaml et al., 2006).

### 2.2. Antecedents of strategic pricing

With regard to the antecedents of strategic pricing, we wish to clarify that we do not claim exhaustiveness, as our framework does not include all different contextual variables that may assume a role. The model takes common variables into account that have proved to shape firms' corporate strategy in general and pricing strategy in particular, like firm size, degree of market orientation, competitive intensity. Some of them can be controlled by the firm (e.g., firm size), while others cannot be controlled and relate to the market in which the firm operates (e.g., competitive intensity).

#### 2.2.1. Firm size

Despite the lack of previous research endeavoring to relate firm size to the adoption of strategic pricing, it is to be expected that smaller firms treat pricing decisions in a less systematic way than their larger counterparts (Avlonitis and Indounas, 2005). For instance, empirical evidence has shown that cost-plus is the main pricing formula under which prices are set within small firms, while top management has the sole responsibility for price decision-making (e.g., Carson et al., 1998). However, as a firm grows larger, prices are determined through a more collaborative approach where, apart from top management, other departments (e.g., marketing, finance) have an input in price determination. Furthermore, market conditions are taken into account to a larger extent than smaller firms (Nagle and Holden, 2006). This more holistic picture that larger industrial service firms possess regarding pricing decisions may result in placing equal importance to pricing when compared with other business activities. Furthermore, larger firms are expected to have developed better skills in strategic planning and have realized the importance of treating every business activity from a strategic perspective. Thus, we expect larger industrial service firms to set prices through a systematic planning approach and review these prices on a more continuous basis than smaller firms. Based on the above arguments, we argue that adopting strategic pricing might be easier for larger industrial service companies:

**H1.** Firm size has a positive effect on the adoption of strategic pricing.

#### 2.2.2. Market orientation

The concept of market orientation refers to a philosophy whereby a firm coordinates the activities of all functional areas toward a better understanding of customer needs, with the ultimate purpose of creating and sustaining superior customer value (Narver and Slater, 1990). Since it has been shown that firms adopting it have a greater potential to perform better than firms not adopting it, market orientation represents a good business practice. On a twofold rationale, a positive relationship between market orientation and strategic pricing in industrial service markets is expected. First, firms adopting market orientation tend to plan and evaluate all managerial activities with a more long-term perspective (Kohli

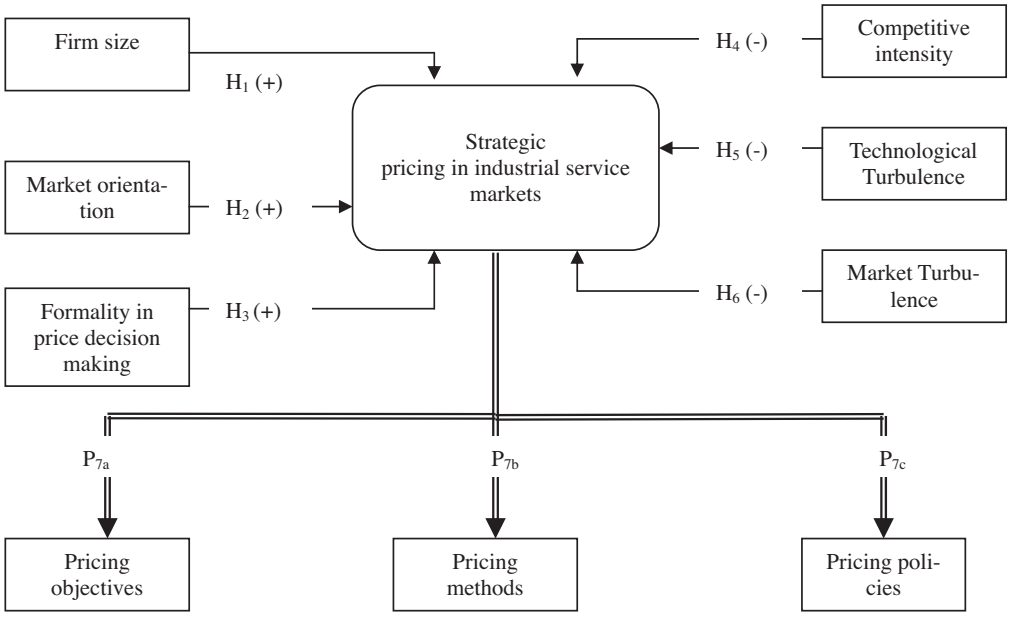


**Fig. 1.** Conceptual framework.

and Jaworski, 1990; Narver and Slater, 1990), which is viewed as a necessary ingredient for the adoption of strategic pricing. Second, empirical evidence shows that market-oriented industrial firms tend to view and implement pricing in a significantly more strategic and long-term manner, than non-market-oriented rivals (Tzokas et al., 2000):

