Abstract number: 020-0184

Managing Pricing in a Supply Chain Perspective

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POMS 22nd Annual Conference

Reno, Nevada, U.S.A.

April 29 to May 2, 2011

Abstract

Literature on Supply Chain Management emphasizes the adoption of a collaborative attitude towards process management. Production planning, logistics, quality management, new product development are all business processes that can benefit from a collaborative supply chain perspective. Instead, scholars have not devoted as much research to the pricing process.

This paper aims at contributing to knowledge by offering a literature overview on the evolution of pricing towards collaborative approaches and developing a conceptual research framework to analyze collaborative pricing, its key decisions and mechanisms in supply chains. This framework is based on the authors' original interpretation of cases found in literature and has been further applied to the case of a high-quality food supply chain.

Keywords

Pricing; Supply chain; collaboration; mutual benefits.

1. Introduction

Although being a critical managerial issue, scholars across different research areas agree that the pricing process still remains an under-investigated topic, thus deserving more in-depth research. Some of the main hurdles that hinder investigations on the pricing process are tied to its specificity for the firm and the context in which it operates. In addition, pricing strategies are often confidential, thus inhibiting firms to reveal them.

Traditionally, pricing has been considered as a process for dividing profit between two bargaining parties facing each other in negotiations, without considering the opportunity to act collaboratively in price definition in order to develop mutually beneficial relationships.

Only recently, scholars started to investigate the development of new collaborative approaches which involve also the pricing process. These contributions underline a new perspective on price definition across the supply chain, as a result of the interaction between several supply chain

members through the adoption of cost transparency and information sharing. However, the main research gap lies in the implementation of this emerging pricing approaches, since related literature largely lacks of an empirical support.

The contribution of this research lies in the attempt to develop and integrate the conceptual model of Supply Chain Pricing introduced by Voeth and Herbst (2006) by linking it to real cases of the implementation of collaborative decision making in the pricing process between supply chain parties. In fact, we found interesting linkages with the pricing approach developed in the context of agri-food "values-based" supply chains. The analyzed case studies demonstrate the opportunity to perceive pricing as a tool to foster collaboration between supply chain members and develop mutually beneficial relationships.

This paper aims to analyze these emerging collaborations, thus developing a preliminary framework to investigate collaborative Supply Chain Pricing and explore the relation between contextual supply chain characteristics and the adoption of a collaborative pricing structure among supply chain partners. Moreover, the proposed framework seeks to analyze which different mechanisms (e.g. incentives, contracts, techniques) are adopted in the implementation of this pricing approach.

The remainder of this paper is organized as follows: in the first section we review literature related to the pricing process across different research areas, in order to give an overview of the evolution of pricing from a traditional marketing perspective to the development of emerging collaborative approaches which involve several supply chain members in the joint price definition through the network. Then, after having detected in literature some examples of collaborative pricing between supply chain members aimed at obtaining sustainable and mutual benefits for the involved parties, we cross-compare these cases in order to create our research framework and apply it in order to interpret the explorative case study of an Italian high-quality bread supply chain and the decisions performed by its members to create a shared, collaborative and mutually beneficial pricing process.

Eventually, we provide academic and managerial implications and directions to stimulate future research.

2. Theoretical background

Although several different management research areas - i.e. economics, marketing, accountancy, finance, etc. – investigated the pricing process (Diamantopoulos, 1991), related literature lacks of a structured overview. Therefore, in this second section we seek to analyze and join the most relevant contributions in order to delineate the evolution of research on pricing.

2.1. The traditional perspective in Marketing research

In the Industrial Marketing research stream pricing is intended as the key factor in every exchange process (Gadde et al., 2002) and a critical element of the marketing mix. However, as argued by Lancioni (2005), Dohrup (2006) and Brennan et al. (2007), pricing has paradoxically received little attention from marketing scholars in comparison with other classical marketing instruments.

Since researchers argued that it is essential to adopt a systematic and well-organized approach to pricing, some pricing process models have been developed (Dolan and Simon, 1995; Shipley and Jobber, 2001; Hinterhuber, 2004). Nevertheless, these models are often simplified, thus limiting their applicability (Lancioni, 2005). Moreover, Dohrup (2006) argues these models are not clearly linked to other processes (e.g. product development) and they lack of considering the involvement of external actors in price decision making.

Therefore, the traditional pricing approach is usually internally focused to the firm. From this perspective, organizations independently calculate and define their profit objectives on the basis of internal cost structures and lately enter price negotiations with their transaction counterparts (Garda, 1984).

This traditional pricing policy adopts a tactical, short term perspective (Anderson and Narus, 2004) that consequently limits the development of closer business relationships, since the main attention is given to the single transaction. In addition, the main assumption is that what is gained by the firm is lost by the customer and vice versa, and that pricing is a zero-sum game (Brennan et al., 2007).

Thus, pricing is perceived as a distribution parameter rather than being considered a collaborative process (Voeth and Herbst, 2006).

Moreover, traditional pricing considers exclusively the buyer-seller dyad, without extending the investigation of the influence of other supply chain counterparts in the pricing process. The interaction could be limitedly extended to get external information to be used in price definition: in this case, the interaction with customers aims to understand the perceived value adopting "value-based pricing" methods (Hinterhuber, 2004), while on the other hand suppliers are an information source of the cost of purchased items and perform "cost-based" or "cost-plus pricing" (Brennan et al., 2007) methods.

