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Towards the Development of Innovative Strategies for Traditional Food Chains in the EU

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ABSTRACT

Organizations no longer compete as independent entities, but as chains (Christopher, 1998; Cox, 1999; Lambert, Cooper, 2000). Consequently, chain strategies became more important in creating competitive advantage (Vickery et al., 2003; Gunasekaran et al., 2004). Despite the growing recognition of the importance of chain strategies, many chains active in the agri-business sector still face difficulties in developing common chain strategies and implementing them collaboratively to generate additional mutual gains and savings. Chains lacking a chain strategy and having short-term perspectives face difficulties in envisaging and implementing cooperative solutions to problems they cannot manage alone. Despite this recognition, the actual development of such chain strategies lags behind because of some particular issues which still need to be addressed (e.g. vision, mission, values or action plans). Therefore, the objective of this paper is to identify and consolidate chain members' goals, to select a minimum set of key goals and to confront these chain goals with consumer preferences. This way, the paper develops the vision of traditional food chains in the EU, as a first step of strategy development. First, chain members goals are identified and consolidated with the help of approximately 100 stakeholders (suppliers, focal companies, customers) from three European countries representing 5 traditional food product categories (cheese, beer, dry ham, dry sausage and white pepper). The most important goals of traditional food chains are to maintain traditionalism, to improve responsiveness, to maintain superior quality and to create chain balance. These chain goals are tested against the perception of 4828 consumers from six European countries (Belgium, France, Italy, Norway, Poland and Spain). As a result, the vision of traditional food chains is developed: the European traditional food sector envisions a competitive sector maintaining the traditional character and superior quality of their food product(s) via more efficient and responsive chains where risks and benefits are distributed in a balanced way between the members.

Keywords: chain goals, consumer perceptions, traditional food products

1 Introduction and objective

Traditional food products (TFPs) represent an important part of each European Member State's cultural heritage and provide critical economic inputs to many regions via their production and sale. Nevertheless, a major challenge for the traditional food sector is to improve its competitiveness by applying innovations while at the same time maintaining traditionalism. Therefore, modernization of all aspects of the traditional food sector is necessary with special emphasis on the integrity of chains (EC, 2007). This illustrates a need for a chain strategy for the traditional food sector in the EU.

Despite this recognition, the actual development of such chain strategies lags behind because of some particular issues which still needs to be addressed (e.g. vision, mission, values or action plans). This paper

focuses on three key bottlenecks in relation to the development of a chain vision for the European traditional food sector, namely 1) integrating chain members' goals, 2) selecting a minimum set of key goals and 3) balancing between rational and intuitive thinking.

We refer to a chain as a set of three directly connected organizations (supplier, focal company, customer) being involved in the upstream and downstream flows of products, services, finances, information and/or knowledge adapted from Mentzer et al. (2001). The three directly connected organizations (supplier, focal company, customer) are referred as chain members in the rest of the article. A chain vision can be defined as the a statement of the desired future state of the chains adapted from Raynor (1998).

First, the chain vision must be developed in partnership with chain members, integrating input from each of them. It should encompass the goals and aspirations of the members. This is the only way to ensure support throughout the chains. Still, many chains are facing problems to develop a vision which is systematically based on the members' goals (Al-Mudimigh et al., 2004). The reason behind is not the difficulty to identify members' goals, but the difficulty to consolidate them. For instance, the nature of members' goals may vary depending on the different member (e.g. supplier, focal company, customer), as well as on the countries or product categories these members represent (Gattorna et al., 2003). This needs to be tackled and the goals need to be consolidated. The consolidation process can build on goal specificity (country or product) and/or on the conflicting/divergent nature of goals. For instance, for developing chain vision for the traditional food sector, the variation of the nature of business goals that represent different product categories could imply a bottleneck. In order to overcome this problem, goals that only characterize one product category cannot be considered (product specificity). Then, for developing chain vision for a given geographic area (e.g. for the EU) goals that only characterize one, or a group of countries cannot be taken into account either (country specificity). Further, for developing chain vision that is relevant for the entire chains representing suppliers, focal companies and customers, the lack of goal consensus might be an obstacle (Van De Ven, 1976) for reasons of the conflicting or divergent nature of the goals (Lee, Billington, 1999). Therefore, members' goals that are not applicable for the entire chain cannot be considered in the vision development (Aramyan, 2007).

Second, the different chain members' goals hardly refer to one aspect but usually imply several underlying ones. Several sub-goals may lead to the same direction and contribute to the realization of the same goal. For example, the goal "to improve quality" can be reached in many different ways, such as "to improve taste" "to improve healthiness" "to improve safety", "to improve attractiveness" and/or "to improve environmental friendliness" (Beamon, 1999; Aramyan, 2007). Similarly, the goal "to increase efficiency" can be realized by different approaches, such as "to lower distribution cost", "to lower transaction cost", "to increase profit" and/or "to lower inventory cost" (Neely et al., 1995; Beamon, 1999; Van der Vorst, 2000). Therefore, goal can be linked to several potential sub-goals. As such, a common mistake when developing the vision is to come up with too many goals and/or sub-goals resulting in a chain vision which says too much but hardly adds anything to reaching competitiveness. Therefore, selecting the most appropriate goals and sub-goals are of crucial importance. Such selection might be difficult. Choosing between "to lower distribution cost", "to lower transaction cost", "to increase profit" and/or "to lower inventory cost" might be difficult, since they are all aiming "to increase efficiency", but while each provide different information.

Third, chain vision development requires rational analysis and the intuitive creative thinking with emphasis on current and future situation. Knowing consumer product and service preferences are essential to the development process including how those preferences might change over time (Bennis, 1986; Gattorna et. al, 2003). Plans made in the absence of balancing rational and intuitive thinking likely lead to poor decisions as the products flow to the market.

This present paper is designed to address these bottlenecks when developing a European chain vision for the traditional food sector. Therefore, the objective of the paper is to identify and consolidate chain members' goals, to select a minimum set of key goals and to confront these chain goals with consumer preferences. We aim to add to the chain management literature, to consumer studies as well as to strategic management by enriching the current state of art.

This paper is structured as follows: In the first part the methodology of the paper is presented. Next, the research results are discussed and finally conclusions are drawn as well as further research topics formulated.

