

## Food SMEs Face Increasing Competition in the EU Market: Marketing Management Capability Is a Tool for Becoming a Price Maker

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### ABSTRACT

The price-making ability of food small and medium-sized enterprises (SME) is important for their market survival. Since pricing is a part of marketing activities, by developing specific marketing capabilities, firms can improve their ability to make pricing decisions. This paper aims at evaluating the relationship between marketing capabilities and a firm's price-making ability. A survey was conducted based on a sample of 371 food SMEs in the EU. We applied an Ordinal Regression Model to evaluate the determinants of a firm's price-making ability. The analysis results revealed a certain ability of SMEs to set prices. Market analysis and marketing strategy planning capabilities are positively related to the price-making ability of a firm, while firm size is not. Supply chain relationships play a crucial role in price-making due to the strong constraint presented by the presence of vertical competition between food SMEs and supermarkets. (L25, L66, M31). © 2013 Wiley Periodicals, Inc.

### 1. INTRODUCTION

In recent times, price trends of food products are receiving growing attention from both the demand and the supply side. Consumers, in particular, are concerned about food prices since food consumption comprises a significant share of the household expenditure, especially during an economic crisis. On the supply side, in addition to the high price volatility of agricultural products (Headey, 2011), the strong horizontal and vertical competition in recent years has made it increasingly problematic for small food businesses to act as price makers (Kuiper & Meulenberg, 2002; Weiss & Wittkopp, 2005; Banterle, Carraresi, & Cavaliere, 2011a). We focus on the latter issue in order to understand if small and medium-sized enterprises<sup>1</sup> (SMEs) producing traditional food products have the necessary skills for price-making.

Price is one of the extrinsic attributes that contribute to consumer perception about the quality of a particular food product (Caswell, Noelke, & Mojduszka, 2002). Product quality as perceived by consumers affects their purchasing behavior and helps firms achieve managerial objectives such as quality leadership, differentiation, market share gains, and higher profits (Jang & Olson, 2010; Saitone & Sexton, 2010). Moreover, product price is a variable that can be partially managed by the firm.

<sup>1</sup>The European classification of SMEs is as follows: Micro firms: fewer than 10 employees; Small firms: from 10 to 49 employees; Medium firms: from 50 to 249 employees; Large firms: more than 250 employees.

Therefore, the possibility that food firms can manage pricing decisions and their ability to do so are becoming increasingly important for market survival, especially for those firms that face significant pressure from vertical relationships within the food supply chain and high competition due to the continuous opening up of markets.

Pricing policy is a part of firm's marketing activities, and it should be aligned with the general managerial objectives (Panigyrakis, 1997). Thus, firms that can develop and improve specific marketing capabilities may be able to develop a successful strategy that increases their price-making ability (Knight, 2000).

This paper aims to study the relationship between marketing capabilities and the price-making skills of food firms. Therefore, we develop some hypotheses regarding different marketing activities that are related to price-making, namely, market analysis, marketing strategy planning, marketing mix, and marketing audit. The hypotheses were tested using an Ordinal Regression Model.

The analysis is based on a sample of European food SMEs, since SMEs play an important role in the European food industry (FoodDrinkEurope, 2011). Moreover, SMEs are exposed to increasing market competition on account of reduction in trade barriers, retailing concentration, and strategies adopted by large companies. Thus, as seen in the literature, these types of firms face several difficulties related to price-making. However, SMEs could profit if there is a shift in consumer choices toward food quality and specialties (Ilbery & Kneafsey, 2000; O'Reilly & Haines, 2004; Wirthgen, 2005; Gorton & Tregear, 2008; Banterle et al., 2011a).

This is particularly true for traditional food products, which are the focus of this analysis. Based on the definition by Jordana (2000), "in order to be traditional, a product must be linked to a territory and it must also be part of a set of traditions, which will necessarily ensure its continuity over time." In 2006, the European Commission gave the following definition: "Traditional means proven usage on the community market for a time period showing transmission between generations; this time period should be the one generally ascribed to one human generation, at least 25 years" (EU, 2006). In our analysis, the concept of "traditional" takes into account various factors like the product's origin (whether national or regional), the uniqueness of its production process, its gastronomic heritage, and the length of its presence in the market (at least 50 years) (Banterle, Carraresi, & Stranieri, 2010; Gellynck, Banterle, Kuhne, Carraresi, & Stranieri, 2012).

The survey, open to all traditional food sectors, was conducted via an online questionnaire. The sample included 371 SMEs from three EU-15 countries (Belgium, Italy, and Spain) and two EU-27 countries (Czech Republic and Hungary). The choice of countries is linked to the European project for which this study was undertaken.

The paper is structured as follows. Section 2 provides the conceptual framework of the analysis. Section 3 discusses the definition of marketing capabilities and the construction of the hypotheses to be tested. Section 4 describes the method and the empirical model utilized. In Section 5, the results of our empirical analysis are presented; in Section 6, the results are discussed, and Section 7 consists of the concluding remarks.

## 2. CONCEPTUAL FRAMEWORK

A firm's price-making decision can be influenced by several economic elements based on the following aspects (Foglio, 1985; Panigyrakis, 1997; Peter, Donnelly, & Pratesi, 2009; Banterle et al., 2011a) (Fig. 1): 1. Exogenous aspects; 2. Supply chain aspects; 3. Firm aspects.

The exogenous aspects are not dependent on firm activity, while the supply chain and firm aspects are directly linked to the firm's strategic decisions. Thus, the elements related to the latter two aspects can be managed and controlled by the firm.

### 2.1 Exogenous Aspects

According to Panigyrakis (1997), the exogenous elements that influence firms' price-making decisions are related to the market and environmental characteristics, and the legal framework.