**H2.** Market orientation has a positive impact on the adoption of strategic pricing.

*2.2.3. Formality in price decision-making*

Formality is a dimension of a firm's structure and reflects the extent to which standardized behavior, procedures and rules pervade organizational practices (Fredrickson, 1986; Miller and Dröge, 1986). In the organizational research, formality has been studied as an ingredient and a determinant of a firm's behavior and decision-making in order to assess, respectively, its contingency on a firm's context (e.g., Sutcliffe and McNamara, 2001) and how it affects aspects of a firm's practices (e.g., Baum and Wally, 2003). When treating formality as a determinant of organizational practices, an important question is whether it facilitates or hinders the adoption of novel practices and innovation (e.g., Adler and Borys, 1996). Evidence shows that, while it negatively affects the adoption of technical innovations, formality facilitates the adoption of administrative and decision-making innovations (Armstrong, 1982; Zmud, 1982). With regard to industrial firms, there is also evidence indicating that greater formality during price decision-making raises the extent to which a firm is strategically committed to pricing (Tzokas et al., 2000). Drawing on the above, it is proposed that greater pricing formality promotes the adoption of strategic pricing. The latter concept represents a decision-making innovation and, as such, its successful implementation would require the commitment of the involved organizational individuals and functional areas. In other words it would require adherence to systematic behavior, assignment of specific relationship pricing-related tasks to specific individuals and an extensive use of documentation that will improve the firm's collective memory with regard to industrial service pricing. Thus:

**H3.** The greater the formality of industrial service price decision-making, the greater the adoption of strategic pricing.

*2.2.4. Competitive intensity*

An intensive competitive environment is characterized by the existence of many competitors who offer undifferentiated services in the market. The inability of customers to identify real differences among the alternative competing offerings may lead to frequent price cuts. Price discounting (whether explicit or in the form of rebates, coupons or payment terms) is a common practice in competitive markets with an outmost goal to enhance temporary sales and profits (Nagle and Holden, 2006). However, such practices may not be a strategic move since competitors can easily copy them, there is a danger of price wars in the long-run, while even loyal price insensitive buyers may turn to cheaper alternatives. In other words, intensive competition may force industrial service providers to overlook the long-term consequences of their pricing decisions and determine prices from a myopic short-term point of view. Thus, it is to be expected that competitive intensity may hinder the adoption of strategic pricing (i.e., strategic planning of prices, continuous monitoring and reviewing of prices, important attached to pricing decisions). Hence:

**H4.** Competitive intensity has a negative effect on the adoption of strategic pricing.

*2.2.5. Environmental turbulence*

The turbulence associated with an industrial service firm's environment is expected to have a negative effect on the adoption of strategic pricing. Following the classification put forward by Moorman and Miner (1997, p. 96) we focus on *technological turbulence* and *market turbulence*. Technological turbulence refers to "the degree of change associated with new product technologies", while market turbulence "is the rate of change in the composition of customers and their preferences ... Both types of turbulence impose difficulties in an organization's survival in the long-run and ... have a disruptive effect on the ability to plan its activities strategically." Thus, both technological and market turbulence are expected to be an impediment to following the principles of strategic pricing. For instance, technological turbulence is likely to reduce firm's familiarity with existing industrial services (in terms of costs, competitive prices or value that customers attach to them) given the fact that these services may be easily surpassed by new ones. Being unable to levy prices on the basis of service costs, competitive prices or

customer value may easily lead to ineffective price decision-making (Shipley and Jobber, 2001). Similarly, market turbulence may lead some industrial service firms to lower prices in order to gain short-term financial benefits. Moreover, it may lead other firms to exit the market and, while exiting the market, pricing patterns with a short-term perspective may be followed. Therefore:

**H5.** Technological turbulence affects negatively the adoption of strategic pricing.

**H6.** Market turbulence affects negatively the adoption of strategic pricing.

### 2.3. Consequences of strategic pricing in terms of price decision-making (pricing objectives, methods and policies)

Quoting a price is far from a simple task. It is (or should be) the outcome of a multi-step process, which involves the determination of the appropriate pricing objectives, the application of a pricing method and the choice of a pricing policy. These issues have received special attention in the pricing literature (e.g., Hoffman et al., 2002; Fill and Fill, 2005; Kasper et al., 2000). Pricing objectives provide directions for action and are the starting point in every pricing decision (e.g., profit maximization, survival in the long-run). Pricing methods are the methodologies that firms use to calculate prices (e.g., the cost-plus method), while pricing policies represent the routine rules that companies adopt in order to adjust their basic list prices and account for various customer differences (e.g., negotiated pricing, bidding) (Shipley and Jobber, 2001; Zeithaml et al., 2006).