2 Methodology

The proposed research is carried out within the EU-project TRUEFOOD (Integrated project in 6th Framework Programme; Contract n° FOOD-CT-2006-016264). In the frame of the TRUEFOOD project, several publications are already available in scientific literature (Gellynck et al., 2008; Vanhonacker et al., 2008; Guerrero et al., 2009a; Guerrero et al., 2009b; Kühne et al., 2009; Lengard et al., 2009; Pieniak et al., 2009; Vanhonacker et al., 2009a; Vanhonacker et al., 2009b; Verbeke, 2009). Some of these publications touch some of the issues being relevant for the objective of this paper. Therefore, part of the aspects of their methodology is not described in detail here, only the core of their methodology is presented. For more detailed methodological information, we kindly refer to one of these papers.

For setting chain goals, a four stage process was followed:

1) Identification of chain actors' goals: First, actors of selected traditional food chains were identified and approached via focus group discussions and in-depth interviews. All together 84 chain actors (suppliers, focal companies, customers) from three European countries (Belgium, Italy, Hungary) representing 5 TFP categories (cheese (Belgium, Italy), beer (Belgium), dry ham (Italy), dry sausage (Hungary) and white pepper (Hungary)) participated. The selection of the countries was informed by the objective to cover a wide geographical diversity in Europe (Belgium: Western Europe, Italy: South Europe, Hungary: Central Eastern Europe). The selection of the TFP categories was based on their socio-economic importance on the one hand and on facilitating cross product (e.g. Belgian cheese with Belgian beer) and cross-country (e.g. Belgian cheese with Italian cheese) comparison on the other. The chain actors (suppliers, food manufacturers and customers) were recruited based on their role, place and importance in the traditional food chains. For instance, when selecting suppliers, priority was given to suppliers holding a key position in the quality of the processed product such as pig breeders for dry sausage or dry ham and malt-houses for beer. The focus group discussions and in-depth interviews were guided by a moderator who followed a structured topic list. The topic list followed a funnel approach, meaning that starting with general questions and build towards more specific questions. The main topics were: aspects of traditional food products/production, practices of chain, innovation and marketing management. Chain actors' goals were identified during the section regarding chain management. Chain actors were asked to list their business goals (Hines et al., 2000). Each ocus group discussions and in-depth interview lasted for approximately 2-2.5 hours. All discussions were attended by the authors and were audio-taped.

2) Consolidation of chain actors' goals: Second, the different goals of chain actors were consolidated. The consolidation process consisted of evaluating the chain actors' goals based on their specificity (country or product) and their conflicting/divergent nature. Every goal, only being mentioned by one country, one product category or one type of chain member is not considered and eliminated from the list of goals. In this way, chain goals are set.

3) Identification of potential sub-goals: Third, the literature was reviewed to identify potential sub-goals which allow the measurement of progress towards the collected chain goals (Walsh, 1996; Hines et al., 2000). While the chain goals were rather general, the underlying sub-goals were more concrete and measurable (Roos, Jacobsen, 1999). Using this funnel technique, each we were narrowing down each chain goal to a practical, measurable set of underlying items, namely the sub-goals.

4) Selection of key chain goals and key sub goals: After the literature review the list of chain goals and sub-goals were judged by 26 chain actors (suppliers, food manufacturers, customers) from three European countries (Belgium, Italy, Hungary) representing three traditional food product categories (beer, cheese and dry sausage respectively) via in-depth interviews. The selection of countries, TFP categories and chain actors was informed by the same principle as for the focus group discussions and in-depth interviews supplemented with an additional criterion, namely that individual chains representing minimum three directly connect chain actors (suppliers, food manufacturers, customers) were analyzed. Therefore, first food manufacturers were selected for interviews. During the interviews, each food manufacturer was asked to identify suppliers and customers they currently work with. Next, one or two supplier and one or two customer were interviewed per food manufacturer. In this way, a total of 8 individual traditional food chains (including 9 suppliers, 8 focal companies and 9 customers) were interviewed. During the in-depth interviews, all chain actors were asked to score the importance of each chain goal and sub goal for their company using a seven-point response scale ranging from 'totally unimportant' (1) to 'extremely important' (7). This helped to remove chain goals and sub goals that are appropriate but may not be as suitable as others. For example selecting between "to lower distribution cost", "to lower transaction cost", "to increase profit" and "to increase inventory cost" might be difficult, since they are all informative about efficiency, but each provide different information. Using the importance scores, the chain actors could identify which of these goals are most

appropriate (Keeble et al., 2003). Then, given the appropriate level of internal consistency of the sets of sub goals underlying the different chain goals, the importance mean scores for the different chain goals were computed. The chain goals with the lowest importance scores were removed from the list. Next, significant differences among the different chain members (suppliers, focal companies and customers) and among the different countries (Belgium, Italy and Hungary) are investigated, and the descriptive comments of the chain members are analyzed. The actual elimination of the sub-goals being marked as "under consideration for being eliminated" is dependent on the latter two. The above process for the selection of key chain goals and key sub-goals are chosen because the low sample size did not allow the use of any other more rigorous methods (e.g. factor analysis, SEM).

As concerns consumer preferences, consumer data were gathered in six different European countries, namely Belgium, France, Italy, Norway, Poland and Spain. The selection of the countries was informed by the objective to cover a wide geographical diversity, covering the North-South as well as the East-West axis in Europe, and by the aim to involve countries that have a pronounced different history in relation to traditional food products. Research approaches pertained to both qualitative and quantitative methods. Different from the study with chain members, the consumers were questioned about traditional food products on a more abstract level. They were not provided with a definition of traditional food, but were asked to indicate what associations the concept of traditional food products raised. Further perceptual scores of traditional food and attitudinal scores towards traditional food was derived with their own conceptualization of traditional food at the back of their mind. Thus no linkage can be made to specific products.

Regarding the qualitative research approach focus group discussions (95 participants in total) (Guerrero et al., 2009b) as well as word associations tests (721 participants in total) (Guerrero et al., 2009a) were performed in all six countries.