Research on pricing has evolved in the context of the Relationship Marketing area, starting to consider also relational factors as complementary aspects to the adoption of contracts to support the transaction (Seshadri and Mishra, 2004). Scholars acknowledge the growing importance of transferring value to the customer (Lancioni, 2000; Gadde et al., 2002; Hinterhuber, 2004) and to integrate the customer perspective in the pricing process. This research stream underlines the opportunity to develop long-term "win-win" supplier-customer relationships (Argouslidis and Indounas, 2009).

Several contributions from the IMP group helped to enlarge the scope of research on pricing by paying more attention to the network perspective (Dohrup, 2006), thus overcoming an exclusively internal focus. In addition to the dyadic relationship between focal seller and focal buyer, also other upstream and downstream exchange processes need to be included (Gadde et al., 2002).

2.2. Pricing in Operations and Supply Chain Management research

Scholars in the Operations and Supply Chain Management research area have investigated pricing decisions as a key factor in relation to the dynamics and performances of a supply network (Özelkan and Çakanyıldırım, 2009). However, in Supply Chain Management literature the main focus on pricing is limited to the interaction with other logistic variables within the Supply Chain

Coordination research stream (Arshinder et. al., 2008). In this research area the main contributions are based on quantitative models (e.g. Newsvendor model) and Operational Research tools, pursuing the main target of supply chain optimization in terms of profits and productive capacity and also considering partnership scenarios (Chauhan and Proth, 2005). Moreover, the main attention is given to retail and distribution channels, thus limiting the analysis of transformation processes. Extended research has been developed to analyze pricing contracts (Cachon and Lariviere, 2005), in particular by the means of game theory to assign profits between the parties. However, relational factors are not further investigated and the target of optimal solution usually limits the investigation of win-win approaches.

On the other hand, the implementation of inter-organizational cost management practices investigated in the Supply Chain Costing research stream (Seuring and Goldbach, 2002) has deeply influenced the evolution of the pricing approach from a supply chain perspective.

In fact, an interaction in the pricing process between supply chain members takes place in the situation of collaborative relationships where Activity Based Costing, Target Costing (Ellram, 1999), Kaizen Costing and in particular Supply Chain Target Costing (Goldbach, 2002) are implemented. The latter technique extends Target Costing to the entire supply chain.

When implementing these techniques, the firm at the end of the chain - e.g. usually a car manufacturer in an automotive supply chain – sets a market target price and interacts in the pricing process with its upstream suppliers by imposing a target price, on the basis of an internal cost analysis for the purchased items. This effect goes down all the way through the chain up to the raw material suppliers. In this manner market pressure transfers the target price through the supply chain tiers. Therefore, the implementation of these costing techniques influences directly the interaction of supply chain members in the pricing process, since the most powerful actor can set the market price and consequently determine the prices in the upstream tiers. In this manner the asymmetrical distribution of power is translated in unbalanced shared benefits. In fact, Ellram (2006) also

maintains that Target Costing should embrace the suppliers' perspective, since usually they need to face continuous price reductions and struggle to protect their margins.

2.3. Towards a new perspective on pricing

According to Lancioni (2005), in order to shift to complete forms of partnership, Supply Chain Management literature underlines the necessity to develop win-win approaches for the involved firms. In the same vein, Christopher and Gattorna (2005) and Dohrup (2006) suggest the adoption of innovative pricing approaches arguing that major opportunities are located not within the organization, but across the whole network.

Recent contributions (Voeth and Herbst, 2006; Bunte, 2006; Von Lanzenauer and Pohl, 2007; Buxmann, 2007) advance a new collaborative approach to determine the pricing process from a supply chain perspective, in the same way as today's industrial markets need to collaborate on logistics, purchasing and production to optimize joint outcome.

Voeth and Herbst (2006) offer a first contribution to investigate pricing from a supply chain point of view. They developed for the first time the conceptual model of "Supply Chain Pricing", intended as a collaborative tool to increase the joint profits within the supply network. The different actors should avoid to optimize their own positions, in order to reach an optimum that satisfies the interest of the whole chain. In this manner, the pricing process becomes the remuneration for the collaboration in the value creation within the supply network, thus developing close and long-term relationships across the network and shifting from win-lose to win-win relationships.

In their conceptual model, they maintain that cost transparency (Lamming et al., 2001) and information transparency (Lancioni, 2000, Christopher and Gattorna, 2005) are critical to support the implementation of this new pricing approach.

Also Von Lanzenauer and Pohl (2007) focus their research on the development of win-win outcomes, by investigating the redefinition of the supply contract in a B2B context of a supply

network. Again, they underline the importance of information exchange, commitment and involvement between the parties and the definition of an adequate contract.

3. Definitions and research design

Although Voeth and Herbst (2006) purposed a first model to describe the concept of Supply Chain Pricing, a shared definition of collaborative pricing approaches still lacks.