A review of the pricing literature reveals that pricing objectives, policies and methods can be classified into two large categories, namely (a) firm- and (b) market-based (e.g., Diamantopoulos, 1991; Kijewski and Yoon, 1990; Myers et al., 2002). The former can be controlled by the firm, while the latter refer to the external market in which a company operates. For instance, pricing objectives relating to profits, sales or market share are firm-based ones, while those relating to customers, competitors or the firm's general micro- and macro-external environment are regarded as market-based ones. Similarly, pricing methods relating to costs (e.g., the cost-plus method) or pricing policies like standard list prices are firm-based ones, contrary to methods associated with competitors or customers (e.g., pricing with reference to competitors' prices) or policies relating to a deviation from list prices (e.g., negotiated pricing), which represent market-based ones.

In line with the concept of marketing orientation, taking into account the need to analyze thoroughly customer needs and general market trends if effective strategic pricing efforts are to be realized (Tzokas et al. 2000), industrial service providers applying strategic pricing in practice are expected to place more emphasis on market-based, rather than firm-based pricing objectives, methods, policies. Therefore, we postulate:

**P7.** Unlike non-strategic pricing-oriented counterparts, strategic pricing-oriented industrial service providers (a) allocate more importance to market-based than to firm-based pricing objectives, (b) adopt market-based pricing methods to a greater extent than firm-based ones and (c) use market-based pricing policies to a greater extent than firm-based ones.

## 3. Research design

### 3.1. Selection of industry sectors and population of the study

The study was conducted in New Zealand. With a view to broadening the generalizability of our findings, the study centered on a cross-industry population, which included four primary sectors, namely *logistics/transportation companies*, *financial services providers*, *information technology companies and professional services providers*. The above sectors were chosen on the rationale that they all represent major sectors of the New Zealand industry in terms of importance to the national economy, capital employed and manpower occupation. Based on Kompass Business Database, which was used as the sampling frame of the research, the total population of the study consisted of 810 companies.

### 3.2. Field interviews

In-depth interviews with 16 senior executives were conducted, who had the responsibility for setting prices within their firms, from an equal number of firms in the four sectors of the study (four interviews per sector). Managers–interviewees were asked open-ended questions regarding the domain of strategic pricing. Those questions incorporated conceptual insights from the literature, which helped to design the main study's questionnaire and choose the appropriate contextual variables of the study.

### 3.3. Questionnaire development and pre-testing

The data collection instrument was an 8-page structured questionnaire, designed to be self-administered. Prior to the full-scale data collection the questionnaire was pre-tested (a) with senior academics specializing in pricing and (b) with the 16 managers who participated in the field interviews. These two groups of pilot respondents provided us with feedback (concerning mainly the sequence of questions) and we revised the instrument accordingly.

### 3.4. Sampling, data collection and response rate

A requested sample of 810 companies was set and the selection process was based on a stratified random sample. Using a table of digits, a random sample of companies from each stratum was selected.

Data were collected by means of a mail survey. Alongside the questionnaire, the survey pack included a formal letter on university letterhead, explaining the academic purpose of the research and ensuring respondents' full anonymity and confidentiality. It emerged that the determination of prices within smaller companies was very much a top-management decision, whereas at larger companies, the marketing, sales (where a marketing manager did not exist) or financial manager was mainly responsible for setting prices. Consequently, in the smaller companies the questionnaire was sent to the managing director or an equivalent, while in the larger companies it was forwarded to the marketing, sales or financial director. Two weeks past the original mailing, a remainder mail was sent to the non-respondents to enhance response rate. The two mailings yielded 122 questionnaires, two of which were not usable, leaving thus an operational dataset of 120 returns and an effective response rate of 14.81%, which is slightly less in comparison to other studies in the field of pricing (e.g., Hornby and MacLeod, 1996; Tzokas et al., 2000). In order to evaluate possible sources of non-response bias, a comparison of the study's main variables between early and late respondents was undertaken. This comparison found no statistical differences, suggesting that non-response may not be a problem.

### 3.5. Measure development

#### 3.5.1. Strategic pricing

In order to measure strategic pricing, the operationalization put forward by Tzokas et al. (2000) was adopted. More specifically, respondents were asked to indicate through a seven-point scale

(1 = totally disagree, 7 = totally agree) their level of agreement with the four statements presented in the original study by Tzokas et al. (2000).

Firstly, we subjected the four-item construct to exploratory factor analysis. We used principal component factoring, which showed the expected one-factor solution, clearly reflecting the one-dimensional domain of strategic pricing, as identified in the current study. The one-factor solution showed an eigenvalue of 1.996 (all factor loadings >0.4) and accounted for 49.91% of the variance in the data. The coefficient α value was 0.644, slightly less than the conventional minimum of 0.70 (Nunnally and Bernstein, 1994).

*3.5.2. Antecedents of strategic pricing*

*Firm size* was measured using a composite operationalization, which included financial and non-financial indicators, based on suggestions that a single-item operationalization may not be as accurate (e.g., Ford and Slocum, 1977). Specifically, the principal component of the average full-time employees and total sales for the three-year period 2004–2007 was used. Both loadings were 0.91, and the factor's eigenvalue was 1.734 (variance explained: 86.69%, α = 0.816).