With respect to the quantitative research approach, a large consumer survey was conducted with in total 4,828 consumers over the six countries (around 800 participants in each country) (Vanhonacker et al., 2008; Vanhonacker et al., 2009a). For further methodological details, we kindly refer to Vanhonacker et al. (2008) and Vanhonacker et al. (2009a).

The focus of the consumer research was on defining TFP from a consumer perspective and investigating consumers' acceptance of different innovations in TFP, thus not primarily on confronting findings of the chain research with consumer preferences and perceptions. As a result, considerable amount of consumer data was available to extract information regarding each chain goal, but not regarding each and every single chain sub-goal. Further, this is the reason why there is no full match of participating countries of the chain and the consumer research. However, the available consumer data is still useful in the context of this paper, i.e. to confront the goals of the chain members with general consumer preferences and perceptions to identify shared interest.

3 Results

3.1 Setting chain goals

When chain members express their goals, differences can be distinguished between chain members representing different product categories or originating from different countries as well as chain members having a different function within the chain (suppliers, focal companies, customers). These differences are discussed now subsequently.

3.1.1 Product specific goals

Chain members producing/distributing seasonal products (e.g. white pepper), express their concern about "handling seasonality", "being more flexible in reacting on demand fluctuations", "starting up a greenhouse to avoid off-peak periods", "intensify postharvest activities" or "increase irrigated areas" as important goals. This is in line with findings of Felföldi (2007) who analyzed the characteristics of vegetable chains. Further, for instance chain members belonging to the cheese or ham chains aim to "focus marketing efforts on the healthy character of the product", while chain members of beer chains do not consider this as being important, since legal restrictions do not allow the promotion of health claims of beers (Hasler, 2002). "Better fight with diseases" and "lower mortality rate" are typical goals of dry ham and dry sausage chain members, while "reduced milk fever occurrences and clinical mastitis" are typical for cheese chain members. Finally, "decrease drought and salinity risk" can be associated with white pepper and beer chains.

3.1.2 Country specific goals

Basic differences can be drawn between the new member state (Hungary) and the two others (Belgium and Italy). Hungarian chain members often struggle with "missing markets", "bad influence of government failures on food consumption", "small-scale farming", "lack of information at sector and producer level" or "low technological level". As a result, they formulate goals aiming to solve these problems. Further, in Belgium, chain members typically display the "assurance of future continuous of raw materials" as one of their main goals, which can be explained by the lack of raw materials because of the lack of available agricultural land and the increasing competition for land between food, feed and bio-energy production (Kozár, 2001; Yamamoto et al., 2001). Another important goal, highly displayed by the Belgian chain members is "to build awareness and recognition of the products", and "to cope with the competition from neighboring countries". Explanations for the frequent allusion of these goals in Belgium pertain to the strong presence of French cheeses near at hand, the high consumption of French cheeses in Belgium, and the extremely low recognition of this traditional specialty. Finally, Italian chain members more often claim to "acquire PDO-PGI certifications" than other countries' chain members, which can be explained by the already high proportion of PDO-PGI products and the market success of them (Giraud, 2002).

3.1.3 Conflicting/divergent goals

Conflicting goals are for instance observed between the suppliers and the focal companies, where "getting higher prices for the products" is presented as an important goal of the suppliers, while "lowering cost of raw materials" is pointed to be an important goal of the focal companies. Further, while "increasing time of payment" is displayed by the customers as a goal, focal companies aim to "receive payment for the products as soon as possible". Divergent goals originate from chain members having a different function within the chain (supplier, focal company, customer) in the chain. For instance, "maintaining the traditional production process", "using the same authentic raw materials", "decreasing production cost" or "lowering finished good stock" are typically mentioned by the focal companies, but not by the suppliers or the customers. Further, "improving display and presentation" or "providing proper storage conditions" is particularly displayed by customers, but not by focal companies or suppliers. Finally, suppliers aim to "invest into greenhouses for avoiding seasonal fluctuation in supply" (white pepper farmers), "better fight with diseases" (pig producers), "decrease drought and salinity risk" (white pepper farmers) or "reduce milk fever occurrences and clinical mastitis" (milk suppliers).

During the consolidation of chain members' goals, from the original 275 goals being generalized, 46 country specific, 37 product specific and 86 divergent/conflicting goals are removed. The retaining goals are grouped based on their similarity and as a result, seven chain goals are formulated: 'to reach growth', 'to maintain traditionalism', 'to increase efficiency', 'to increase flexibility', 'to improve responsiveness', 'to improve quality' and 'to create chain balance'.

As a result of the literature review, 32 potential sub-goals are identified underlying the seven chain goals (Table 1). Chain members attach relatively high importance to all chain goals during the in-depth interviews (Table 2 and 3). However, **growth** and **flexibility** received moderately lower importance scores. These two chain goals are eliminated. At the level of the remaining chain goals, further sub-goals are marked as "under consideration for being eliminated" based on below-average importance scores, such as *locality* (**traditionalism**), *commercial availability* (**traditionalism**), *transaction cost* (**efficiency**), *inventory cost* (**efficiency**), *fill rate* (**responsiveness**), *taste* (**quality**), *health* (**quality**) and *information exchange* (**chain balance**). The remaining chain goals and sub-goals are presented in Table 4.

Traditionalism: Two sub-goals are estimated to be of medium importance. One is *locality* and the other is *commercial availability*. *Locality* contains two items. The first indicates that the key production steps are carried out in a recognizable national, regional or local area. The second refers to the requirements that key chain members of the traditional food chains are primarily active in a recognizable national, regional or local area. With regard to locality, no significant difference is found either between the different chain members or between the different countries. The final removal of the sub-goals is based on the descriptive comments of the chain members. First of all, in case of food production, outsourcing of specific processes to other companies or even to other countries is very common (Gerbens-Leenes et al., 2003). Locality is therefore not squarely related to traditionalism. If some production steps can not be performed at a given geographic area, this fact can jeopardize the survival of the traditional food producers (Ho, 2005). Further, some chain members of traditional food chains, especially the bigger raw material suppliers often act on an international market. Therefore, though these raw material suppliers are not exclusively active within a given geographic area, this could exclude them of being traditional. *Commercial availability* indicates the time interval for which the TFP is commercially available. Significant differences are found between Belgium and the other countries. Italian and Hungarian chain members mention to fear that stressing too much the time interval of the commercial availability could serve as a

mean of justification of traditionalism, while the focus should be rather placed on specific product qualities. This is in line with present dissents about the time-length of the tradition. Time interval is part of a product's local history and differs accordingly. It can even differ significantly without becoming a discriminating factor (Bérard, Marchenay, 2007). Therefore commercial availability has been eliminated from the goal traditionalism.

