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Broadening the scope of chains and networks

**Alignment between governance designs and quality management systems in  
European pork meat chains:  
A comparison between IKB (The Netherlands) and VPF (France)**

Nalini Rakotonandraina, Loïc Sauvé  
LaSalle Beauvais Polytechnic Institute, France  
Mark Wever, Nel Wognum  
Wageningen University, The Netherlands

Corresponding author: [loic.sauvee@lasalle-beauvais.fr](mailto:loic.sauvee@lasalle-beauvais.fr)

Abstract

Keywords: alignment, governance, quality management, pork meat

The objective of the communication is to explore the question of alignment between quality management systems (hereafter QMS) and governance designs in EU pork meat supply chains, based on a cross country comparison between VPF ('French Pig Meat', France) and IKB ('Integrated Chain Control', The Netherlands).

According to the literature review, we propose an analytical grid based upon an original dimensionalization of QMS and governance designs. This allows us to extend the notion of alignment in considering simultaneously in two concrete case studies the interplay of strategic and organizational aspects with the specific roles assigned to QMSs by chain actors.

## 1-Introduction

The rise and complexity of quality management systems (hereafter QMS) in agrifood chains constitute one of the key phenomena of the recent past. The reasons of this trend are well known: search of efficiency, competition between products at the consumer level, between chains at the industry level, global rise of standards, food crises. Nevertheless the impacts and consequences of the proliferation of QMS for the organization of chains are rarely addressed by researchers in the literature. This link between QMS and chain organization is identified as the alignment principle: a ‘proper’ alignment being the way to reach efficiency, in the sense of the transaction cost theory (Williamson, 1985, 1991, 1996).

Previous research on that subject has shown the importance of that question, for both managerial and theoretical reasons. Indeed for managers the question is of relevance as the competition progressively shifts from inter-firms to inter-systems competition, the system being the quality system as a whole, the complete agrifood chain network or a combination of both.

This paper considers this question in the specific context of European pork chains (Trienekens et al., 2009) in proposing an original conception of alignment between governance structures and quality management systems. To do so, we develop, based mainly on previous works on the definition of alignment, an analytical grid applied to two QMSs developed in two countries, The Netherlands and France.

This paper is organized as follows. In a first part we develop our main theoretical backgrounds, i. e. the question of alignment and its relation with the topic of chain organization (2). Then in a second part we propose a synthesis of our findings in a form of an analytical framework which puts the stress on the relevant criteria (3). In a third part the grid is applied to the situation of two case studies in France and the Netherlands respectively: VPF and IKB, including a global synthesis (4); followed by concluding comments (5).

## 2-Theoretical backgrounds: the core question of alignment revisited

Concerning alignment, as suggested by Nickerson et al. (2001), a preliminary and central question appears with the notion of dimensionalization. For Williamson (1991) the dimensionalization is the “identification of key attributes with respect to which governance structures differ” (Williamson, 1991:277). In other words, the dimensionalization answers to the question “what are the factors that are responsible for the aforementioned differential costs and competencies” (Williamson, 1991:277). This step is necessary to reach a concrete comparison of real cases. In a first part we propose a grid to dimensionalize governance structures (2-1), and then we propose the same for the quality management systems (2-2). Finally, built on these assumptions, we propose an extension of the alignment principle in the context of agrifood networks (2-3).

### 2-1. Governance of vertical transactions: how to dimensionalize them?

To take into account the diversity of governance modes combined with the multiple stage nature of agrifood chains, two dimensions are in first analysis necessary: the one is the number of stages, and the second one is the governance mode.

According to Trienekens and Wognum (2009), in European pork chains, the stages usually consist of breeding, farrowing, finishing, slaughtering, processing, retail (Trienekens and Wognum, 2009:26). These stages are not necessarily performed by independent actors. But in a transaction cost approach, any mode of organizing vertical transactions, and even vertical integration, is seen as an alternative choice.