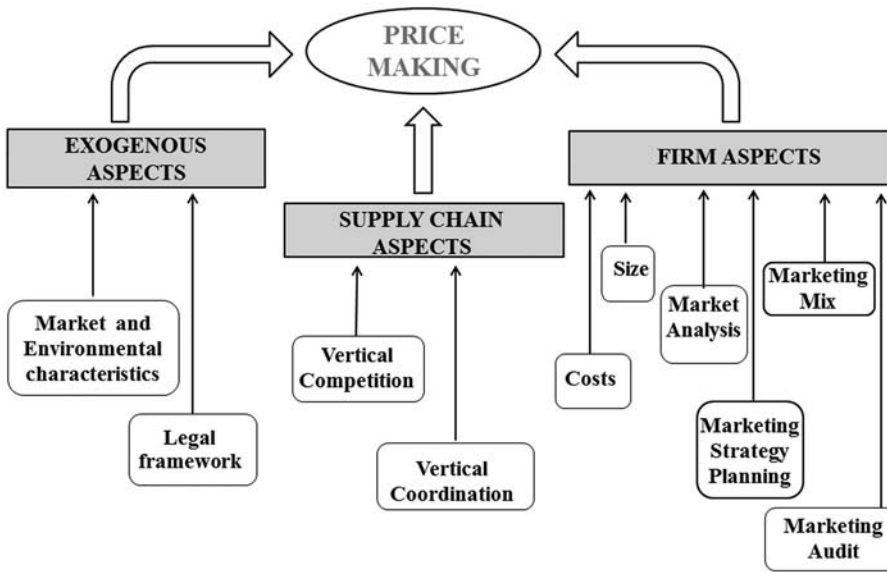


Figure 1 Aspects Affecting the Pricing Strategy of Food SMEs. Adapted from Panigyrakis (1997).

**2.1.1 Market and Environmental Characteristics.** The product price decision is influenced by the type of competition in the market in which a firm operates. The application of a specific pricing strategy depends upon the characteristics of the firm's competitors (their dimensions, number, and pricing strategy), and the level of horizontal competition faced by the firm (Nevo, 2001; Dhar, Chavas, Cotterill, & Gould, 2005). The dominant role of some firms in the same sector due to their substantial market share and ability to influence the product price is an important element that directly impacts a firm's price-making ability.

The product price is also influenced by other external aspects that are beyond the control of the marketing manager, such as the environmental characteristics. These aspects include macroeconomic variables that can influence how pricing strategies are set; for example, changes in raw material prices as indicated by recent fluctuations in prices of agricultural commodities, labor productivity and costs, and the dynamic inflation rate (Zhan, Chen, Noon, & Wu, 2005; Balvers & Huang, 2007; De Borger, 2009; Nazlioglu & Soytaş, 2011; Nakamura, Nakamura, & Nakamura, 2011).

**2.1.2 Legal Framework.** This aspect is related to the regulatory restrictions on price fixing; for example, tariff and nontariff barriers on international agri-food trade, or rules introduced by the EU Common Agricultural Policy (Marquez & Pauly, 1986; Avlonitis & Indounas, 2007).

In our analysis, we do not consider external aspects as elements that influence a firm's pricing strategy, because we focus only on those aspects that are determined by the firm's strategic policy, in particular, the firm's marketing strategies for price-making.

## 2.2 Supply Chain Aspects

The characteristics of a firm's supply chain and the firm's decisions regarding relationships among the agents in the supply chain considerably influence its pricing decisions. Specifically, the supply chain aspects that can influence a firm's pricing decisions are related to the type of vertical competition it faces and the level of vertical coordination in the supply chain.

**2.2.1 Vertical Competition.** The product pricing decision will be strongly influenced by the kind of distribution channel selected for the product. The difference in bargaining power between SMEs and many retailers and their vertical pressure on food manufacturers' margins often have a decisive impact on food firms pricing strategy (Kizilaslan, Goktolga, & Kizilaslan, 2008; Richards, Acharya, & Molina, 2011).

**2.2.2 Vertical Coordination.** The differences in organizational methods deployed by firms within the supply chain may also influence price-making. Greater vertical coordination should result in a more centralized process of price determination. According to Banterle and Stranieri (2008), participation in a supply chain that is vertically integrated, like cooperatives, or in a hybrid form that involves a leadership role for a supply chain member, leads to centralized management and control of the supply chain activities, including pricing strategies.

### 2.3 Firm Aspects

Firm aspects are those elements within the firm that are determined and controlled by the firm's management, and have a direct impact on the firm's price-making decisions. They are concerned with:

- Costs,
- Size,
- Market analysis,
- Marketing strategy planning,
- Marketing mix, and
- Marketing audit.

Each of these aspects is discussed in further detail below.

**2.3.1 Costs.** Costs include all the expenditures incurred by a firm to produce and sell food products. Average cost level represents the minimum threshold price for the product. Costs are strictly related to product differentiation and the level of product quality. In addition to production costs, it is important to also consider the costs related to the organization of transactions within the food supply chain, like cost of information, negotiation, and monitoring (Banterle & Stranieri, 2008).

**2.3.2 Size.** A firm's dimension can be measured using different variables, like the number of employees, turnover, market share, etc. Given the high level of vertical and horizontal competition that characterize the agri-food system, the food firms' size is considered as an important variable that influences their ability to set product prices (Knight, 2000; Gilmore, Carson, & Grant, 2001). Small businesses are more exposed to vertical and horizontal competition due to their low market power. On the other hand, large firms can act as price makers given their counterbalancing power against big retailers.

**2.3.3 Market Analysis.** This includes all activities for collecting and interpreting information in order to understand the key market trends and support the firm's strategies. These activities are very important because they are the starting point for marketing strategy planning and for determining the marketing mix. They include searching, examining, and interpreting all available information about the firm's competitors and stakeholders, including suppliers, retailers, and consumers.

For competitor analysis, data on the key characteristics of the firm's competitors in terms of their strengths and weaknesses, the qualitative characteristics of their products, and the degree of internationalization of their production (Boyaci & Ray, 2006) are required. For supplier analysis, data on the characteristics of potential suppliers and their reputation in

terms of reliability and quality of raw materials used are important (Capron & Hulland, 1999).

Retailer analysis involves a study of their product portfolio dimensions, marketing strategies, and geographical reach (Richards et al., 2011). Lastly, given that consumer preferences influence food demand, consumer analysis and identification of preferences for particular attributes regarding product quality are very important for determining an effective pricing strategy (Baltzer, 2004; Batte, Hooker, Haab, & Beaverson, 2007; Michaelidou & Hassan, 2010).