Table 1.
Chain goals and underlying sub-goals

To reach growth (Growth)
To reach market share growth (Market share growth)
To reach product assortment growth (Product assortment growth)
To reach local market growth (Local market growth)
To reach international market growth (International market growth)
To maintain traditionalism (Traditionalism)
To maintain locality (Locality)
To maintain the key production steps in a recognizable national, regional or local area
To ensure that only those products are called traditional food products, which products' chain members are primarily active in a recognizable national, regional or local area
To maintain authenticity (Authenticity)
To maintain recipe authenticity
To maintain raw material authenticity
To maintain production process authenticity
To ensure that only those products are called traditional food products, which products are commercial available for more than 50 years (Commercial availability)
To maintain the unique and memorable gastronomic identity of the food product and to remain part of the gastronomic heritage (Gastronomic heritage)
To increase efficiency (Efficiency)
To lower distribution cost (Distribution cost)
To lower transaction cost (Transaction cost)
To increase profit (Profit)
To lower inventory cost (Inventory cost)
To increase flexibility (Flexibility)
To increase delivery flexibility (Delivery flexibility)
To respond faster to demand variations (Response to demand variations)
To respond faster to new competitors (Response to new competitors)
To respond faster to customer requirement (Response to customer requirements)
To improve responsiveness (Responsiveness)
To improve fill rate (Fill rate)
To improve lead time (Lead time)
To reduce customer complaints (Customer complaints)
To improve quality (Quality)
To improve taste (Taste)
To improve healthiness (Health)
To improve safety (Safety)
To improve attractiveness (Attractiveness)
To improve environmental friendliness (Environmental friendliness)
To create chain balance (Chain balance)
To ensure that the risks and benefits are distributed in a balanced way along the chain (Distribution of risks and benefits)
To enhance information exchange along the chain (Information exchange)
To better understand other chain members' interest (Chain understanding)

Adapted from: Bensaou, Venkatraman (1995), Neely et al., (1995), Beamon (1998), Beamon (1999), Bowersox et al., (2000), Van der Vorst (2000), Akkermans et al., (2003), Claro et al., (2003), Chen, Paulraj (2004), Aramyan (2007), Fox (2007)

Efficiency: Two sub-goals are considered being of low importance, namely *transaction cost* and *inventory cost*. *Transaction cost* refers to costs other than the money price that are incurred in trading goods or services (e.g. searching cost, negotiation cost, and enforcement cost) (Williamson, 1981). *Inventory cost* refers to the cost of a firm's merchandise, raw materials, and finished or unfinished products which have not yet been sold (Aramyan, 2007). The importance of the transaction cost item significantly differs between Italy and the other two countries, while the importance of the inventory cost item significantly differs both between Hungary and Italy and between the suppliers and the other two chain members (customers and focal companies). Previous research identifies the same low importance of the above mentioned sub-goals (Aramyan, 2007). Therefore transaction cost and inventory cost are removed from the goal efficiency.

Table 2.
Importance of chain goals and their sub-goals for the different chain members; mean scores and standard deviations

	Suppliers n=9	Focal companies n=8	Customers n=9	Sample n=26
Importance[1]	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Growth[2]	4,94 (1,81)	5,41 (1,38)	4,79 (0,70)	5,05 (1,38)
Market share growth	5,11 (1,83)	5,50 (1,69)	5,57 (1,81)	5,38 (1,71)
Product assortement growth	5,33 (2,18)	5,50 (1,51)	5,75 (1,28)	5,52 (1,66)
Local market growth	4,89 (2,20)	5,63 (1,06)	5,75 (1,16)	5,40 (1,58)
International market growth	4,44a,b (2,79)	5,00b (2,27)	2,50a (1,31)	4,00 (2,40)
Traditionalism	4,56 (1,49)	5,63 (0,78)	5,56 (1,19)	5,22 (1,26)
Locality[3]	3,89 (2,20)	5,88 (1,64)	5,50 (1,20)	5,04 (1,90)
Authenticity	4,67a (1,87)	6,25b (0,89)	6,00a,b (1,41)	5,60 (1,58)
Commercial available[3]	5,11 (1,90)	4,88 (1,73)	5,00 (1,51)	5,00 (1,66)
Gastronomic heritage	4,56 (1,59)	5,50 (1,41)	5,75 (1,75)	5,24 (1,61)
Efficiency	4,44a (1,04)	5,34a,b (1,10)	5,84b (0,87)	5,21 (1,13)
Distribution cost	4,50a (1,85)	4,88a,b (1,96)	6,38b (1,06)	5,25 (1,80)
Transaction cost[3]	4,89 (1,76)	5,13 (1,96)	5,00 (1,93)	5,00 (1,80)
Profit	4,67a (2,06)	6,25b (1,75)	6,38b (0,74)	5,72 (1,77)
Inventory cost[3]	3,11a (1,27)	5,13b (1,36)	5,63b (1,69)	4,56 (1,78)
Flexibility[2]	4,08a (1,49)	5,03a,b (1,24)	5,88b (0,73)	4,96 (1,38)
Delivery flexibility	4,56 (1,81)	5,13 (2,03)	5,63 (1,77)	5,08 (1,85)
Response to demand variations	3,33 (2,12)	5,00 (1,51)	5,38 (1,51)	4,52 (1,92)
Response to new competitors	3,89a (2,26)	4,63a,b (2,26)	6,25b (1,04)	4,88 (2,13)
Response to customer requirements	4,56a (1,94)	5,38a,b (2,00)	6,25b (1,04)	5,36 (1,80)
Responsiveness	4,37a (1,90)	6,04b (0,84)	5,42a,b (0,77)	5,24 (1,45)
Fill rate[3]	4,33a (1,80)	6,38b (0,52)	3,88a (1,73)	4,84 (1,80)
Lead time	3,89 (2,62)	5,25 (1,75)	6,00 (1,07)	5,00 (2,08)
Customer complaints	4,89 (2,52)	6,50 (0,53)	6,38 (0,52)	5,88 (1,69)
Quality	5,48a (1,27)	6,53b (0,33)	6,23a,b (0,59)	6,02 (0,97)
Taste[3]	4,75 (1,83)	5,88 (1,36)	6,13 (0,35)	5,58 (1,41)
Health[3]	5,25 (1,49)	6,67 (0,52)	5,67 (1,86)	5,80 (1,47)
Safety	6,50 (0,76)	6,57 (0,79)	6,63 (0,52)	6,57 (0,66)
Attractiveness	5,00a (1,93)	6,63b (0,52)	6,50b (0,53)	6,04 (1,37)
Environmental friendliness	5,88 (2,10)	5,71 (1,70)	5,88 (1,13)	5,83 (1,61)
Chain balance	4,81 (1,63)	5,38 (1,39)	5,67 (0,90)	5,25 (1,36)
Distribution of risks and benefits	4,78 (1,92)	5,75 (1,04)	5,75 (1,16)	5,40 (1,47)
Information exchange[3]	4,78 (1,64)	5,00 (1,85)	5,63 (1,60)	5,12 (1,67)
Chain understanding	4,89 (1,76)	5,38 (2,00)	5,57 (1,27)	5,25 (1,67)