The question of governance mode is more complex. The classical typology of Williamson (1991) who distinguishes market, hybrid form, and hierarchy has been extended by Ménard (2005) especially for the category of hybrid form. Ménard notes the fact that “when it comes

to intermediate arrangements, the terrain is a shifting one. The vocabulary itself is not stabilized. Besides hybrids, one can read papers about clusters, networks, symbiotic arrangements, supply-chain systems, administered channels, nonstandard contracts, and so forth” (Ménard, 2005:3). The objective is then to emphasize regularities “in the traits exhibited by the abundant literature on these forms” (Ménard, 2005:3). Based on a large analytical comparison of case studies, this author has shown that there is more, in hybrid form, than a global and uniform category. Indeed the logic of hybrid forms is to be found in a balance between flexibility and coordination. For Ménard the main proposition is that “the more specific mutual investments are, the higher are the risks of opportunistic behaviour, and the tighter are the form of control implemented” (Ménard, 2005:10-11). Several mechanisms are available to reach actors’ objectives.

In the vein of Raynaud et al. (2005), we propose a categorization in six governance modes, including market and hierarchy: spot market contract, relational (or implicit) contract, relational contract with approved partners, formal written contract, equity-based contract, vertical integration.

Nevertheless, and following the work of Provan and Kenis (2007) on network governance, we suggest that “networks are forms of social organization, which are more than the sum of actors and their links and which deserve to be studied in their own right” (Provan and Kenis, 2007:233). These authors consider that networks are a kind of ‘variable’: different configurations are possible and each of them will have distinct global properties. Thus, according to these authors, it is possible to identify “different network-level effects can a rationale for developing network-level theories be established” (Provan and Kenis, 2007:233). Provan and Kenis propose a categorization along two dimensions. Network governance may or may not be brokered. At one extreme, “every organization in the chain would interact with every other organization to govern the network, resulting in a dense and highly decentralized form. This is what we call shared governance” (Provan and Kenis, 2007).

Then “at the other extreme, the network may be highly brokered, with few direct-to-direct organization interactions, except regarding operational issues”. In this situation, a single organization would act as a highly centralized broker or lead organization. Of course intermediate positions are possible, where for instance actors in the chain or network may divide governance responsibilities. A second axis of tremendous importance for our case is the distinction between participant-governed or externally governed. In participant-governed network, participants are, at one extreme, governed collectively by the members themselves, or at the other extreme, by a single actor.

The table gives a synthesis of their approach adapted to the context of agrifood chains (Omta et al. 2001; Schiefer, 2003). Three distinct forms of network governance are at the end defined: shared governance, lead organization, network administrative organization (NAO). Our proposal is thus to coin the term of governance *design*: to the classical description of institutional structure in the TCE tradition (with a multiple-stage perspective in agrifood chains) we add a qualitative characteristic. We could summarize the governance design as, in the vein of Provan and Kenis (2007), the *form taken by collective actions* in supply chains. Thus the approach proposed by Provan and Kenis add a complementary perspectives on governance in the TCE tradition. Its interest is patent when there are complex and multilevel relationships as this is the case in most of agrifood chains. In other words the logic and rationale of chain organization is to be found beyond the pure TCE principle of transaction-cost minimization and their grid provides an attempt to overpass the difficulty.

Table 1  
Network governance forms: a synthesis

<i>Governance forms</i>	<i>Number of participants</i>	<i>Goal consensus</i>
Shared governance	Few	High
Lead organization	Moderate number	Moderately low
Network administrative organization (NAO)	Moderate to many	Moderately high

Source: adapted from Provan and Kenis (2007:237)

## 2-2. The diversity of quality systems: how to dimensionalize them?

Following Wever et al. (2009) we will consider that QMSs consist in three basic components, i. e. quality signals, quality standards, and quality monitoring mechanisms. Quality signals are usually seen as a mean for companies to communicate towards customers and/or consumers, in order to differentiate the product. The implementation of quality signals necessitates in turn more or less specific investments as well as a monitoring system that could be a firm or a collective actor within or outside the chain.

In spite of their diversity, QMS can be categorized along three dimensions (Wever et al., 2009): the owner of (parts of) the system, the scope of the system, and the scale of the system. Let us summarize quickly the content of these dimensions, based on Wever et al. (2009). The owner is distinguished on the basis of its status, private or public. The scope refers to the extent to which the system is adopted along the stages, from a company-to-company system to a whole supply chain covering all transactions. The scale dimension refers to the market penetration of the system, from small-scale (a few participants have adopted the system) to wide scale (all actors in all stages have adopted the system).