On the basis of the reviewed literature, we advance our definition of "collaborative Supply Chain Pricing" as a pricing approach which differs radically from the traditional approach, since two or more firms of a supply chain interact to jointly set the prices of the involved parties, pursuing the aim to create a mutually beneficial relationship. This approach is supported by information and cost transparency and takes place in collaborative contexts where contractual power is balanced among the involved parties.

Our literature review on the pricing process evidenced the lack of empirical support in terms of implementation of this collaborative approach. However, we recognized some preliminary examples of collaborative Supply Chain Pricing in the context of agri-food "values-based" supply chains.

Therefore, in the next section we aim to give a first answer to this research gap, by describing some examples of collaborative pricing between supply chain members that led to mutually beneficial and sustainable outcomes for the involved parties.

By cross-comparing the cases, we subsequently delineate a preliminary research framework to investigate collaborative Supply Chain Pricing.

Then, we apply our research framework to analyze the preliminary results gained from a case study we performed in the context of an Italian high-quality supply chain. Since our framework investigates how contextual supply chain variables affect the development of collaborative pricing approaches and case studies are recommended when exploring new research fields, we chose the case research method for its appropriateness (Yin, 1994).

4. Retrospective case studies

Values-based food supply chains differ from traditional supply chains, since they are characterized by business relationships among “strategic partners” framed in win-win terms, and constructed on collaborative principles that feature high levels of interdependence and inter-organizational trust (Stevenson, 2009).

As producers of differentiated food products, farmers are treated as “strategic partners” with rights and responsibilities related to value chain information, risk-taking, governance, and decision-making. These strategic relationships are reflected also in the pricing process: the involved members interact in price setting across the entire supply chain in order to ensure the welfare of all strategic partners, including appropriate profit margins, living wages, and business agreements of appropriate duration.

4.1. “Agriculture of the Middle” case studies

Stevenson (2009) describes the case studies of four innovative American enterprises operating in the context of the “Agriculture of the Middle” research project:

- Country Natural Beef is a 100-member rancher co-op in the northwestern United States;
- Organic Valley is a 1,000-member, multi-regional farmer co-op marketing organic dairy, eggs, vegetables and other products;
- Shepherd’s Grain is a 35-farmer LLC marketing sustainably grown and functionally specified flour in the northwestern United States;
- Red Tomato is a non-profit, market-oriented, fair-trade business supporting 35 fruit and vegetables farmers in the northeastern United States.

These organizations played an important role in the development of a new supply chain collaboration model, which is heavily based on a cooperative pricing process. These cases show how mid-sized farms and ranches can prosper through the construction of a “third tier” in the U.S. agri-food system in the context of “mid-scale food value chains”. Mid-tier food value chains are

appropriate for situations in which regionally-oriented markets are developing for significant volumes of differentiated, value-adding food products. This emerging business structures are characterized by a strong focus on strategic alliances between supply chain partners. The firms effectively operate at regional levels with significant volumes of high-quality, differentiated food products, and distribute profits equitably among the strategic partners, thus creating mutually beneficial and sustainable relationships.

All of these case organizations share some central features, including environmentally regenerative farming and ranching systems; differentiated, higher-quality, higher-value food products; values-based, market-oriented, strategic supply chain business partnerships; economic sustainability through supply control coupled with fair, stable, and transparent pricing mechanisms; and a commitment to diversified farm and ranch structures, rural communities and future farmers and ranchers.

4.1.1. Pricing

In particular, we focus our attention on the adopted pricing philosophy, which has been developed to involve also producers' perspective. In this manner, the studied firms interact with their supply chain members, in particular growers and producers, through the adoption of transparent pricing mechanisms, which are based on the following two sets of principles:

- supply management and stable pricing,
- cost-of-production-based pricing.

The first set of principles is intended to significantly unhinge "economic sustainability" from fluctuating commodity markets and pricing systems. The second principle seeks to cover farmers' and ranchers' production and transaction costs, plus a return on investment and a reasonable profit, without squeezing producers' margins. With the assistance of agricultural economists, Country Natural Beef and Shepherd's Grain calculate production costs based on a sample of their farms and ranches. Organic Valley also bases its prices on farmers' production costs, with regional

adjustments. Red Tomato employs a “dignity pricing” model that is based on farmers’ senses of current costs and historical prices; this model better fits complex, multi-product farming enterprises. All four enterprises demonstrate the importance of selling a high percentage of products as identity maintained, differentiated and higher-value, and having commodity market options available as back-ups for unsold product. Both Country Natural Beef and Shepherd’s Grain sell their products to processors, yet retain identity, pricing and marketing authority. Their processors can sell their extra inventory into commodity markets, if necessary. Recently faced with high and volatile commodity prices, several case enterprises are seeking methods within their sustainable pricing models to address these challenges for both producers and other partners in the value chain.

4.2. “Sysco – National Good Food Network” case study

Cantrell (2009; 2010) describes the evolution of Sysco Corporation’s supply chain from its mainline food supply chain model to a new “local” and “sustainable” values-based food supply chain, developing a series of win-win strategic relationships through the supply chain rather than win-lose, interchangeable transactions and differentiating products by attributes that traditional supply chains do not typically monitor or promote, such as environmental and social benefits of producers’ practices.

Three Sysco’s regional units (i.e. Grand Rapids, Sysco Kansas City and Sysco Chicago) were involved in the project, in collaboration with a logistics partner.