[1]Seven-point Likert scale, ranging from 'strongly unimportant' (1) over 'neutral' (4) to 'strongly important' (7); different letters (a-b-c) indicate significantly different average scores using Mann-Whitney U test, [2]Chain goals eliminated because of low average importance scores, [3]Sub-goals marked as "under consideration for being eliminated

Responsiveness: The score for *fill rate* is rather low and moreover significantly different between the focal companies and the other two categories of chain members (customers and suppliers). *Fill rate* refers to the percentage of units ordered that are shipped on a given order (Beamon, 1999; Aramyan, 2007). The scientific literature illustrates similar results with high importance for the focal companies and less importance for other chain members (Lambert, Cooper, 2000; Aramyan, 2007). This can be explained by the fact that performing well in terms of fill rate requires from the focal company the integration of manufacturing, distribution and transportation plans, as well as integration of suppliers and customers (Lambert, Cooper, 2000). From the position of the focal companies (being situated between the suppliers and the customers in the chain) the recognition of this high importance can be explained.

Quality: Two sub-goals of the goal quality are of medium importance. One is *taste* and the other is *health*. *Taste* is determined by the sweetness, mealiness and aroma of the products (Aramyan, 2007). As TFPs have their special taste character, maintaining the original taste of the product is more important than improving the tastiness or to better meet the requirements of the consumers with regards to taste. Therefore, one can not say that a tastier product has better quality. As a result, the relevance of the item is judged to be less important and is removed. *Health* refers to the quality of the products being salubrious and nutritious (Aramyan, 2007). Obviously, the sub-goal of health receives significantly lower scores in Belgium then in the other countries, seen that legal restrictions does not allow of promoting health claims of alcoholic beverages and by the recommendation for moderate consumption of them (Hasler, 2002).

Table 3.
Importance of chain goals and their sub-goals for the different countries, mean scores and standard deviations

	Belgium n=9	Hungary n=10	Italy n=7	Sample n=26
Importance[1]	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Growth[2]	5,69b (0,92)	5,08a,b (1,25)	3,85a (1,76)	5,05 (1,38)
Market share growth	6,33b (1,12)	5,70b (0,95)	3,00a(1,73)	5,38 (1,71)
Product assortement growth	5,89 (1,27)	5,00 (1,83)	5,83(1,94)	5,52 (1,66)
Local market growth	5,78 (1,30)	5,50 (0,97)	4,67(2,58)	5,40 (1,58)
International market growth	4,78 (1,99)	4,10 (2,64)	2,67(2,34)	4,00 (2,40)
Traditionalism	5,47 (1,49)	5,13 (0,52)	5,00(1,85)	5,22 (1,26)
Locality[3]	5,78 (1,39)	4,90 (1,20)	4,17 (3,13)	5,04 (1,90)
Authenticity	5,22 (1,72)	5,80 (0,79)	5,83 (2,40)	5,60 (1,58)
Commercial available[3]	6,11b (1,54)	4,60a (1,43)	4,00a(1,41)	5,00 (1,66)
Gastronomic heritage	4,78a,b (2,05)	5,20a (0,63)	6,00b(2,00)	5,24 (1,61)
Efficiency	5,53 (1,07)	5,18 (1,04)	4,83(1,41)	5,21 (1,13)
Distribution cost	4,50 (2,14)	5,20 (1,62)	6,33(1,21)	5,25 (1,80)
Transaction cost[3]	5,56b (1,01)	5,80b (1,03)	2,83a(2,14)	5,00 (1,80)
Profit	6,11 (1,62)	6,10 (0,99)	4,50 (2,59)	5,72 (1,77)
Inventory cost[3]	4,89a,b (1,90)	3,60a (1,43)	5,67b(1,51)	4,56 (1,78)
Flexibility[2]	4,86 (1,13)	4,98 (1,43)	5,08(1,86)	4,96 (1,38)
Delivery flexibility	4,89 (1,90)	4,60 (1,96)	6,17(1,33)	5,08 (1,85)
Response to demand variations	5,33b (0,87)	3,90a (1,79)	4,33a,b(2,94)	4,52 (1,92)
Response to new competitors	4,78 (2,11)	5,70 (1,42)	3,67(2,80)	4,88 (2,13)
Response to customer requirements	4,44a (1,74)	5,70a,b (1,89)	6,17b(1,33)	5,36 (1,80)
Responsiveness	5,33 (0,88)	4,73 (1,99)	5,94(0,74)	5,24 (1,45)
Fill rate[3]	5,67 (0,71)	4,60 (2,12)	4,00(2,10)	4,84 (1,80)
Lead time	4,22a (2,05)	4,50a (2,07)	7,00b (0,00)	5,00 (2,08)
Customer complaints	6,11 (0,93)	5,10 (2,33)	6,83(0,41)	5,88 (1,69)
Quality	5,95 (0,60)	5,78 (1,23)	6,47(0,48)	6,02 (0,97)
Taste[3]	5,75 (1,16)	5,90 (1,20)	4,83(1,94)	5,58 (1,41)
Health[3]	4,25a (2,06)	5,80a (1,14)	6,83b(0,41)	5,80 (1,47)
Safety	6,43a,b(0,79)	6,40a (0,70)	7,00b(0,00)	6,57 (0,66)
Attractiveness	6,13a,b (0,83)	5,50a (1,84)	6,83b(0,41)	6,04 (1,37)
Environmental friendliness	5,71a,b (1,80)	5,30a (1,77)	6,83b(0,41)	5,83 (1,61)
Chain balance	5,85b (0,94)	5,50b (0,89)	3,67a(1,72)	5,25 (1,36)
Distribution of risks and benefits	5,89 (1,17)	5,00 (1,15)	5,33 (2,25)	5,40 (1,47)
Information exchange[3]	5,78b (0,83)	5,90b (0,99)	2,83a (1,47)	5,12 (1,67)
Chain understanding	5,89b (1,05)	5,60a,b (1,17)	3,40a (2,30)	5,25 (1,67)