For *market orientation* the 15-item operationalization of Narver and Slater (1990) was adopted. The construct captures market orientation through three behavioral components namely customer orientation, competitor orientation and interfunctional co-ordination. Items were anchored on a 7-point rating scale (1 = totally disagree, 7 = totally agree). Greater ratings denote a higher market orientation. Exploratory factor analysis revealed the expected three-factor solution (all factor loadings >0.4). The customer orientation factor showed an eigenvalue of 1.319 (variance explained: 18.16%, α = 0.803). We found reasonable results with regard to competitor orientation (eigenvalue: 1.438, variance explained: 18.27%, α = 0.755) and interfunctional co-ordination (eigenvalue: 5.735, variance explained: 20.20%, α = 0.741). In total, the three factors account for about 56.62% of the variance and the overall market orientation scale including all 15 items has a coefficient α value of 0.878. For the further analysis we used the three principal component factor scores as input variables for the regression analysis.

*Formality in price decision-making* was measured with a five-item construct that has its origins in well-known organizational operationalizations of general decision-making formality (e.g., Miller and Dröge, 1986). The items reflected three established components of formality, namely systematic behavior, documentation and assignment of responsibilities. Slight changes to the wording of the items were implemented, to make them refer to a pricing context. Based on the conducted principal component analysis the original five-item scale was purified in order to increase reliability. Therefore, two of the five items were eliminated from the analysis resulting in a one-dimensional factor with eigenvalue 2.064 that explained 66.79% of the total variance in the data and shows a satisfactory coefficient α value 0.762.

For *competitive intensity* the 4-item operationalization put forward by Kohli and Jaworski (1992) was adopted. Greater ratings are indicative of intensive competition in the market. Eliminating one of the original four items we found a one-factor solution with eigenvalue 1.842, 61.41% variance explained, and a coefficient α value 0.682.

For *technological turbulence* and *market turbulence* the 5-items constructs proposed by Jaworski and Kohli (1993) was used. Greater ratings are indicative of greater technological and market turbulence. Both constructs turned out to be one-dimensional. In order to increase reliability one item was eliminated from each scale. The resulting technological turbulence factor had an eigenvalue of 2.752 (variance explained: 68.80%, α = 0.849) and the obtained market turbulence factor had an eigenvalue of 1.958 (variance explained: 48.94%, α = 0.648).

The operationalization of the proposed antecedents of strategic pricing in industrial service markets is summarized in the Appendix A.

*3.5.3. Consequences of strategic pricing*

Based on the operationalization put forward by Avlonitis and Indounas (2005), respondents were asked to indicate through a seven-point scale (1 = not important at all, 7 = very important) the price-setting importance attached to each one of the 28 pricing objectives presented in Table 1.

On the basis of the existing literature on industrial service pricing (e.g., Avlonitis and Indounas, 2005; Hoffman et al., 2002; Kasper et al., 2000; Lovelock, 1996; Shipley and Jobber, 2001), respondents were provided with a list of four pricing methods and six pricing policies, which are presented in Tables 2 and 3, respectively. They were also asked to indicate through a seven-point scale (1 = not important at all, 7 = very important) the significance that they attach to each when levying prices. Regarding pricing methods, cost-plus pricing and target ROI are considered as firm-based based methods, while the other two methods (i.e., pricing according to competitors' prices, perceived-value pricing) are treated as market-based ones given the fact that they rely on taking into account competition and customer needs. With reference to pricing policies, list pricing is considered as firm-based policy, while the other policies (i.e., differentiated pricing, negotiated pricing, price bundling, discount pricing and competitive bidding) are treated as market-based ones given the fact that they rely on deviations from standard list prices merely on the basis of customers' individual preferences.

## 4. Results

### 4.1. Antecedents of strategic pricing

The data analysis followed a two-step procedure. In the first step, the analysis focused on the antecedents of strategic pricing. Therefore, the parameters of a regression equation were estimated with *strategic pricing orientation* as the dependent variable and the *market orientation*, *formality in price decision-making*, *firm size*, *market turbulences*, *technological turbulences*, and *competitive intensity*

**Table 1**
Market-based and firm-based pricing objectives.

| Market-based | Firm-based |
|---|---|
| Attraction of new customers | Cost coverage |
| Customers' needs satisfaction | Achievement of satisfactory sales |
| Long-term survival | Achievement of satisfactory profits |
| Service quality leadership | Sales maximization |
| Market development | Profit maximization |
| Achievement of social goals | Sales stability in the market |
| Price differentiation | Market share leadership |
| Price stability in the market | Achievement of full capacity utilization |
| Price similarity with competitors | Return on investment |
| Price wars avoidance | Return on assets |
| Distributors' needs satisfaction | Market share increase |
| Maintenance of the existing customers | Achievement of a satisfactory market share |
| Creation of a prestige image for the company | Liquidity achievement and maintenance |
| Determination of fair prices for customers | |
| Discouragement of new competitors entering the market | |