The Wallace Center and the National Good Food Network provided key financial and coordination support. This partnership developed three model systems in different regions, each with unique grower, crop, distribution and market situations. The three regional projects are convincing because they achieved the win-win function of value chains: positive financial results for both the growers and the food service customers.

4.2.1. Pricing

An underpinning issue in developing value chains is fair pricing which involves farmers' perspective and farmers' needs the farms, since the main objective of the project is largely about keeping farms strong so they can be in the business. In fact, without strong returns to the growers, the whole system disintegrates. Sysco intends to assure a long-term future for family farms by pioneering this new business model.

Without convincing price and cost benefits, smaller farmers with differentiated products will continue to focus on direct markets, since selling directly cuts out the need for a middleman and gives the producer 100% of sales revenues. On the other hand, larger farmers focused on larger volumes will not invest in moving from commodity to wholesale marketing unless the returns are strong. Therefore, pricing is a critical aspect.

Values-based chains incorporate fair pricing to farms in their development, which also involves keeping the final pricing within competitive range. Value chain development is therefore a process of building relationships that are reciprocal and win-win. Instead of striving to buy at the lowest cost, buyers in value chains must integrate the business realities and financial needs of their farm suppliers and interact with them in pricing activities. Working as strategic partners, Sysco and farm suppliers reduce market risk with relationships that each can count on through market fluctuations.

In order to define reciprocal relationships and negotiating fair pricing, pricing calculations include:

- Local purchasing: whether purchasing locally translates into transportation and other cost savings;
- Gauging how potential gains in freshness, speed-to-market, and good food attributes improve sales and pricing;
- Determining whether and how much the farmer gains, in new sales or lower transaction costs, with middleman services.

In the Sysco Grand Rapids project, the team decided to set prices at established market prices and gauge the movement of these local, sustainably produced products against commodity counterparts

when offered side by side: parity pricing as a way to entice customers to try the local, sustainable products and get acquainted with them.

Fair pricing based on grower cost and revenue needs versus using established supply chain pricing. The growers' cost-of production-based prices appeared acceptable to customers.

A shared document has been developed to communicate the guiding principles, the philosophy and pricing strategies around the new value-based supply chain, to create commitment among supply chain members.

5. Discussion of the retrospective case studies and framework development

The comparison of the previously described case studies suggests that the development of a collaborative pricing approach among supply chain members is deeply influenced by the characteristics of the supply chain. In particular, we recognized in the previously described case studies common contextual variables and common pricing techniques.

In Table 1 we report the detailed comparison of the retrospective case studies.

Table 1 - Comparison of the retrospective case studies

	SHEPHERD'S GRAIN	COUNTRY NATURAL BEEF	ORGANIC VALLEY	RED TOMATO	SYSCO/ NATIONAL GOOD FOOD NETWORK
Context					
Industry	agri-food				
Product	flour	meat	organic dairy, eggs, vegetables	fruit and vegetables	fruit and vegetables
Aims	Sustainable business model and production process	Ranchers' economic and social sustainability	Promotion of local, organic foods and development of sustainable business models	Connect producers with end customers; development of sustainable business models	"Local" and "sustainable" food supply chain grounded on win-win strategic relationships
Extension of the supply chain	5 tiers	4 tiers – with scientific support of external organizations	5 tiers	3 or 4 tiers	4 or 5 tiers
Location	Washington (USA)	Oregon (USA)	30 American states and Ontario (Canada)	North-eastern American States	Michigan, Indiana, Kansas (USA)
Organizational form of the coordinator	LLC structure	Non-equity cooperative	Regionally expanded cooperative	Non-profit organization	

Power structure	Initial scenario: commodity supply chains – producers are squeezed by the retail/distribution side. Then, evolution to the "values-based" supply chain.				
	Columbia Plateau Producers is the main coordinator of the supply chain	Country Natural Beef is the main coordinator of the supply chain	CROPP (with Organic Valley brand) is the main coordinator of the supply chain	Red Tomato is the main coordinator of the supply chain	Sysco and National Good Food Network are the coordinators
Trust	Especially between producers and milling firm	Fundamental element across the chain		At the basis of the partnerships; fundamental to develop commitment	All along the chain
Processes and collaborative approach					
Collaborative processes	• planning • quality • pricing • accounting • co-branding	• transport • quality: internal certifications • pricing • promotion/branding	• logistics coordination • accounting • promotion/branding • pricing • quality: certifications	• promotion • packaging design • quality: certifications • coordination • pricing • "remunerazioni" non monetarie	• Local branding suitable to the market • Grower relationships • Timing • Food safety certifications
Collaboration extension in the supply chain	Mainly developed in the upstream part	Mainly dyadic relationships	Mainly developed in the upstream part	Mainly dyadic or on three supply chain levels	With producers and aggregators
Information sharing	Cost information sharing in the upstream network to support cost-of –production pricing			Producers' cost information sharing to support dignity pricing	Transparency along the chain
Formalization of collaboration	Formalized pricing mechanisms	Contracts in the downstream part od the supply chain	Development of written agreements with retailers, hand-shake agreements with transport partners	Verbal understandings and handshake agreements based on trust	
Supply Chain Pricing mechanisms					
Pricing criteria	Indexed cost-plus price, 6 months time horizon	Production costs based on a sample of the involved ranches	Prices are defined on farmers' production costs, with regional adjustments and in comparison with competitors	"Dignity pricing" model that is based on farmers' senses of current costs and historical prices; this model better fits complex, multi-product farming enterprises	Fair pricing to farms, keeping the final pricing to customers within competitive range
Payment details	Defined to protect producers	Ranchers are paid in six installments keyed to feedlot and slaughter dates, carcass quality, age and source verified premiums, and final cooperative profits. These payments can stretch over 18 months.	Payments are based on milk components, quality and cleanliness, regionally adjusted premiums and final cooperative profits	Simple payment practices	Prices are defined according to: Transport, local soucing, product freshness
Performance					
Objectives and outcomes	Increase of sales and increas of involved producers	Huge increase of sales from 1990 to 2006, then stable sales.	Increase of sales	Sales increased from $0.5 million to $2.475 million between 2003 and 2007.	critical importance of building strong relationships and good food understanding across the value chain