[1]Seven-point Likert scale, ranging from 'strongly unimportant' (1) over 'neutral' (4) to strongly important (7); different letters (a-b-c) indicate significantly different average scores using Mann-Whitney U test ,[2]Chain goals eliminated because of low average importance scores, [3]Sub-goals marked as "under consideration for being eliminated"

Table 4.
Selected chain goals and sub-goals

To maintain traditionalism (Traditionalism)
To maintain authenticity (Authenticity)
To maintain recipe authenticity
To maintain raw material authenticity
To maintain production process authenticity
To maintain the unique and memorable gastronomic identity of the food product and to remain part of the gastronomic heritage (Gastronomic heritage)
To increase efficiency (Efficiency)
To lower distribution cost (Distribution cost)
To increase profit (Profit)
To improve responsiveness (Responsiveness)
To improve lead time (Lead time)
To reduce customer complaints (Customer complaints)
To improve quality (Quality)
To improve safety (Safety)
To improve attractiveness (Attractiveness)
To improve environmental friendliness (Environmental friendliness)
To create chain balance (Chain balance)
To ensure that the risks and benefits are distributed in a balanced way along the chain (Distribution of risks and benefits)
To better understand other chain members' interest (Chain understanding)

3.2 Consumer preferences

Traditionalism: Consistent results indicating high consumer importance are found throughout the different consumer research studies and approaches. Consumers denote a high importance of the *authenticity* issue in the conceptualisation of TFP. This appeared in the qualitative (Guerrero et al., 2009a; Guerrero et al., 2009b) as well as in the quantitative consumer research (Vanhonacker et al., 2009a; Vanhonacker et al., 2009b). For a specific consumer segment (20 percent of the pan-European survey sample), authenticity even fulfilled the key issue in the conceptualisation of TFP, while for the remaining consumers, authenticity was important without being the (only) key issue (Vanhonacker et al., 2009b). From the different origins that authenticity can refer to, European consumers consistently valued the authenticity of the recipe most strongly (Vanhonacker et al., 2009b). Along with the importance expressed for the authenticity issue, consumers positively validated the presence of a PDO, PGI and/or TSG label, both in terms of its relation with a high quality and distinctive features and as influencing factors in the buying decision process of TFP (Vanhonacker et al., 2009b; Verbeke 2009). In the same vein a 'guarantee of authenticity' was indicated together with these collective quality labels (PDO, PGI, TSG) as preferred media to be informed about information about the traditional character.

Similar results were found in relation to *gastronomic heritage*. In the focus group discussions, the importance of gastronomic heritage within the concept of traditional food was literally stressed (Guerrero et al., 2009b), while in the word association test words frequently mentioned were 'Heritage', 'Culture', 'History', along with some typical gastronomic associations like 'Restaurant', 'Recipe', and 'Cooking' (Guerrero et al., 2009a). From the consumer survey, no direct measurements were available. Nonetheless, the high association between "produced in grandmothers way" and TFP do suggest a positive association with gastronomic heritage.

We can conclude that efforts from the chain on the issue of maintaining traditionalism are well appreciated by the consumers. Consumers express a clear interest in being informed about the matter, they strongly associate it with TFP, and they link it with a high quality degree. In particular, focus on (maintaining) authentic recipe is well received

Efficiency: Consequences of realising this goal at consumer level mainly relate to price issues. In general, TFP are associated with a higher price at consumer level (Guerrero et al., 2009b; Lengard et al., 2009). Nonetheless this higher price perception does not negatively influence the overall image of TFP. To the contrast it contributes to a higher quality perception (Lengard et al., 2009). In addition TFP consumption is often linked to special occasions, occasions on which people are willing to pay something extra for their food. Also a higher self-reported consumption of TFP is found among consumers who spend a relatively higher share of their budget on food (Vanhonacker et al., 2009a). Finally, Pieniak et al. (2009) found that the extent to which price played a role in the food choice process did not significantly affect the self-reported consumption of TFP. As a consequence price as a product attribute is clearly dominated by other attributes like quality, and functions rather as a quality indication rather than as a barrier in the buying decision process.

Responsiveness: One of the sub-goals of improving responsiveness is to reduce customer complaints. Results from the pan-European consumer research however indicate a general very positive image of TFP (Guerrero et al., 2009b; Lengard et al., 2009). This suggests that the product attributes and features that most strongly shape the overall image of TFP are positively valued among consumers, while product features with a lower valuation (i.e. less positive) could be linked to features that do not dominate the image formation of TFP among consumers. Product features with the least positive image scores pertained to some convenience matters, like the perceived ease of preparation, the time needed for preparation and the product availability. The lower perceived product availability probably relates to the association of TFP with special occasions and its seasonal availability. Also the less positive image rates for the other two convenience attributes (ease and time of preparation) do not necessarily influence the overall perception in a negative sense. Results namely show that the consumption of TFP is mainly associated with persons who enjoy cooking and who are spending a considerable amount of time on cooking (Vanhonacker et al., 2009a). Corresponding results are found by Pieniak et al. (2009), who indicate a negative relation between convenience orientation in food choice on the one hand and both attitude towards TFP consumption and self-reported TFP consumption on the other hand. Consequently, consumer complaints do not seem to be an issue to concentrate on. Rather focus should be on the positive product attributes.