These descriptive dimensions are necessary steps to identify the diversity of QMS. But an interesting controversy about the role of QMS among social science researchers has raised the relevance of other criteria to characterize QMS. Let us summarize the points of view. The classical view is to consider quality standards purely as “natural market lubricants”, in the words of Hanataka, Bain and Busch (2006:39). In that view the main roles of QMS are thus to increase trust, diminish transaction costs, develop transparency within the chains, and in that sense emphasizing the standardization side of QMSs.

At the same time, other researchers have challenged this conception: the set up of quality standards is a way to differentiate products, to reduce market access, or to create entry barriers, thus emphasizing the strategic and differentiation aspects of quality standards and QMS. The role of retail companies in this trend have been particularly stressed (Reardon and Berdegué, 2006).

For Hanataka, Bain and Busch (2006) this dichotomy is fallacious. Indeed it is necessary to consider both conceptions as equally important. For Busch et al. (2006:41-42), standardization and differentiation are not opposing tendencies, but dual outcomes of the globalization of food and agriculture. In this way, “standardization and differentiation are actually aspects of the same phenomenon, each proceeding inside of the other”. They continue: “the strategic use of standards and third party certification (hereafter TPC) by different actors is producing both standardization and differentiation simultaneously in the global agrifood system”. For instance the authors show that when developing HACCP standards, the retailers also use quality or size to differentiate their products, turning the standards into a competitive advantage. But, as indicated by the authors, the reverse is also true: when non-governmental organizations promote fair-trade products, in order to differentiate their products, they at the same time develop different methods of standardization to improve their efficiency and transparency.

Following these authors, we will adopt a conception where quality standards and TPC are not strategically neutral but instead socially mediated. The situation of TPC will be added in our analytical grid to grasp this strategic role.

Nadvi and Wältring (2004) have shown the wide diversity of QMSs, and it is important to have an extended conception of them in order to “make sense” of their uses and objectives. These authors have identified several criteria: scope (process, product standards), geographical reach (regional, national, international), function (social, labour, environmental, policy, safety, ethical), key drivers (public, private i.e. business or not-for-profit association), forms (management standards, company codes, labels), coverage (generic, sector specific, firm/value chain specific), regulatory implications (legally mandatory, necessary for competition, voluntary).

In European pork chains, the diversity of QMSs is also patent, although the situation can be synthesized around a few key features (Ellebrecht et al., 2009). First of all, the General Food Law has set up a new framework of legal requirements known as the EU hygiene package. But, at the same time, several nation-based systems have been developed, generally oriented towards the improvement of transparency and traceability. In 2002 an initiative has been launched by the EMA (European Meat Association, a partnership between retailers and quality assurance systems) to reduce the number of schemes (Ellebrecht et al., 2009:77).

Following this literature review and considering the concrete situation of the European pork meat chain, our proposal is to extend the dimensionalization proposed by Wever et al. (2009) based on ownership, scope (in a sense of vertical penetration) and scale, to the status and role of third party certification and resources. The role of resources in QMSs has been acknowledged mainly in the business marketing literature (Håkansson et al., 2004; Coulibaly and Sauvée, 2010) and in some case studies in the pork meat chains (Rakotonandraina and Sauvée, 2009). The idiosyncratic nature, characteristics of resources mobilized in QMS as well as their embeddedness in networks of actors and institutions are also to be considered in the question of alignment.

### 2-3. Extending the alignment principle in real agrifood contexts

The basic proposal of the alignment principle in TCE (transaction-cost economics) is found in Williamson (1991), a principle according to which “transactions, which differ in their attributes, are aligned with governance structures, which differ in their costs and competencies”. Central to problems of economic organization, the notion has already been considerably extended by agricultural economists and strategic management researchers (see for instance Gonzalez-Diaz et al. 2003; Lazzarini et al. 2001; Klein and Ménard, 2004; Hendrikse, 2003; Neves, 2003; Zylbersztajn and Farina, 2005).