**Table 2**
Market-based and firm-based pricing methods.

| Market-based | Firm-based |
|---|---|
| Pricing on the basis of competitors' prices | Cost-plus method |
| Perceived-value pricing | Target return pricing |

**Table 3**
Market-based and firm-based pricing policies.

| Market-based | Firm-based |
|---|---|
| Negotiated pricing | List pricing |
| Price bundling | |
| Discount pricing | |
| Competitive bidding | |
| Differentiated pricing | |

**Table 4**
Standardized regression coefficients.

| Independent variables | Dependent variable | | |
|---|---|---|---|
| | Strategic pricing | Sig. | VIF |
| Customer orientation | 0.160* | 0.043 | 1.082 |
| Competitor orientation | 0.188 | 0.056 | 1.701 |
| Interfunctional co-ordination | 0.206** | 0.010 | 1.115 |
| Formality in price decision-making | 0.539*** | 0.000 | 1.620 |
| Competitive intensity | −0.039 | 0.640 | 1.240 |
| Market turbulences | −0.040 | 0.650 | 1.416 |
| Technological turbulences | −0.003 | 0.968 | 1.321 |
| Firm size | −0.072 | 0.361 | 1.106 |
| $R^2$ | 0.533 | | |
| Adj. $R^2$ | 0.489 | | |
| $N$ | 92 | | |

* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

as independent variables. All variables entered the analysis as factor scores as discussed in Section 3.5. In the second step, the consequences of strategic pricing orientation were investigated. Based on the obtained factor scores of strategic pricing a median split of the firms was conducted. Companies below the median were labeled as *low strategic pricing oriented* and companies above the median as *high strategic pricing oriented*. Although this median split seems to be a rather arbitrary way of classification, it allows testing for significant differences between the two groups and has been used in similar contexts before (Morgan and Katsikeas, 1997; Tzokas et al., 2000).

The first six hypotheses (H1–H6) related to the antecedents of strategic pricing. We hypothesized that market orientation, firm size and formality in price decision-making have a positive and market turbulences, technological turbulences as well as competitive intensity have a negative impact on strategic pricing orientation of industrial service companies. Table 4 shows the results of the conducted regression analysis ($F = 11.998$; $p < 0.001$).

Concerning firm size ($\beta = -0.072$, ns), no significant impact on the adoption of strategic pricing could be found. The expectation that larger industrial service firms set prices through a systematic planning approach and review prices on a more continuous basis than smaller firm is not supported by the data. Hence, we find no empirical evidence for hypothesis H1.

Regarding market orientation a significant impact for two of the three market orientation dimensions could be identified. Customer orientation ($\beta = 0.160$, $p < 0.05$) and interfunctional orientation ($\beta = 0.206$, $p < 0.01$) appear to drive strategic pricing orientation. Competitor orientation ($\beta = 0.188$, ns), on the other hand, is positively related to the adoption of strategic pricing, but the overall effect would only be significant on a weak 10% level. However, the results being close to the 5% level suggest that a significant impact could have found with a larger sample size. Still, hypothesis H2 is therefore only partly supported by the results.

Formality in price decision-making ($\beta = 0.539$, $p < 0.001$), as expected, appears to be very strongly related to strategic pricing. Pricing formality makes a significant contribution as greater pricing formality promotes the adoption of strategic pricing, which highly supports hypothesis H3.

Turning now to the three antecedents for which a negative impact on the adoption of strategic pricing was hypothesized, it seems that none of those has a significant effect on the dependent variable. Although the effects of competitive intensity ($\beta = -0.039$, ns), market turbulences ($\beta = -0.040$, ns) and technological turbulences ($\beta = -0.003$, ns) go in the predicted direction, the obtained effects are far from being statistically significant. Therefore, Hypotheses H4–H6 have to be rejected. Table 4 also reports the *variance inflation factors* (VIF), which are all well below 2.0 indicating that multicollinearity may not be a problem.

In addition to the proposed direct effects of competitive intensity, market turbulences and technological turbulences, we tested for moderating effects of these variables on the relationship between market orientation and the dependent variable. Such moderating effects are hypothesized in a number of studies on market orientation (e.g., Jaworski and Kohli, 1993; Han et al., 1998). The regression equation was therefore estimated again. Each of the three market orientation factors and their interaction with the environmental turbulences and competitive intensity were used. However, the parameter estimates for these interaction effects are not statistically significant. The increase in adj. $R^2$ when taking moderating effects into account is not significant. These results suggest that market turbulences, technological turbulences and competitive intensity neither have a direct effect on the adoption of strategic pricing nor a moderating effect on the relationship between market orientation and strategic pricing.