On the supply side, market analysis allows the firm to implement a specific pricing strategy that is different from that of competitors. On the demand side, this strategy has to be in line with the consumers' willingness to pay for certain product attributes while considering the degree of substitutability of the product (Loureiro, McCluskey, & Mittelhammer, 2001; Lye, Shao, Rundle-Thiele, & Fausnaugh, 2005; Palma & Ward, 2010).

**2.3.4 Marketing Strategy Planning.** Before applying the marketing mix, marketing managers must determine the best marketing strategy for the firm, based on its objectives, and capabilities and restrictions regarding its marketing activities (Teece, Pisano, & Shuen, 1997; Hooley, Greenly, Cadogan, & Fahy, 2005). To attain this goal, the firm must first evaluate all potential marketing strategies including product differentiation, pricing, distribution, and promotion in relation to the available financial resources. Next, the marketing manager must select the best strategy for the product and align it with the firm's objectives and activities. Marketing strategy planning involves determining the strategy that the firm must adopt for product differentiation, pricing, placement, and promotion, and the steps to implement it and adapt it to market changes. In the context of marketing strategy planning, the choice of marketing strategy will determine the pricing policy for the product.

**2.3.5 Marketing Mix.** This involves all those marketing activities that must be implemented in relation to a particular marketing strategy (Bagozzi, 1998; Kotler, 2004; Davis, 2010; Richards et al., 2011).

In the context of product strategy, these activities are related to the level of product differentiation that the firm decides to achieve in terms of intrinsic (nutritional aspects, sensorial characteristics, process attributes, etc.) and extrinsic (brand, price, certifications, etc.) quality attributes based on consumer preferences (Caswell & Mojduszka, 1996; Saitone & Sexton, 2010). Product differentiation based on specific quality attributes determines the price level of the product. As Saitone and Sexton (2010) say, "If firms succeed in truly differentiating their products, they face individualized, downward-sloping demand curves and are not price takers."

Regarding the distribution strategy, the marketing mix evaluates the potential distribution channels for the firm in relation to its structural and product characteristics. Decisions regarding product distribution are concerned with the market coverage of the firm (intensive, selective, or exclusive distribution), and the types of distribution channels for selling the product (supermarkets, specialized shops, direct sales, etc.) (Wirthgen, 2005).

The marketing mix also assesses the most effective promotional activities for improving the product's sales. Promotional strategy includes marketing communication that is aimed at generating a positive consumer response, and involves characterizing the target consumer, defining the promotional content, and determining the communication channel for a particular promotional campaign (television, newspapers, etc.) (Kizilaslan et al., 2008). By coordinating the elements of the marketing mix, a firm can implement its price-making decisions.

**2.3.6 Marketing Audit.** It is also important to set activities for controlling the firm's marketing strategy. Thus, the firm can evaluate whether it has achieved its marketing objectives, or if marketing activities have to be adapted to market changes. Marketing audit includes the evaluation of strategy results, marketing cost review, and competitor benchmarking. Marketing audit can contribute to the firm's price-making decisions by acting as a feedback mechanism for the product's market price level.

As shown by the conceptual framework presented above, marketing is an important element of the firm's pricing strategy. Therefore, in this study we focus on these activities and try to identify those marketing capabilities that are key to the price-making decisions of the firm.

### 3. MARKETING CAPABILITIES AND HYPOTHESES

As per the resource-based theory (RBT), the concept of 'capabilities' refers to a firm's ability to organize and exploit internal resources in order to develop a successful strategy that competitors will find difficult to replicate and that leads to a specific objective. Marketing capabilities refer to the capacity of a firm to deploy marketing resources in a unique and non-imitable way such that it leads to a strategy that yields good performance (Kay, 1993; Day, 1994; Helfat & Peteraf, 2003).

In particular, market analysis, marketing strategy planning, marketing mix, and marketing audit constitute these capabilities because they are essential for the development of a unique strategy for the firm that will give it sustainable competitive advantage and, consequently, considerable price-making power.

To assess these capabilities, we used a series of proxies, expressing a set of activities that must be organized in order to come up with an effective price-making strategy.

Market analysis capability refers to the firm's ability to gather information about supplier characteristics, retailer requirements, competitor strategies, and consumer needs. This capability enables the firm to differentiate and tailor products as per consumer preferences. Thus, by identifying the target consumer segment and monitoring the demand trends, the firm will be able to react to market dynamics promptly by adjusting its strategy. This strategy will not be easily replicable by other companies since it is based on specific firm resources and capabilities (Vorhies, 1998; Vorhies & Morgan, 2005). Indeed, if the firm has good knowledge about the other agents in the supply chain, it should be able to select its suppliers appropriately, satisfy client requests, identify competitors' strategies, and understand the preferences of its target consumers. This information can improve the firm's ability to act as a price maker because it will enable the firm to implement market-oriented strategies that have higher probability of success.

$H_1$ : Market analysis capability has a positive effect on the firm's ability to set the product price.

Marketing strategy planning capability refers to the activities involved in the choice and organization of the best marketing strategy that should be implemented by the firm. Therefore, the firm must identify possible improvements to its products, the best markets for them, and evaluate new markets and innovative distribution channels. Moreover, marketing planning also involves adapting promotional campaigns and budgets to market changes. The planning capability enables the firm to formulate a well-organized marketing strategy so that it is prepared to respond to internal unconformity or changes in market trends. This capability also enables the firm to become a price maker because pricing policy must be considered a part of the marketing activities in order to select the market segment and the price level for the product.

$H_2$ : Marketing strategy planning capability has a positive effect on the firm's ability to set the product price.

Marketing mix capability refers to the ability to apply a specific marketing strategy based on the level of product differentiation, the appropriate price, the distribution channels, and the most suitable promotional campaign. In particular, the decision about the level of differentiation affects the pricing policy of the firm because it is related to the quality attributes and the target consumer segment. Moreover, utilizing skilled human resources in the form of a qualified sales force gives the firm considerable power to set the prices of its products (Horska, 2004).

$H_3$ : Marketing mix capability has a positive effect on the firm's ability to set the product price.