One of the most interesting extensions of this original TCE framework has been proposed by Nickerson et al. (2001). These authors suggest that “market position, resources, and governance are interdependent, which means each must be chosen with respect to the other” (Nickerson, Hamilton and Wada, 2001:252). In bringing together elements that are usually separated, these authors extend the logic of alignment closer to real situations, where complex decisions have to be made regarding investments in specific resources and strategic orientations. For them, a resource profile is a “set and type (i. e. the degree of idiosyncrasy) of resources and capabilities employed in the constellation of activities in a vertical chain” (Nickerson et al., 2001:252). No doubt that when it comes to QMS, this question of resources is crucial (Ghosh and John, 1999; Leiblein and Miller, 2003; Coulibaly and Sauvée, 2010). But the main difficulties of this approach are the questions of dimensionalization and the question of the unit of analysis for the analysis of alignment. The question of dimensionalization has been developed previously, the second one remains. Is it the transactions, the set of interdependent transactions or the whole system constituted by the

actors and their relevant resources that is to be considered? Two concrete situations in agrifood chains have been widely acknowledged by researchers: the rise of QMS and the scale and scope of chains where several stages are interdependent.

As showed in previous work (see for instance Raynaud et al., 2009), a complete story necessitates taking into account the whole set of interdependent transactions, which will be our unit of analysis. Indeed, actors in chains and networks behave under a global constraint of remediableness. This notion of remediableness helps to understand not how but why actors modify governance design and QMS. For Williamson, the remediableness criterion “holds that an extant practice or mode of organization for which (1) no *feasible* superior alternative can be described and (2) *implemented* with expected net gains is (3) *presumed* to be efficient.” (Williamson, 2009:153). As explained by Williamson, all of these three propositions are necessary to explain the choice of organizational forms. For him, the “remediableness criterion thus both disallows pronouncements of inefficiency that rest on a comparison of an actual (hence flawed) practice with a hypothetical (ideal) alternative and asks the public policy analyst to be more respectful of the political process.” (Williamson, 2009:153). Thus we will consider this criterion as the explaining variable of alignment, the decisions of actors affecting simultaneously several transactional levels throughout the supply chain.

### 3-Proposal for an analytical framework of alignment between GS and QMS

In order to address the question of alignment in agrifood chains and networks, we propose an analytical framework composed of two basic constituting blocks: the dimensionalization of QMS and governance designs (3-1) and the targeted position of the pairing QMS/governance designs in terms of standardization and/or differentiation (3-2).

#### 3-1 The dimensionalization

Based upon our previous comments and findings on dimensionalization, we propose in the table 2 the key factors for both governance design and quality management system.

Three factors have been defined for the description of the governance designs: the number of stages, the institutional structure, and the network governance form. The quality management system is described through four factors: scale and scope, ownership, resources, organization of control (table 2).

Table 2: Dimensionalization of governance design and quality management systems

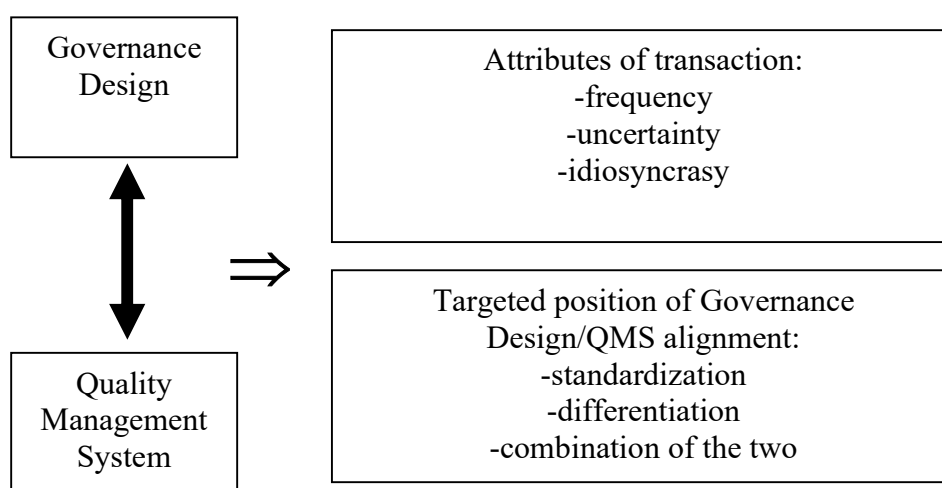
<i>Governance design</i>	<i>Quality management system</i>
<ul style="list-style-type: none"> <li>✓ Number of stages               <ul style="list-style-type: none"> <li>• 1 to 4</li> </ul> </li> <li>✓ Institutional structure               <ul style="list-style-type: none"> <li>• Spot market</li> <li>• Verbal agreement</li> <li>• Formal contract</li> <li>• Equity-based contract</li> <li>• Vertical integration</li> </ul> </li> <li>✓ Network governance form               <ul style="list-style-type: none"> <li>• Shared governance</li> <li>• Lead organization</li> <li>• NAO (network administrative organization)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>✓ Scale and scope               <ul style="list-style-type: none"> <li>• scale: + to +++</li> <li>• scope: + to +++</li> </ul> </li> <li>✓ Ownership               <ul style="list-style-type: none"> <li>• Private</li> <li>• Public</li> </ul> </li> <li>✓ Resources               <ul style="list-style-type: none"> <li>• Nature and characteristics</li> <li>• Idiosyncrasy</li> </ul> </li> <li>✓ Organization of control               <ul style="list-style-type: none"> <li>• Nature of third party certifiers</li> <li>• Degree of specificity</li> </ul> </li> </ul>