The main contributions on Supply Chain Pricing lack of an investigation of the contextual factors which allow the development of a collaborative approach in pricing. Literature is still missing to give convincing answer to its applicability and needs to identify which supply chain context are suitable. Therefore, this literature gap triggered the development of a preliminary research framework to analyze the relation between contextual supply chain characteristics and the adoption of a collaborative pricing structure among supply chain partners.

Figure 1 describes our proposed research framework:

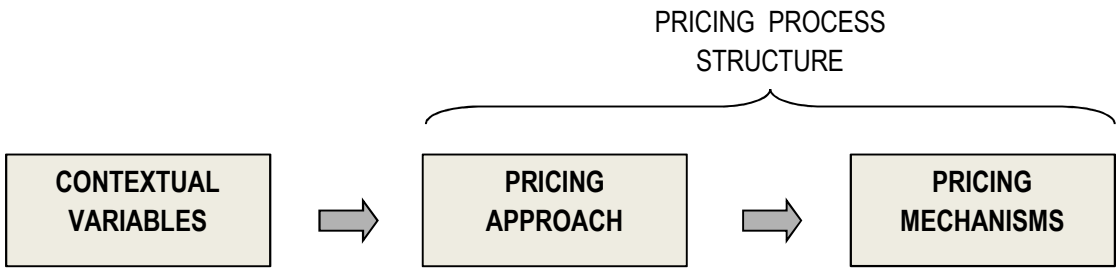


Figure 1 – Research framework

The framework is composed by three main elements, i.e. “Contextual variables”, “Pricing approach” and “Pricing mechanisms”. The latter two elements constitute the structure of the pricing process.

On the basis of the literature review and the analyzed case studies, we identify this set of possible contextual variables:

- Product and market features: e.g. product typology (differentiated/value-added products vs. standardized products or commodities) and industry (agri-food vs. engineered items);
- Physical supply chain structure: e.g. number of supply chain tiers; organizational forms; geographic location (local/regional vs. international/global);
- Relational supply chain structure: e.g. power distribution; strategic relationships between supply chain members; trust; relationship duration (long-term vs. short-term).

In addition, the framework intends to extend the investigation of collaborative Supply Chain approaches also in terms of the pricing mechanism that are used to perform their implementation.

We identify the following set of pricing mechanisms:

- Techniques or tools: e.g. Target Costing; Kaizen Costing; cost transparency; Activity Based Costing; cost-plus pricing; value-based pricing;
- Contracts typologies: e.g. Profit sharing; Risk sharing; Quality-based; Cost savings sharing; Long-term contracts;
- Incentives;
- Shared investments.

6. Case study: "Pane friulano" supply chain

We performed an exploratory case study, analyzing an emerging collaborative supply chain in the bakery industry, whose main product is a high-quality, differentiated bread. We performed several interviews with each supply chain member with the aim to analyze the pricing process across the entire chain. The studied supply chain is composed by local wheat producers, coordinated by a wheat consortium, a milling firm and a local bakery consortium. The final product is sold through a cooperative retail system. The supply chain is also coordinated on scientific and technical aspects by the University of Udine and a local cooperative association.

The "Pane friulano" supply chain has been created in May 2010, with the aim to offer a differentiated product, characterized by a complete traceability and high quality ingredients. This product received soon the appreciation of local customers, thanks to its peculiar features of quality and tradition: the produced quantity is increasing month by month to fulfill customers' request.

This supply chain is the result of the joint effort of each supply chain member, which shares common quality objectives and investments. Every member plays a strategic role, acting on the basis of a shared program that describes not only product quality objectives, but also benefit sharing rules according to the performed investments. The involved members act in a trustful atmosphere, characterized by reciprocal respect, commitment and a symmetrical power distribution among the parties.

From an economic perspective the main purpose of this supply chain is the development of mutually beneficial relationships for the involved parties, thus reaching an equitable and sustainable profit redistribution. Therefore, the development of the right pricing system across the network has been a pivotal issue.