TABLE 1. Firms in the Sample by Country

Country	number	%
Belgium	56	15.09
Czech Republic	88	23.72
Hungary	26	7.01
Italy	128	34.50
Spain	73	19.68
Total	371	100.00

Source: Our survey.

Marketing audit capability is linked to the ability of the firm to review the results achieved and the costs incurred, and compare its results with those of its competitors in order to understand if the strategy implemented leads to good performance. The firm can take corrective action if the results achieved are not as per expectations. Further, the feedback mechanism also affects the price decision, since the firm can adapt its pricing policy to changes in the market and in the competitors' strategies.

H<sub>4</sub>: Marketing audit capability has a positive effect on the firm's ability to set the product price.

## 4. METHODOLOGICAL ISSUES

### 4.1 Description and Measurement of Variables

The sample comprised 371 traditional food SMEs from five EU countries, namely, Belgium, Czech Republic, Hungary, Italy, and Spain (Table 1).

To assimilate relevant data, we developed a questionnaire based on the literature review and conceptual framework discussed earlier (Panigyrakis, 1997; Kotler, 2004; Hooley et al., 2005; Boyaci & Ray, 2006; Peter et al., 2009; Michaelidou & Hassan, 2010; Banterle et al., 2011a; Banterle, Cavaliere, Carraresi & Stranieri 2011b; Richards et al., 2011). We first administered it to five SMEs producing traditional food products. Based on the results of the pilot test, we modified the questionnaire. In our analysis, we take into account 28 items that are described in Table 2 along with their mean and standard deviation.

The items are divided into supply chain aspects and firm aspects. The variable indicating the influence on price-making reflects a firm's perception about its ability to act as price maker since it is based on self-evaluation.

The first part, concerning the firm's supply chain aspects, examines whether the firm is a member of a consortium or a cooperative, the number of voluntary traceability or chain quality certifications implemented by it, and the kind of distribution channel utilized. This information has been measured in various ways. The firm's participation in a consortium is the dummy variable, whereas the number of certifications is the scale variable ranging from 1 to 6. The kind of distribution channel chosen by the firms is the categorical variable ranging from 1 to 6.

The second part, regarding the firm aspects, includes five groups of variables. The first group, size, includes only one variable, namely, the number of employees in the firm. In fact, the number of employees helps to distinguish among micro, small, medium, and large firms.

The second group, market analysis, examines the activities conducted by the firm to collect information about the brand, suppliers, retailers, competitors, and consumers. Specifically, in this section we investigate whether the firm evaluates its brand position in the market, the skills of its suppliers, the requirements of its retailers, the marketing strategy of its competitors, market data, and its customer requirements. These variables were measured using a five-point Likert scale ranging from 1 (never) to 5 (always).

TABLE 2. Variable Definition

Variable name	Description	Variable type	N	Mean	SD
<b>DEPENDENT VARIABLE</b>					
Influence on price setting	The company strongly influences the price of its products	scale (1-5)	355	3.50	1.15
<b>INDEPENDENT VARIABLES</b>					
<b>SUPPLY CHAIN ASPECTS</b>					
<b>Vertical coordination</b>					
Membership of consortium or cooperative	If the company is member of a consortium or cooperative value 1, otherwise 0	dummy (0-1)	303	0.65	0.48
Voluntary traceability/chain quality certification	Number of voluntary certification schemes that the company has implemented (0; 1; 2; 3; 4; >4)	scale (1-6)	329	2.18	1.28
<b>Vertical competition</b>					
Distribution channels	The most important distribution channels utilized by company (Supermarket; Specialised shop; Direct sale; Wholesaler; Small grocery shop; others)	categorical (1-6)	357	2.70	1.71
<b>FIRM ASPECTS*</b>					
<b>Size</b>					
Employees	Number of employees (<10; 10-49; 50-249; >250)	scale (1-4)	366	2.17	0.99
<b>Market analysis</b>					
Brand analysis	The company investigates the position of its brand in the market	scale (1-5)	361	3.13	1.27
Supplier analysis	The company investigates the competencies/skills of its suppliers before it selects them	scale (1-5)	365	3.79	1.11
Retailer analysis	The company investigates the requirements of its retailers	scale (1-5)	361	3.80	1.10
Competitor analysis	The company investigates the marketing strategy of its competitors	scale (1-5)	365	3.33	1.20
Market information	The company analyses any data and information about the market	scale (1-5)	365	3.64	1.06
Consumer analysis	The company analyses the requirement of its consumers	scale (1-5)	365	3.85	1.02
<b>Marketing strategy planning</b>					
Advance planning	The company applies detailed marketing planning in advance	scale (1-5)	350	3.47	1.20
Investment in product improvements	The company invests in improving its traditional products	scale (1-5)	348	3.95	1.04
Key markets	The major market utilized by company (local; regional; national; international)	categorical (1-4)	351	2.67	0.93
Search for new markets	The company searches for new markets	scale (1-5)	351	3.98	1.04
Innovative distribution channels	The company sells its product with innovative distribution channels	scale (1-5)	343	2.93	1.15
Adaptation of promotional activities to market changes	The company adapts its promotional activities to changes of the market	scale (1-5)	353	3.38	1.23
Adaptation of budget to market changes	The company adapts easily the budget for marketing activities if necessary	scale (1-5)	351	3.16	1.19
<b>Marketing mix</b>					
Existence of clear objectives	The company has measurable objectives presented in its marketing strategy	scale (1-5)	356	3.73	1.11
Strategy well-known inside firm	The company implements very strictly its marketing strategy	scale (1-5)	357	3.45	1.10
Product tailoring according the consumer needs	The company tailors its products according to the needs of the consumer	scale (1-5)	356	3.85	1.06
Product differentiation	The company seeks to make its product different from that of competitors	scale (1-5)	357	3.90	1.08
Investment in a dynamic and qualified sales forces	The company invests in dynamic and qualified sales force	scale (1-5)	355	3.51	1.19
Choice of distribution channel	The company chooses the type of distribution according to its sales objective	scale (1-5)	352	3.76	1.10
Investment in promotion and advertising	The company invests in promotion and advertising	scale (1-5)	354	3.19	1.17
<b>Marketing audit</b>					
Evaluation of results	The company reviews whether or not the objectives of the promotional activities were realized	scale (1-5)	353	3.55	1.27
Costs review	The company reviews the marketing costs in comparison to the results achieved	scale (1-5)	355	3.50	1.27
Competitor benchmarking	The company collects information about the results of competitors	scale (1-5)	354	2.65	1.27

\*We focused on marketing capabilities, without analyzing production costs.