Source: adapted from Provan et al. (2007); Raynaud et al. (2005, 2009); Wever et al. (2009).

### 3-2 The conceptualization of alignment

Adapted from Nickerson et al. (2001) we propose the following chart (figure 1) to conceptualize the concept of alignment. In the Williamsonian tradition, attributes of transactions are in a sense the ‘medium’ of alignment: this is because these attributes are simultaneously linked to governance structures and QMSs that these components are on the same wavelength. In Nickerson’s conception, the concept is extended. For Nickerson et al., “each target position and corresponding resource profile/organization pairing represents a strategy. (...) From a normative perspective, firms prefer the strategy with the greatest profitability. Heterogeneity in firm strategies reflects that firm occupy different feasible resource profile/organization pairings” (Nickerson et al., 2001:254). In the context of governance design/QMS alignment and in line of reasoning with Hanataka et al. (2006), this targeted position can be oriented towards different modes of standardization or differentiation or a combination of the two. The combination is seen here as situations where firms have made efforts to standardize element of differentiation of products or processes, or on the contrary to differentiate (mainly) products that are already standardized on the market (figure 1).

Figure 1: Alignment between governance structure and quality management system: a conceptualization



Source: adapted from Nickerson et al. (2001)

## 4- Alignment between GS and QMS in European pork meat chains.

### 4-1 Description of the cases VPF and IKB

#### ✓ VPF

The abbreviation VPF of the French pork meat is an ‘interprofession’ (professional body), a collective brand using a private charter ([www.civ-viande.org](http://www.civ-viande.org)). VPF guarantees information about the origin: pig born, raised, slaughtered and processed in France (Ministry of agriculture and fishery, 2001). A VPF chain relates to the identification and traceability for pork meat in France. More than 90 % of the operators of the French pork sector are referenced in the VPF approach ([www.leporc.com](http://www.leporc.com)). VPF concerns particularly fresh pig meat. Its distribution network concerns craft butcher shops, hypermarkets and supermarkets. Regarding consumers, VPF is considered like a quality signal and a guarantee (Lirot, 2009).

The label VPF is a private programme initiated by the professionals of the French pork chain or INAPORC-French pork national council. Indeed, INAPORC groups together professional organizations of the French pork sector: animal feed manufacturers, pork production, slaughtering-cutting, processing and distribution (Interbev & INAPORC, 2006).