The “Pane friulano” supply chain members have developed a collaborative pricing approach, which recalls some elements already analyzed in the “Agriculture of the Middle” cases. In fact, as represented in Figure 2, all the pricing process across the supply chain takes care of producers’ margins and of their cost of production, adding a fair margin which is jointly defined by all involved parties; secondly, pricing aims at removing fluctuations of the wheat price, by defining every September an annual stable price.

At the basis of this pricing system there is a transparent cost information sharing along the supply chain: cost transparency plays a fundamental role to support inter-organizational trust and allow a fair profit redistribution, on the basis of the investments performed by the involved parties.

One of the most challenging aims of this supply chain is the development of a software tool to monitor completely its updated costs, in order to refine the pricing model and support the critical issue of managing the unsold product.

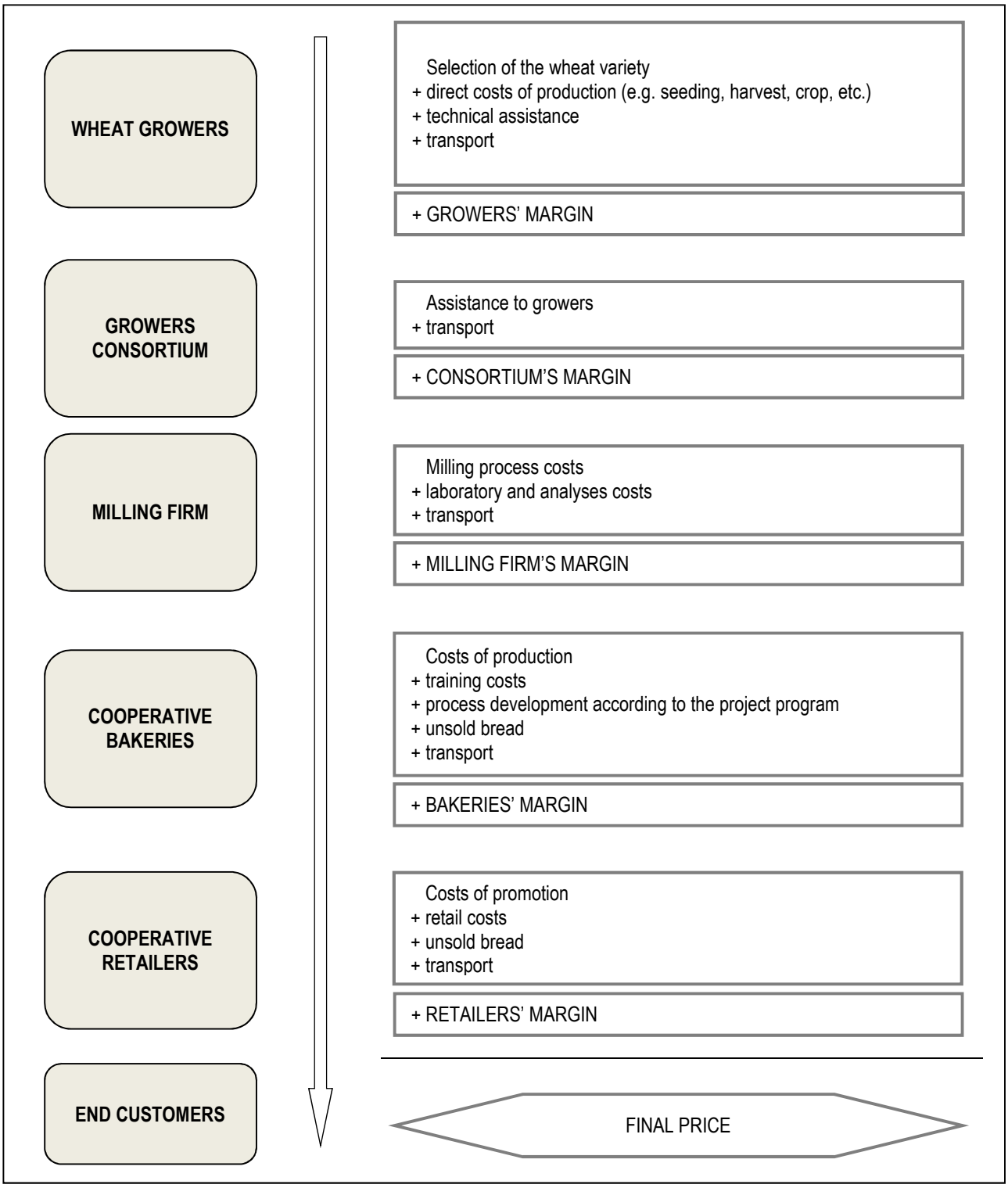
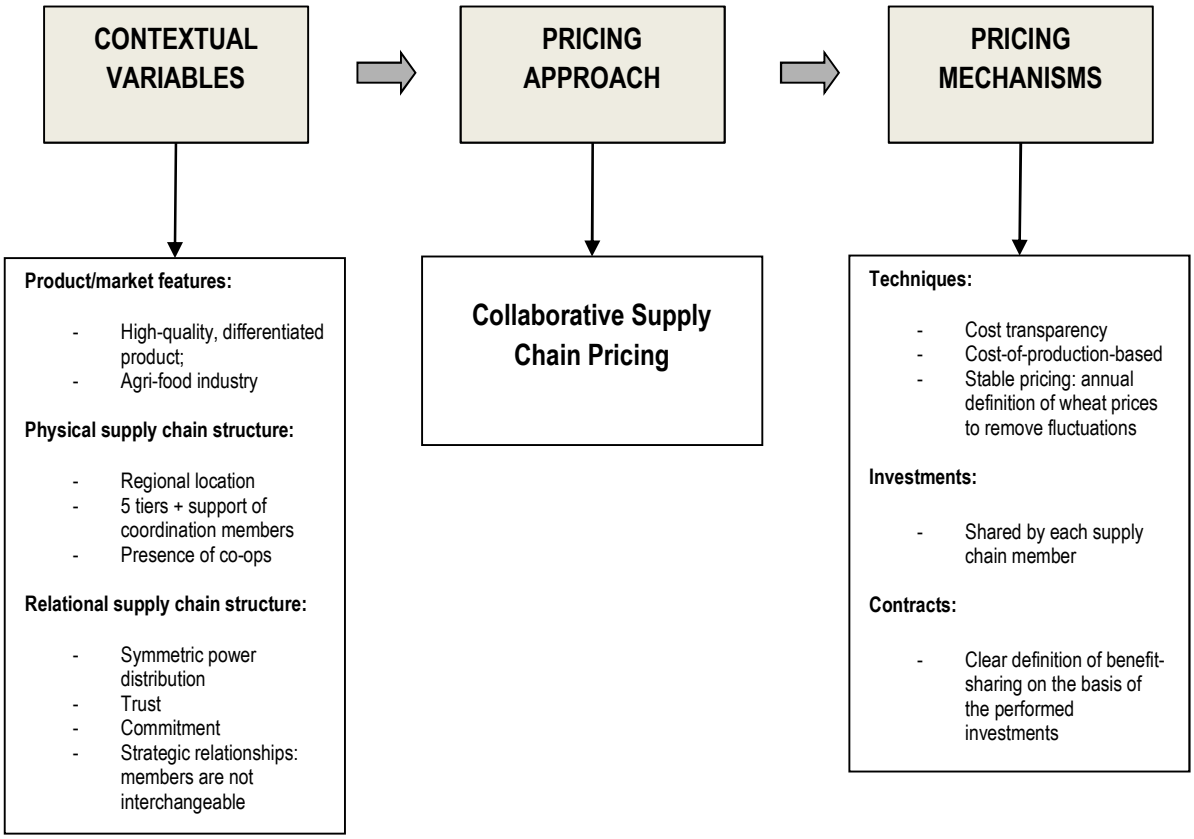