Source: Our survey.



The third group is concerned with marketing strategy planning. It examines whether the firm implements the marketing plan in advance, invests in product improvement, introduces innovations to differentiate the product, selects the target market in accordance with the strategy adopted, and hunts for new markets and explores new distribution channels. Marketing strategy planning also includes the capability to adapt the promotional activities and budget to market changes. All these variables were also measured using a Likert scale ranging from 1 (never) to 5 (always).

The fourth group of variables is concerned with the marketing mix capabilities. In this section, we analyzed whether firms have measurable objectives, implement the chosen marketing strategies, apply product differentiation, tailor the product as per consumer needs, and invest in a qualified sales force. We also examined whether firms select the distribution channel in line with specific marketing mix objectives, and whether they invest in promotions and advertising. These variables were measured using a five-point Likert scale ranging from 1 (never) to 5 (always).

The last group, marketing audit, deals with the evaluation of results achieved by the company, review of the costs of marketing, and analysis of competitors' results. These variables were measured using a Likert scale ranging from 1 (never) to 5 (always).

As mentioned earlier, within the firm aspects, we focused on marketing capabilities and did not analyze the production costs.

#### 4.2 Data Analysis

The analysis involved a series of steps. First, we applied factor analysis (FA) to reduce the number of variables in order to facilitate the interpretation of the results; the variables from which we derived the factors take into consideration the same marketing aspects of firms, in particular market analysis and marketing mix.

This approach helped to reduce the number of variables, while preserving most of the information, as indicated by the variance. The factors were orthogonally rotated (maintaining uncorrelation of the factors) by Varimax, since the first interpretation of factor loading was not straightforward. We obtained two factors from 13 variables. The first factor, 'market analysis,' with an eigenvalue greater than 1, derives from six variables and explains more than 50% of the variance. The second factor, 'marketing mix,' with an eigenvalue greater than 1, derives from seven variables and explains more than 44% of the variance.

In the second step of the analysis, we applied an Ordinal Regression Model for evaluating the determinants of the firm's price-making ability. Before applying the Ordinal Regression Model, a test of significance was conducted to determine the presence of multicollinearity. In accordance with the literature, we used a variance inflation factor (VIF) as an indicator of the collinearity problem; the VIF should not exceed 10 (O'Brien, 2007). In our model, the maximum value of the VIF coefficient was 3.06 among all the variables employed. Thus, there is no collinearity among them.

The firm's price-making ability is the dependent variable in the model and was measured using a five-point Likert scale ranging from 1 (never) to 5 (always). The two factors obtained from FA and the other variables reported in Table 2 represent the independent variables of the model.<sup>2</sup> The statistical elaboration was performed using STATA (College Station, TX).

The Ordinal Regression Model is a good method for analyzing ordered categorical data, and it integrates a series of logit models into a single model. The estimation of the proportional odds model for the Ordinal Logistic Regression is as follows (Liao, 1994):

$$\theta_j = \frac{\Pr(y \leq j|x)}{\Pr(y > j|x)} = \frac{\Pr(y \leq j|x)}{1 - \Pr(y \leq j|x)} \quad (1)$$

$$c_j(x) = \ln(\theta_j) = -[\beta_1 x_1 + \dots + \beta_k x_k + \dots + \beta_n x_n] + \tau_j$$

<sup>2</sup>The variables "distribution channels" and "key market" were used in the model as categorical variables.

TABLE 3. Price-making Ability of the Firms in the Sample

		Price-making ability					Total
		Never	Seldom	Sometimes	Often	Always	
		%					
firm size	Total sample	5.6	15.2	23.1	35.2	20.8	100.0
	<10 empl.	38.9	14.8	23.2	36.0	44.4	31.6
	10-49 empl.	27.8	42.6	32.9	30.4	26.4	31.9
	50-249 empl.	27.8	31.5	37.8	21.6	16.7	26.2
	> 250 empl.	5.6	11.1	6.1	12.0	12.5	10.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0
country	Belgium	10.0	5.6	9.8	20.0	20.3	14.9
	Czech Rep.	10.0	29.6	36.6	21.6	10.8	23.4
	Hungary	0.0	1.9	3.7	6.4	17.6	7.0
	Italy	70.0	37.0	28.0	32.0	40.5	35.8
	Spain	10.0	25.9	22.0	20.0	10.8	18.9
		Total	100.0	100.0	100.0	100.0	100.0

Source: Our survey.

with:  $J$  = number of ordered categories ( $j = 1, \dots, J-1$ ,  $J = 5$ ;  $n$  = number of independent variables ( $k = 1, \dots, n$ ),  $n = 22$ ;  $x = (x_1, \dots, x_n)$  independent variables;  $y$  = response variable;  $\beta\beta = (\beta_1, \dots, \beta_n)$  = regression coefficients;  $\tau_j$  = composite term of the unknown threshold parameters separating the adjacent categories and the intercept ( $\beta_0$ ).

## 5. RESULTS

### 5.1 Descriptive Analysis

In the context of product pricing, the majority of the firms declared that they have significant price-making power for their products; 20.8% of the sample declared that they always set the price of products, while 35.2% declared that they often did so (Table 3). Among the firms that always act as price makers, 44.4% are micro, 26.4% are small, and 16.7% are medium-sized. Similarly, among the firms that often have an influence on price-making, 36% are micro, 30.4% are small, and 21.6% are medium-sized. Thus, our sample shows that a firm's size is not crucial to its price-making power, since micro, small, and medium-sized firms exhibited good price-making abilities. In spite of their small dimension, they were able to exploit other capabilities, like marketing, for improving their market power alongside large firms.