Quality: TFP were commonly associated by consumers with a high quality standard (Guerrero et al., 2009b; Lengard et al., 2009). Multiple indications result from the consumer research to support the positive valuation of quality as a multi-dimensional concept (including safety issues, sensory properties and environmental friendliness. Quality as a product attribute was found to be one of the major drivers of the positive image of TFP (Vanhonacker et al., 2008). Consumers stressed a high interest in being

informed about the traditionality of a food product through a "guarantee of quality" label on the product (Verbeke, 2009). Consumers did not associate TFP with safety problems (Lengard et al., 2009). Nonetheless seen the importance of safety as a product attribute they are open for innovations that improve the safety status of the product, as long as it does not impact on the traditional character of the product. Environmental friendliness contributed in a positive sense to the general image of TFP, despite its more complex interpretation at consumer level (Lengard et al., 2009). In addition, Pieniak et al. (2009) found a positive relationship between the importance of ethical issues (among which environmental friendliness) on the one hand and both the general attitude towards TFP consumption and the self-reported consumption of TFP on the other hand. Regarding sensory appeal TFP were associated by consumers with good and special taste (Guerrero et al., 2009b; Lengard et al., 2009), being one of the strongest drivers of the overall positive image of TFP (Vanhonacker et al., 2008). Also TFP are very often typified by a specific package or presentation, contributing to its traditional character. Hence, touching on the full set of sensory properties, and by extension the quality characteristics, should be well considered in order to avoid damaging the authenticity and traditionality of the product (Guerrero et al., 2009b; Kühne et al., 2009).

Chain balance: Since the consumer survey didn't attach directly special importance to issues forming chain balance, no direct measurements were included regarding this issue. Therefore, we consider these issues as being out of the awareness of consumers.

Vision: The European traditional food sector envisions a competitive sector maintaining the traditional character and superior quality of their food product(s) via more efficient and responsive chains where risks and benefits are distributed in a balanced way between the members.

5 Conclusion

This paper has developed a European chain vision for the traditional food sector. Using qualitative and quantitative techniques data were collected from chain members (suppliers, focal companies, customers) as well as from consumers. The data collected from chain members allowed to identify the following chain goals: "To maintain traditionalism", "To increase efficiency", "To improve responsiveness", "To improve quality" and "To create chain balance". These chain goals were confronted with preferences and perceptions at consumer level in order to test the goals against market reality and to formulate the vision statement, which is the following: "The European traditional food sector envisions a competitive sector maintaining the traditional character and superior quality of their food product(s) via more efficient and responsive chains where risks and benefits are distributed in a balanced way between the members."

The results present extensive analysis of multiple individual chains representing the traditional food sector from three European countries. Per individual chain it looks into the nature of conflicting/divergent goals of the chain members. Per product category and per country we looked into the specific goals. This approach creates an opportunity for a scientifically underpinned vision development through rigorous comparison of chain members' goals from different countries, representing different product categories. Further, it bridges the input from the chain with input from the consumer resulting in a vision tested by the market. The developed vision allows policy makers to make specific and tailor-made efforts to enhance the competitiveness of the European traditional food sector with special emphasis on chain management.

Some limitations of the paper are worth mentioning. Since the paper defines chains in its narrow sense (three members), the developed vision represents the perspectives of a limited number of chain members (suppliers, focal companies, customers). In case of a wider definition, input from further members would be necessary (suppliers of suppliers, customers of customers, third parties, competitors etc). Further, testing vision against market reality is based purely on consumers' preferences and perceptions, while there are other approaches which could complement these findings (e.g. scenario planning).

Future research could build on the methodology of the paper but to use it for vision development for individual chains.

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References

Akkermans, H. A., P. Bogerd, E. Yücesan, L. N. van Wassenhove (2003). The impact of ERP on supply chain management: Exploratory findings from a European Delphi study. *European Journal of Operational Research* 146 (2): 284-301.

Al-Mudimigh, A. S., Zairi, M., Ahmed, A. M. M. (2004). Extending the concept of supply chain: The effective management of value chains. *International Journal of Production Economics* 87 (3): 309-320.

Aramyan, L. H. (2007). *Measuring supply chain performance in the agri-food sector*. Wageningen, Wageningen University: 0-144.

Bagozzi, R. P. (1975). Marketing as Exchange. *Journal of Marketing* 39 (4): 32-39.

Beamon, B. M. (1998). Supply chain design and analysis: Models and methods. *International Journal of Production Economics* 55(3): 281-294.

Beamon, B. M. (1999). Measuring supply chain performance. *International Journal of Operations & Production Management* 19 (3): 275-292.

Bennis, W. G. N., Nanus, B. (1986). *Leaders : The strategies for taking charge.* New York, Harper & Row.

Bensaou, M. (1997). Interorganizational Cooperation: The Role of Information Technology. An Empirical Comparison of U.S. and Japanese Supplier Relations. *Information Systems Research* 8 (2): 107-124.

Bensaou, M., Venkatraman, N. (1995). Configurations of Interorganizational Relationships: A Comparison between U.S. and Japanese Automakers. *Management Science* 41 (9): 1471-1492.

Bérard, L., Marchenay, P. (2007). Localized products in France: definition, protection and value-adding. *Anthropologz of Food* 2 (March).

Bowersox, D. J., Closs, D. J., Stank, T. P. (2000). Ten Mega-Trends that will Revolutionize Supply Chains Logistics. *Journal of Business Logistics* 21 (2): 1-15.

Chen, I. J., Paulraj A. (2004). Understanding supply chain management: critical research and a theoretical framework. *International Journal of Production Research* 42 (1): 131-163.

Claro, D. P., Hagelaar G., Omta O. (2003). The determinants of relational governance and performance: How to manage business relationships? *Industrial Marketing Management* 32 (8): 703-716.