Figure 2 - Cost-plus pricing model in the "Pane friulano" case

Thanks to the success of this supply chain initiative, the coordination members are planning to extend this supply chain model to other local products.

Figure 3 summarizes the analysis of "Pane friulano" case, by applying our research framework.

Figure 3 – "Pane friulano" case analysis through the proposed research framework



7. Conclusions

The evolution of supply chain-wide collaborative relationships involving shared pricing decisions, aimed at achieving mutual benefits for the involved parties, represents an emerging phenomenon which only recently has attracted the interest of Marketing and Supply Chain Management scholars. In relation to the academic contributions of this paper, we provided a first interdisciplinary literature overview on the evolution of the pricing process to clearly position collaborative Supply Chain Pricing.

Secondly, we integrated and developed the Supply Chain Pricing approach advanced by Voeth and Herbst (2006), by linking it to real cases of emerging "value-based chains" in the agri-food industry, which are characterized by win-win outcomes for the involved parties. These mutually beneficial results are obtained through the adoption of transparent pricing mechanisms, which

ensure the welfare of all strategic partners in the value chain by including appropriate profit margins.

Thirdly, another important contribution lies in the framework we propose to analyze collaborative pricing activities in supply chains. The framework explores the relationship between contextual supply chain characteristics and the adoption of a collaborative pricing structure among supply chain partners.

In addition, our research provides also interesting managerial implications. In fact, besides being an innovative research topic, collaborative Supply Chain Pricing could play an important role for practitioners to achieve sustainability for the involved supply chain members, not only in economic aspects but also considering and social impacts. Pullman and Dillard (2010) underline in their study of values-based supply chains the need to develop new organizational forms to achieve sustainability needs: from this point of view, collaborative pricing is a first attempt to support producers to protect their margins and create fair and equitable relationships across the network.

We conclude providing some hints for future research. Thanks to our literature overview, several research gaps have been highlighted to encourage future investigations on this intriguing topic. First of all, a complete supply chain perspective is required to better appreciate the underlying dynamics which exist in a collaborative Supply Chain Pricing approach.

In addition, more case research is also needed to explore this emerging topic and to validate our framework.

Our future research will be focused not only in the agri-food sector, but also in other collaborative industries in order to ascertain which other contexts can allow the development of similar pricing approaches.

References

Anderson, J.C., Narus, J.A., 2004. Business Market management: Understanding, creating, and delivering value. Upper Saddle River: Pearson Prentice Hall.

Argouslidis, P.C., Indounas, K., 2009. Exploring the role of relationship pricing in industrial export settings: Empirical evidence from the UK. Industrial Marketing Management, 39 (3), 460-472.