Firms with price-making abilities are well distributed across countries. Italian SMEs show the highest percentages for all the frequencies of price-making ability, except for those who answered that 'sometimes' they set the price. However, this is primarily because of the large number of Italian firms in the sample. Among the price makers, Italian SMEs were followed by Belgian and Czech firms, and then by Spanish and Hungarian firms. Interestingly, among the price takers, there were a significant number of Czech and Spanish SMEs.

Regarding marketing capabilities,<sup>3</sup> we can see that, generally, SMEs in the sample do not seem to have excellent marketing capabilities. On average, the firms in the sample never reached the maximum score in any category. Nevertheless, there were some marketing activities that SMEs in the sample undertook quite often. For example, for market analysis they investigate consumer preferences, retailer requirements, and supplier characteristics, thereby focusing on the entire supply chain in order to determine a profitable strategy and develop successful products with low risk of failure (Fig. 2).

<sup>3</sup>The graphs on marketing capabilities are based on the average score of the firms in the sample for each variable.

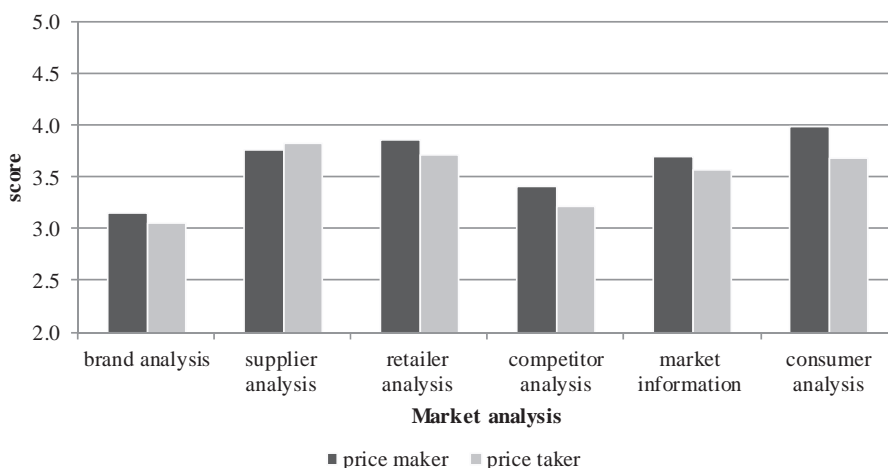


Figure 2 Market Analysis Capability and Price-making Ability. Source: Our Survey.



Figure 3 Marketing strategy planning capability and price-making ability.

\*There is no variable “Main sale markets” because the measurement scale (categorical) is different from the other variables of the same group (scale). Source: Our survey.

Regarding marketing strategy planning capabilities, the only activities that were implemented often were investments in product improvement and the search for new markets (Fig. 3). These results indicate that firms are interested in evaluating product quality attributes that can be potentially enhanced and identifying new market opportunities for selling the product.

Firms’ interest in consumer preferences and quality attributes that can be developed in the product is revealed by two other capabilities that showed good scores within the framework of marketing mix (Fig. 4). The sample firms strove to tailor the product according to consumer needs and differentiate it against competitors. Thus, through differentiation, they should have wider possibilities to act on pricing policy. Marketing audit capabilities, however, did not reach high scores, as these activities are conducted infrequently (Fig. 5).

If we study the marketing capabilities of firms in the sample in relation to their price-making abilities, it can be seen that firms who are price makers have better marketing capabilities than

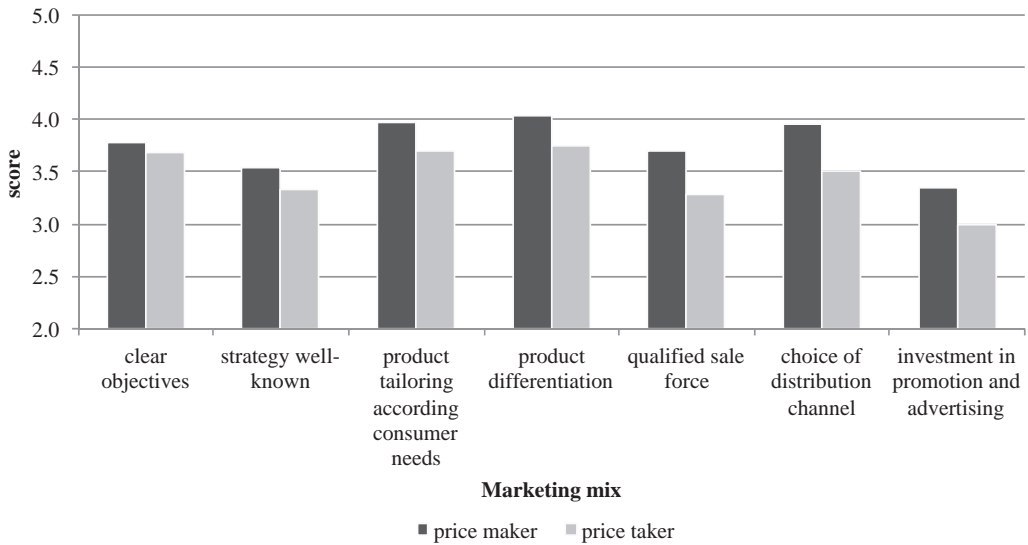


Figure 4 Marketing Mix Capability and Price-making Ability. Source: Our Survey.

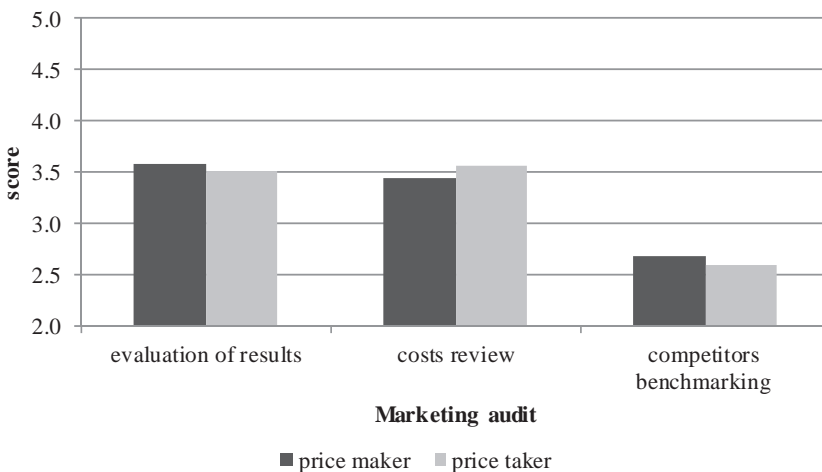


Figure 5 Marketing Audit Capability and Price-making Ability. Source: Our Survey.

those who are price takers. This fact demonstrates that better marketing capabilities are linked with the ability to be a price maker.