### 4.2. Consequences of strategic pricing

Regarding the consequences of strategic pricing, it was postulated that industrial service providers with high strategic pricing orientation (a) allocate more importance to market-based than to firm-based pricing objectives, (b) adopt market-based pricing methods to a greater extent than firm-based ones and (c) use market-based pricing policies to a greater extent than firm-based ones compared to firms with low strategic pricing orientation. For the analysis we calculated the average importance of pricing objectives, methods, and policies that were classified as being firm-based and market-based, respectively. Figs. 2–4 show the results.

Concerning the pricing objectives, both firms with low ($t = 3.898$, $p < 0.001$) and firms with high ($t = 5.949$, $p < 0.001$) strategic pricing orientation allocate more importance to firm-based than to market-based objectives. Hence, no empirical evidence for proposition P7a could be found. On the contrary, independent of the adoption of strategic pricing both types of companies focus on firm-based rather than market-based objectives. However, firms with high strategic pricing orientation allocate significantly more importance on firm-based ($t = 3.230$, $p < 0.01$) and market-based ($t = 3.334$, $p < 0.01$) objectives than their counterparts with low strategic pricing orientation. These results suggest that pricing objectives in general are the more important to service providers the higher their strategic pricing orientation.

As expected, market-based pricing methods are of higher importance to service providers than firm-based pricing methods. This result holds for both low ($t = 6.589$, $p < 0.001$) and high ($t = 5.555$, $p < 0.001$) strategically oriented firms. In contrast to

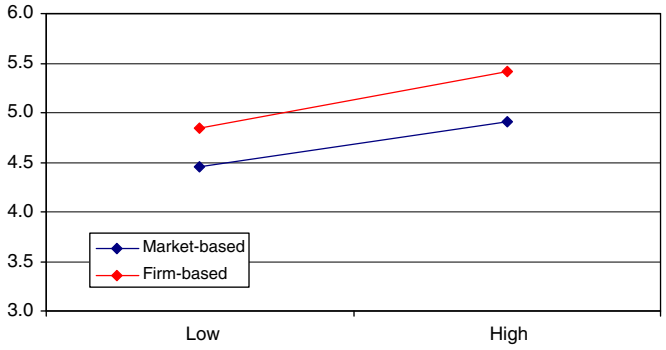


**Fig. 2.** Importance of pricing objectives.

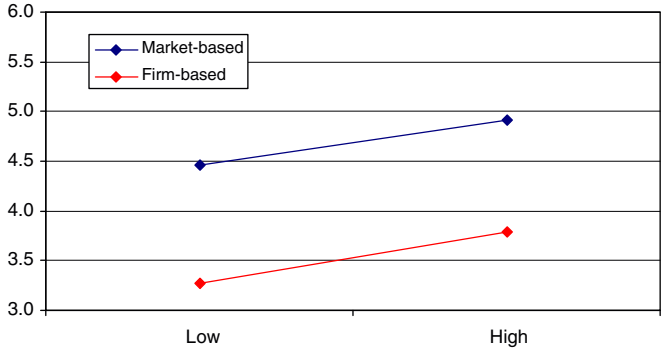


**Fig. 3.** Importance of pricing methods.

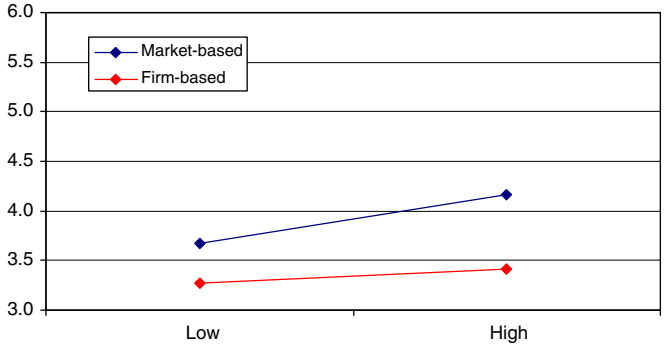


**Fig. 4.** Importance of pricing policies.

the pricing objectives, market-based pricing methods are more often adopted than firm-based methods. Firm-based methods are significantly more often adopted by companies with high strategic pricing orientation ($t = 1.986$, $p < 0.05$). However, even though these companies adopt market-based methods more often than firms with low strategic pricing orientation, the difference is not statistically significant ($t = 1.554$, ns). Proposition P7b is therefore only partly supported, as a significant difference between the two groups was expected.