Arshinder, Kanda, A., Deshmukh, S.G., 2008. Supply chain coordination: Perspectives, empirical studies and research directions. International Journal of Production Economics, 115 (2), 316-335.

Brennan, R., Canning, L., McDowell, R., 2007. Price-setting in business-to-business markets. The Marketing Review, 7 (3), 207-234.

Bunte, F., 2006. Pricing and performance in agri-food supply chains, in Ondersteijn, C.J.M., Wijnands, J.H.M., Huirne, R.B.M., van Kooten, O. (eds.), Quantifying the agri-food supply chain, 37-45, Springer, the Netherlands.

Buxmann, P., Strube, J., Pohl, G., 2007. Cooperative Pricing In Digital Value Chains – The Case Of Online Music. Journal of Electronic Commerce Research, 8 (1), 32-40.

Cachon, G.P., Lariviere, M.A., 2005. Supply Chain Coordination with Revenue-Sharing Contracts: Strengths and Limitations. Management Science, 51 (1), 30-44.

Cantrell, P., 2009. Sysco's journey from supply chain to value chain. Wallace Center, Winrock International. URL: http://www.ngfn.org/resources/research-1/innovative-models/NGFN%20Case%20Study_Syscos%20Journey%20From%20Supply%20Chain%20to%20Value%20Chain.pdf

Cantrell, P. 2010 Sysco's journey from supply chain to value chain: 2008-2009 Final Report. Wallace Center, Winrock International.

URL: http://www.ngfn.org/resources/research-1/innovative-models/Sysco%20Case%20Study%202009.pdf

Chauhan, S.S., Proth, J.M., 2005. Analysis of a supply chain partnership with revenue sharing. International Journal of Production Economics, 97 (1), 44-51.

Christopher, M., Gattorna, J., 2005. Supply chain cost management and value-based pricing. Industrial Marketing Management, 34 (2), 115-121.

Diamantopoulos, A., 1991. Pricing Theory and Evidence – a Literature Review. Perspectives on Marketing Management, 1, 63-192, England: John Wiley & Sons Ltd.

Dohrup, M., 2006. Industrial Pricing Process from a network perspective. 22nd IMP Conference, Milan, Italy, impgroup.org.

Dolan, R.J., Simon, H., 1995. Power pricing: How managing price transforms the bottom line. New York: The Free Press.

Ellram, L.M., 1999. The role of Supply Management in Target Costing. CAPS Research, Arizona State University Research Park.

Ellram, L.M., 2006. The Implementation of Target Costing in the United States: Theory Versus Practice. Journal of Supply Chain Management, 42 (1), 13-36.

Gadde, L.E., Håkansson, H., Harrison, D., 2002. Pricing in Business-to-Business Research: Price as an Empirical Phenomenon. 18th IMP Conference, Dijon, France, impgroup.org.

Garda, R.A., 1984. Industrial pricing: Strategy vs. tactics. The McKinsey Quarterly, winter 1984, 49-63.

Goldbach, M., 2002. Organizational Settings in Supply Chain Costing. In Seuring, S., Goldbach, M. (eds.), 2002. Cost management in supply chains. Physica-Verlag, Heidelberg: New York.

Hinterhuber, A., 2004. Towards value-based pricing – An integrative framework for decision making. Industrial Marketing Management, 33 (8), 765-778.

Lamming, R.C., Caldwell, N.D., Harrison, D.A., Phillips, W., 2001. Transparency in Supply Relationships: Concept and Practice. Journal of Supply Chain Management, 37 (4), 4-10.

Lancioni, R.A., 2000. New Developments in Supply Chain Management for the Millennium. Industrial Marketing Management, 29 (1), 1-6.

Lancioni, R.A., 2005. A strategic approach to industrial product pricing: The pricing plan. Industrial Marketing Management, 34 (2), 177-183.

Özelkan, E.C., Çakanyıldırım, M., 2009. Reverse bullwhip effect in pricing. European Journal of Operational Research, 192 (1), 302-312.

Pullman, M.E., Dillard, J., 2010. Values based supply chain management and emergent organizational structures. International Journal of Operations & Production Management, 30 (7), 744-771.

Seshadri, S., Mishra, R., 2004. Relationship marketing and contract theory. Industrial Marketing Management, 33 (6), 513-526.

Seuring, S., Goldbach, M., 2002. Cost management in supply chains. Physica-Verlag, Heidelberg: New York.

Shipley, D., Jobber, D., 2001. Integrative pricing via the pricing wheel. Industrial Marketing Management, 30 (3), 301-314.

Stevenson, S., 2009. Values-based food supply chains: Executive summary. Agriculture of the Middle. URL: http://www.agofthemiddle.org/archives/2010/05/a_priority_rese.html.

Voeth M., Herbst, U., 2006. Supply-chain pricing - A new perspective on pricing in industrial markets. Industrial Marketing Management, 35 (1), 83-90.

Von Lanzenauer, C.H., Pohl, O., 2007. Supply Chain Pricing in B-to-B Markets – A Case Study Application. Journal of Business Market Management, 1 (4), 273-287.

Yin, R., 1994. Case-Study Research: Design and Methods, 2nd ed.. Applied Social Research methods Series, SAGE Publications, Beverly Hills, CA.