The differences between the two groups of firms were the greatest for consumer analysis (Fig. 2), advance planning, innovative distribution channels, adaptation of promotional activities to market changes (Fig. 3), investment in a qualified sales force, choice of distribution channel, and investment in promotion and advertising (Fig. 4).

Therefore, price maker firms show a clear orientation towards consumer preferences as well as better capability in planning the marketing strategy. These skills are revealed by two particular marketing activities: the adaptation of promotional activities to market changes and adoption of innovative distribution channels.

Regarding marketing audit capability, there is no evident difference between price makers and price takers. This is probably because firms in the sample gave similar low scores to questions and the results appear quite flat (Fig. 5).

TABLE 4. Factor Analysis Concerning Market Analysis

Variables	<i>Factor 1</i> Market analysis (F <sub>1</sub> )
Brand analysis	0.724
Supplier analysis	0.725
Retailer analysis	0.708
Competitor analysis	0.738
Market information	0.752
Consumer analysis	0.577
Cronbach's Alfa: 0.797	
Keiser Meyer Olkin test: 0.801	
Rotation method: Varimax	
Total Explained variance: 49.880%	
Bartlett's Test: 586.506 (0.000)	

Source: Our survey.

TABLE 5. Factor Analysis Concerning Marketing Mix Strategy

Variables	<i>Factor 2</i> Marketing mix (F <sub>2</sub> )
Existence of clear objectives	0.775
Strategy well-known inside firm	0.745
Product tailoring according the consumer needs	0.532
Product differentiation	0.541
Investment in a dynamic and qualified sales forces	0.720
Choice of distribution channel	0.700
Investment in promotion and advertising	0.607
Cronbach's Alfa: 0.787	
Keiser Meyer Olkin test: 0.805	
Rotation method: Varimax	
Total Explained variance: 44.434%	
Bartlett's Test: 617.909 (0.000)	

Source: Our survey.

## 5.2 Estimation Results

As mentioned earlier, we obtained two factors 'market analysis' and 'marketing mix' from the FA (Tables 4, 5). These factors together with the other variables were used to conduct a quantitative statistical analysis in the form of an Ordinal Regression Model.<sup>4</sup>

With regard to firm's supply chain, the regression model shows that the variables 'membership of a consortium or cooperative' and 'distribution channels' are significant with respect to the dependent variable (Table 6).

The first variable shows a negative relationship with the variable 'price-making,' thus indicating that if firms are part of a consortium, price-making is determined by the consortium and not by them. With regard to the distribution channel variables, the variable 'supermarkets' negatively impacts the price-making ability of firms. This is probably on account of the superior bargaining power of retailers as compared to the traditional food SMEs.

Further, the variable 'wholesalers' also negatively impacts the firm's price-making ability, and this is probably on account of the low degree of differentiation among products sold through this kind of distribution channel.

<sup>4</sup>Since information provided by the variables "market analysis" and "marketing mix" is redundant, we chose to use FA, while other variables entered singularly in the Ordinal Regression Model.

TABLE 6. Model Estimates

	Influence on price	
	$\beta$	Sig.
$\alpha_1$	-3.149	0.013
$\alpha_2$	-1.437	0.248
$\alpha_3$	0.003	0.998
$\alpha_4$	1.984	0.111
Membership of a consortium	<b>-0.891</b>	0.002
Voluntary traceability/chain quality certification	-0.001	0.995
Supermarkets	<b>-0.815</b>	0.074
Specialised shop	0.177	0.748
Direct sale	0.084	0.883
Wholesalers	<b>-1.062</b>	0.039
Small grocery shop	-0.466	0.502
Employees	0.050	0.756
Market analysis ( $F_1$ )	<b>0.446</b>	0.034
Advance planning	-0.117	0.450
Investment in product improvements	-0.229	0.223
Local market (key market)	0.147	0.813
Regional market (key market)	-0.170	0.715
National market (key market)	-0.379	0.274
Search for new markets	-0.026	0.871
Innovative distribution channels	0.097	0.435
Adaptation of promotional activities to market changes	<b>0.465</b>	0.003
Adaptation of budget to market changes	<b>0.414</b>	0.009
Marketing mix ( $F_2$ )	-0.030	0.888
Evaluation of results	0.008	0.960
Costs review	-0.009	0.953
Competitor benchmarking	-0.197	0.151
Chi-Square	58.528	0.000
Pseudo $R^2$ (Nagelkerke)	0.241	

Source: Our survey.

For the first hypothesis, model estimates show that the variable ‘market analysis’ has a positive impact on the firm’s price-making ability. The market analysis in the model is represented by the first factor and involves the analysis of the brand, suppliers, retailers, competitors, market, and consumers. Information about these elements may be useful for understanding the market and, consequently, for making pricing decisions.

The second hypothesis is related to marketing strategy planning. Regarding this capability, only two variables in our model, ‘adaptation of promotional activities’ and ‘adaptation of budget to market changes,’ seem to be significantly correlated with the ability of the firm to fix the product price. This is probably due to the fact that the more firms keep abreast of market changes, the better they can adapt promotional activities and budgets to the economic environment and, consequently, the product price as well.

Based on the conceptual framework presented above, the third hypothesis of our model is not verified. The factor explaining the marketing mix does not reveal a significant relation with the firm’s price-making; probably other variables employed in the model may have impacted its significance. From an economic point of view, we could explain this result on the basis of the fact that firms in our sample seem to know well the strategies of marketing in theory, but find it difficult to put them into practice. This negatively impacts their price strategy.