Concerning the importance of pricing policies, the results strongly support proposition P7c. Firms with low strategic pricing orientation use market-based policies more often than firm-based policies (i.e., list pricing), but the difference is not statistically significant ($t = 1.366$, ns). Service providers that show high strategic pricing orientation use market-based policies significantly more often than firm-based policies ($t = 2.551$, $p < 0.05$). In addition, the importance of firm-based pricing policies is of equal importance to firms with low and high strategic pricing orientation ($t = 0.419$, ns). However, in contrast to low strategic pricing firms service providers with high strategic pricing orientation place significantly higher importance on market-based policies ($t = 2.081$, $p < 0.05$).

## 5. Discussion and implications

This study endeavored to explore the concept of strategic pricing in an industrial service context by investigating its antecedents and consequences in terms of the pricing process that industrial firms use (i.e., pricing objectives, methods, policies). Regarding the antecedents of strategic pricing, two aspects of market orientation, namely, customer orientation and interfunctional co-ordination, boost the development of a strategic pricing culture. The principles of market orientation can provide support for this finding: adopting a strategic-based pricing approach requires a long-term perspective and market-oriented firms learn to treat all managerial activities and decisions in a long-term (e.g., Narver and Slater, 1990). In contrast to customer orientation and interfunctional co-ordination, competitor orientation did not turn out to have a significant impact on strategic pricing. This result might be due to the fact that the vast majority of New Zealand companies are small and medium-sized enterprises. In our data set, a total of 71% of all companies have less than 100 full-time equivalent employees. Therefore, many companies act rather locally and do business in an environment of low competitive intensity. This could be the reason why competitor orientation does not significantly affect strategic pricing.

Furthermore, a higher formality in the industrial service pricing process has a positive effect on strategic pricing. In other words, a strategic-based approach to pricing flourishes in the context of a pricing process that relies on systematic behavior and delegation of specific responsibilities to specific functional areas.

On the other hand, turbulence in the environment in which an industrial service firm operates, manifested in the form of either technological or market turbulence, does not seem to have an impact on the adoption of strategic pricing. In a sense, this finding might be attributed by the fact that under conditions of environmental uncertainty, many firms choose to design and implement myopic pricing practices (e.g., price discounts) in order to gain short-term financial benefits (e.g., Nagle and Holden, 2006). Given the fact that strategic pricing is a novel practice, requiring systematic planning and thinking, a turbulent environment may not facilitate towards this direction. In addition, as was argued above, most of the companies in the data set are small and medium-sized enterprises, which are rather immune to market and technological turbulences in the local environment they do business in. Also, we found only little variance in the data. Only companies in the *information technology* industry revealed high values of market and technological turbulence. Other companies in the remaining services industries rated the respective items way lower. It is therefore reasonable to argue that the conducted cross-sectional analysis disguises some otherwise significant effects. However, given a total of only 120 useable responses there was no sufficient data for industry-specific investigations.

In line with the above finding, firm size along with competitive intensity and competitor orientation, as a dimension of market orientation, do not exert any influence on strategic pricing. Certainly, this finding contrasts intuitive expectation. However, it might be attributed to the fact that, as Tzokas et al. (2000) suggest, all companies may improve the effectiveness of price decision-making if they realize and implement the principles of strategic pricing. In other words, irrespective of its size and competitive actions, an industrial service firm can still apply the notion of strategic pricing.

Regarding consequences of strategic pricing, in contrast to low strategic pricing firms, service providers with high strategic pricing

orientation place significantly higher importance on market-based policies, as we could expect. Moreover, both high and low strategic prices place more emphasis on market than firm-based pricing methods. On the other hand, contrary to our proposition, the majority of New Zealand service companies focus on firm-based rather than market-based pricing objectives. Again, the main reason for this result might be the large number of small and medium-sized enterprises in many of New Zealand's service industries. Those companies traditionally perceive the importance of firm-based pricing objectives higher than of market-based pricing objectives.

Gray and Matheson (1996) show in an empirical study that New Zealand service companies rate objectives like gross profit, sales revenue, and sales volume the highest whereas objectives such as avoiding price wars and protecting a high quality image are far less important. From that point of view our results are in line with Gray and Matheson (1996) as market-based pricing objectives are still less relevant for New Zealand service companies than firm-based pricing objectives. A replication of this study in different countries would shed some light on country-specific evaluations of the importance of different pricing objectives.

From a managerial point of view, for those industrial service firms wishing to commit themselves to strategic pricing, three implications are evident. First, the adoption of a strategic pricing culture can flourish if the whole organization is market-oriented and possess an ideology of treating any business activity in general and pricing decisions in particular from an outward point of view. Second, a formalized price decision-making process may facilitate the adoption of strategic pricing. Such a process involves systematic pricing behavior, assignment of specific tasks to specific individuals, and (when necessary) the use of written procedures. Thus, although managers responsible for setting prices within their firms may intuitively believe that formality increases bureaucracy, a formal price decision-making process may aid in monitoring and reviewing prices on a continuous basis and instilling the principles of strategic planning in price decision-making. Third, industrial service firms can apply the principles of strategic pricing irrespective of (a) their size, (b) monitoring of competing actions, (c) competitive intensity and (d) turbulence in the market.