EC (2007). European Research on Traditional Foods. Luxembourg, DG Research, European Comission: 36.

Felföldi, J. (2007). *A zöldség termékpálya SWOT-mátrixa. Ágazatspecifikus innováció alapuló projektek generálása a zöldség termékpályán*. J. Felföldi and E. Szabó. Debrecen, Debreceni Egyetem.

Fox, R. (2007). Reinventing the gastronomic identity of Croatian tourist destinations. *International Journal of Hospitality Management* 26 (3): 546-559.

Gattorna, J., Ogulin, R., Reynolds, M. W. (2003). *Gower Handbook of Supply Chain Management*, Gower Publishing, Ltd.

Gellynck, X., Molnár, A., Aramyan, L. (2008). Supply chain performance measurement: the case of the traditional food sector in the EU. *Journal on Chain and Network science* 8 (1): 47-58.

Gerbens-Leenes, P. W., Moll, H. C., Schoot Uiterkamp, A. J. M. (2003). Design and development of a measuring method for environmental sustainability in food production systems. *Ecological Economics* 46 (2): 231-248.

Giraud, G. (2002). Organic and origin-labeled food products in Europe: Labels for consumers or from producers?. *Ecolabels and the Greening of the Food Market*. W. Lockeretz. Boston, Tufts University: 41-49.

Guerrero, L., Claret, A., Verbeke, W., Enderli, G, Zakowska-Biemans, S., Vanhonacker, F., Issanchou, S., Sajdakowska, M., Granli, B. S., Scalvedi, L., Contel M., Hersleth, M. (2009). Perception of traditional food products in six European regions using free word association. *Food Quality and Preference*, doi: 1 0 . 1 0 1 6 / j. foodq ual. 2 0 0 9 . 0 6 . 0 0 3.

Guerrero, L., Guardia, M. D., Xicola, J., Verbeke, W., Vanhonacker, F., Zakowska-Biemans, S., Sajdakowska, M., Sulmont-Rossé, C., Issanchou, S., Contel, M., Scalvedi, L., Granli, B. S., Hersleth, M. (2009). Consumer-driven definition of traditional food products and innovation in traditional foods. A qualitative cross-cultural study. *Appetite* 52: 345-354.

Hasler, C. M. (2002). *Functional Foods: Benefits, Concerns and Challenges--A Position Paper from the American Council on Science and Health.* 132: 3772-3781.

Hines, P., Lamming, R., Jones, D., Cousins, P., Rich, N. (2000). *Value Stream Management.* Financial Times Prentice Hall.

Ho, S.-C. (2005). Evolution Versus Tradition in Marketing Systems: The Hong Kong Food-Retailing Experience. *Journal of Public Policy & Marketing* 24 (1): 90-99.

Keeble, J. J., Topiol, S., Berkeley, S. (2003). Using Indicators to Measure Sustainability Performance at a Corporate and Project Level. *Journal of Business Ethics* 44 (2-3): 149-158 p. .

Kozár, L. (2001). *A gabona bázison alapuló, energetikai felhasználású etanol előállítás ökonómiai kérdései*. Agrártudományi Közlemények 2, Debreceni Egyetem.

Kühne, B., Vanhonacker, F., Gellynck, X., Verbeke, W. (2009). Innovation in traditional food products: Do sector innovation activities match consumers' acceptance? *Food Quality and Preference*, submitted.

Lee, H. L., Billington, C. (1999). Managing supply chain inventory: pitfalls and opportunities. *Sloan Management Review* 33: 65-73.

Lengard, V., Hersleth, M., Verbeke, W., Vanhonacker, F., Næs, T. (2009). General image and attribute perception of traditional foods in Europe. *Food Quality and Preference*, submitted.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D. (2001). Defining Supply Chain Management. *Journal of Business Logistics* 22(2).

Neely, A., Gregory M., Platts, K. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management* 15(4): 80-116.

Pieniak, Z., W. Verbeke, W., Vanhonacker, F., Guerrero, L., Hersleth, M. (2009). Factors influencing traditional food consumption: A cross-sectional study. *Appetite* 53(1): 101-108.

Raynor, M. E. (1998). That vision thing: Do we need it? *Long Range Planning* 31 (3): 368-376.

Roos, G., Jacobsen, K. (1999). Management in a complex stakeholder organization; a case study of the application of the IC-process to a branch of the commonwealth public service. *Monash Mt. Eliza Business Review 2*: 1 p. .

Van De Ven, A. H. (1976). A Framework For Organization Assessment. *Academy of Management Review* 1 (1): 64-78.

Van der Vorst, J. (2000). *Effective food supply chains: generating, modeling and evaluating supply chain scenarios*. Wageningen, Wageningen University

Vanhonacker, F., Lengard, V., Hersleth, M., Verbeke, W. (2009a). Profile and projected image of traditional food consumers in Europe. *British Food Journal*, in press.

Vanhonacker, F., Verbeke, W., Guerrero, L., Claret, A., Contel, M., Scalvedi, L., Żakowska-Biemans, S., Gutkowska, K., Sulmont-Rossé, C., Raude, J., Granli, B. S., Hersleth, M. (2009b). How European Consumers Define the Concept of Traditional Food: Evidence from a Survey in Six Countries. *Agribusiness*, resubmitted.

Vanhonacker, F., Verbeke, W., Lengard, V. Guerrero, L., Hersleth, M. (2008). Consumer-based definition and general image of traditional foods in Europe. *Perspectives of traditional food supply chains on the European market. Perspectives of Traditional Food Supply Chains on the European* Market. A. Banterle and X. Gellynck. Roma, Aracne editrice: 13-31.

Verbeke, W. (2009). *Consumers' perception of origin labels in relation with traditional food products: a cross-sectional pan-European study.*, Ghent University.

Walsh, P. (1996). Finding key performance drivers: Some new tools. *Total Quality Management* 7 (5): 509-519.

Williamson, O. E. (1981). The Economics of Organization: The Transaction Cost Approach. *The American Journal of Sociology* 87 (3): 548-577.

Yamamoto, H., Fujino, J., Yamaji, K. (2001). Evaluation of bioenergy potential with a multi-regional global-land-use-and-energy model. *Biomass and Bioenergy* 21(3): 185-203.