The fourth hypothesis of our model regarding marketing audit is also not verified. In fact, the variables ‘evaluation of results,’ ‘costs review,’ and ‘competitor benchmarking’ are not significant in the estimation.

## 6. DISCUSSION

This work aims at understanding the determinants of price-making for traditional food SMEs in the EU market, particularly in the context of their marketing capabilities. Based on the literature, we developed a conceptual framework to describe these determinants by highlighting different aspects, both internal and external, that can influence a firm's ability to act as a price maker (Panigyrakis, 1997; Kotler, 2004; Hooley et al., 2005; Boyaci & Ray, 2006; Peter et al., 2009; Banterle et al., 2011a,b).

We identified the marketing capabilities according to the literature, and developed hypotheses about the relationships between these capabilities and price-making (Panigyrakis, 1997; Vorhies, 1998; Kotler, 2004; Vorhies & Morgan, 2005). The first hypothesis concerns market analysis, the second one investigates marketing strategy planning, the third one concerns the marketing mix, and the last one analyzes the marketing audit capability.

The survey revealed that SMEs operating in the EU traditional food sector have reasonable price-making powers, in line with a previous analysis (Banterle et al., 2011a). Indeed, 56% of the sample firms indicated their ability to act as price makers. This analysis is based on self-evaluation using an online questionnaire, and thus reflects the firm's perception about its own price-making ability.

There does not seem to be a significant relationship between price-making and firm size, since our analysis indicates that small businesses are able to set prices. In our survey, there is a significant share of micro firms (employee count of less than 10) and small firms (employee count of 10–49) among the price-maker firms. As per our Ordinal Regression Model, firm size is not significant.

Moreover, the empirical analysis conducted on 371 traditional food firms in five EU countries (Belgium, Czech Republic, Hungary, Italy, and Spain) did not indicate any significant difference among countries in terms of firms' price-making ability; thus, there are no significant country-specific factors that impact firms' price-making abilities.

Supply chain relationships play a crucial role in price-making. In the presence of vertical coordination, when the sample firm is a part of a consortium or cooperative, there is a negative and significant relation between the two. This is probably due to the fact that in a consortium or cooperative, a single firm does not determine the product price by itself; rather, it follows the pricing policy determined by the downstream level of the chain.

On the other hand, the vertical competition between food SMEs and supermarkets is a strong constraint for the firm's price-making ability. For the European countries considered in this study, the results show a significant and negative relation between doing business with a supermarket and acting as a price maker. Thus, while doing business with supermarkets, food SMEs tend to become price takers.

Further, in the case of wholesale operations, the relationship with price-making is significant and negative; however, this is probably on account of the low level of differentiation that generally characterizes the products sold through this channel.

The analysis showed a positive relationship between price-making ability and marketing capabilities, although with varying degrees of importance among the marketing areas.

With regard to the market analysis capability, the results highlight that, in particular, four activities, namely, consumer analysis, retailer analysis, supplier analysis, and market information collection, play an important role in the firm's ability to set prices. The analysis of competitors' strategies, although this was not much applied by firms in our sample, can aid firms' price-making abilities. The estimation results show that market analysis capability has a positive and significant relationship with the firm's ability to set prices, thereby confirming the first hypothesis of our paper.

Our analysis of marketing strategy planning capability reveals that firms focus on product improvements and hunt for new markets to sell products. The regression reveals that two variables, 'adaptation of promotional activities to market changes' and 'adaptation of budget to market changes,' show a positive and significant relation with the dependent variable, thus highlighting the importance of these variables to a firm's price-making ability. On the other

hand, the survey highlights the limited effort put in by the firms in our sample to search for new distribution channels, in line with a previous analysis (Banterle et al., 2011b). While this result is quite understandable given the difficulties in finding new channels, searching for innovative distribution opportunities seems crucial given the strong vertical competition in the supply chain, especially from supermarkets and hyper-markets. Thus, the second hypothesis was partially confirmed by the empirical analysis.

For the marketing mix capability, the descriptive analysis revealed that price maker firms put in greater efforts in all marketing mix activities. The most important skills in marketing mix are product differentiation, product customization as per consumer needs, and the choice of the distribution channel. On the contrary, a significant part of the sample did not engage in promotional activities, probably because small firms find it difficult to incur the high costs of advertising campaigns. Nevertheless, the regression does not indicate a significant effect of the marketing mix factor. Therefore, the contribution of the marketing mix capability to the price-making ability, in the context of all the variables considered, does not appear to be significant. Thus, the third hypothesis is not confirmed.

The marketing audit capability is not well developed. This is reflected in the low capacity of food SMEs to appropriately evaluate the results of a specific marketing strategy. The fourth hypothesis about the relationship between marketing audit and the firm's ability to set prices is not confirmed by the empirical analysis.

## 7. CONCLUDING REMARKS

The analysis results have interesting implications for SMEs' strategies. As mentioned earlier, the survey revealed a certain ability of SMEs producing traditional food products to set the prices of their products. However, it highlights several weaknesses as well. Even though firm size does not seem to be a constraint to the firm's ability to act as price maker, in all the EU countries considered in this study the relationship with big retailers is crucial, given the superior bargaining power of supermarkets and wholesalers as compared to SMEs. From a managerial point of view, these results suggest that the choice of the distribution channel has a significant impact on the firm's pricing strategy. Even if SMEs sell to big retailers, they often become price takers in the bargain.

Moreover, the firms in our sample do not frequently search for new distribution channels. Sometimes alternative channels for selling traditional food products may be better in terms of price-making power.

Despite several weaknesses, marketing capabilities have proved to be an important contributor to the price-making ability of firms. Therefore, an improvement in marketing capabilities should enable SMEs to attain a better position in the European market and enhance their chances of becoming price makers.

Our conceptual model provided new insights on the relationship between SMEs' pricing skills and marketing capabilities. Nevertheless, our analysis is based on an online questionnaire; consequently, those firms that do not use the Internet are excluded. Moreover, the data collected are based on a self-evaluation tool and is, therefore, subjective. To generalize our results, future research must use a bigger sample of SMEs and extend the analysis to include other EU countries as well.

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