## 6. Limitations and future research directions

The present study suffers from several limitations, pointing to fruitful lines of future research. First, owing to its exploratory angle, the study has been conservative in the selection of contextual variables that may have an effect on the adoption of strategic pricing in an industrial service context. Therefore, new variables can widen the picture of the contextual effects. A first stream of variables relate to firm-based characteristics such as the overall corporate strategy, the marketing strategy and the service characteristics (e.g., differentiation, uniqueness). A second stream refers to market-related variables such as the market structure in which an industrial service firm operates.

Also, with regard to the consequences of strategic pricing, the current study has focused only on the content of the pricing process (i.e., objectives, methods and policies). However, future research could turn to other variables. For example, what would be the effect of strategic pricing on the pricing information that industrial service companies collect when setting their prices? Which are the factors that they take into account in order to levy their prices? Answering these questions could provide a more holistic picture regarding the effects of strategic pricing on every aspect of a firm's pricing strategy.

Furthermore, because the study's data pertain to New Zealand, the findings may not be generalizable to firms operating in different national contexts. Therefore, there are prominent replication attributes in industrial service settings of other countries because such research will enhance the literature with useful cross-country evidence about the role of strategic pricing.

Finally, given the importance of strategic pricing if effective pricing decisions are to be made, it might be useful to study strategic pricing in other industrial settings too. Since many of the ideas presented in the paper may apply to different industrial sectors, this line of research can indicate the extent to which this happens regardless of context.

## Appendix A. Operationalization of the independent variables of the regression model

**Table A1**

| Variables | Items |
|---|---|
| Strategic pricing | 1. Pricing decisions are not as important as other activities such as promotion, new product development and distribution (-) |
| | 2. There is no need to review and monitor periodically our prices because the market does it for us (-) |
| | 3. Top management treats pricing as a strategic and continuous managerial function |
| | 4. We value the consideration of planning of what our prices will be in the future |
| Firm size | 1. Full-time employees (average 2004–2007) |
| | 2. Total sales volume (average 2004–2007) |
| Market orientation | 1. Our business objectives are driven primarily by customer satisfaction |
| | 2. We constantly monitor our level of commitment and orientation to serving customers' needs |
| | 3. Our strategy for competitive advantage is based on our understanding of customers' needs |
| | 4. Our business strategies are driven by our beliefs about how we can create value to customers |
| | 5. We measure customer satisfaction systematically and frequently |
| | 6. Our sales people regularly share information within our company concerning competitors' strategies |
| | 7. We rapidly respond to competitive actions that threaten us |
| | 8. Top management regularly discuss competitors' strengths and strategies |
| | 9. We target customers when we have an opportunity for competitive advantage |
| | 10. Our top managers from every function regularly visit our current and prospective customers |
| | 11. We freely communicate information about our successful and unsuccessful customer experiences across all business functions |
| | 12. All of our business functions are integrated in serving the needs of our target markets |
| | 13. All of our managers understand how everyone in the business can contribute to creating customer value |
| | 14. We give close attention to after-sales service |
| | 15. All of our business functions and departments are responsive to each other's needs and requests |

**Table A1** (*continued*)

| Variables | Items |
|---|---|
| Formality in price decision-making | 1. Some sort of standard form or document pertaining to pricing decisions does exist in our company to assist those involved in price decision-making (*) |
| | 2. We have specifically assigned responsibilities to an individual or a committee for making pricing decisions |
| | 3. In reviewing our prices we have explicitly identified the criteria against which we evaluate price performance |
| | 4. There is no need to review prices; we review prices only when problems arise (-) |
| | 5. A methodological review of all our pricing decisions is carried out regularly in order to identify problems/opportunities (*) |
| Competitive intensity | 1. Competition in our market is extremely intensive |
| | 2. It is quite usual to have price wars in our market |
| | 3. Competitors are weaker in comparison with us (-) (*) |
| | 4. Every day we learn of a new action taken by our competitors |
| Technological turbulence | 1. The technology in our industry is changing rapidly |
| | 2. Technological changes provide big opportunities in our industry |
| | 3. It is very difficult to forecast where the technology in our industry will be in the next five years (*) |
| | 4. A large number of new product ideas in our industry have been made possible through technological breakthroughs |
| | 5. Technological developments in our industry are rather minor (-) |
| Market turbulence | 1. In our industry customers' product preferences change quite a bit over time |
| | 2. Our customers tend to look for new products all the time |
| | 3. We are witnessing demand for our products and services from customers who never bought them before |
| | 4. New customers tend to have product related needs that are different from those of our existing customers |
| | 5. We cater to match the same customers that we used to in the past (-) (*) |

(-) Item reverse coded and (*) Item eliminated in present study.

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