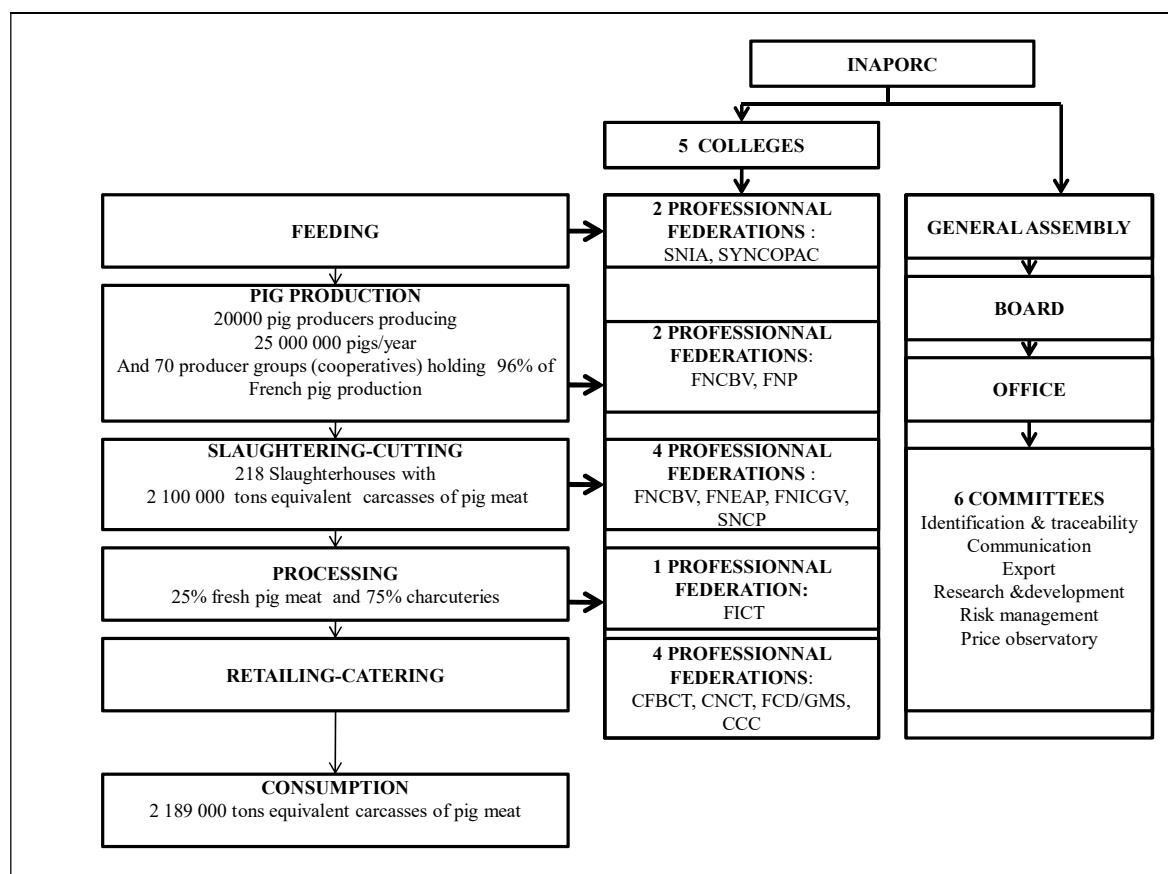
This body is in charge of the technological part and marketing of the programme. The VPF programme is particularly managed by the VPF association which is one of the various committees of INAPORC (Liot, 2009).

Indeed, INAPORC includes six working committees for collective interest respectively (Interbev & INAPORC, 2006):

- Communication committee: for promotion of pork products;
- Export committee: in charge of promotion of pork products in foreign countries;
- Risk management committee: which assure some control to prevent possible risks like antibiotic, bird flu, etc.;
- Committee for identification, traceability and quality: in charge of traceability and quality programme (VPF, LR, CCP, IGP, Organic farming, etc.);
- Price committee which is an observatory of the prices indicators of market;
- Research and development committee.

Members paid contribution. For the retailer (Retailer Auchan as example), this financial participation is comprised into the pork cost price directly (personal communication, Lirot, 2009).

Figure 2: VPF organization



### Governance structure

The forms of coordination in the French pork sector are diversified and can go to integration. The coordination relations between actors evolve towards investment in slaughterhouses by the producer groups or in other links of the chain. Besides, partnership contract, and fusion strategy between producer groups (e.g. Cooperl and Arca) may appear to assure the perpetuity of companies. Downstream pork chain companies can have also financial participation in those of upstream to answer quality criteria corresponding to the consumers' expectations

(Rieu, 1998). It is done by means of the research and development in genetics (improvement of races) and animal feed, and/or by pig production, via the producer groups. During the last 2 decades, one of the major facts, in the animal sector, is the increase in importance of large retailers. Large retailers sell about 75% of fresh pig products to French households (MPB, 2007).

Besides, the main part is shared by five main retailers which monopolize an important part of the margins. INAPORC plays a central role in the economic organization and development by promoting the pork and the export of the French pork chain. A financial contract for VPF programme has been concluded between the retailer and slaughterhouse. Indeed, retailers paid 0.16 euro higher per kilo to the slaughterhouses subdivided as: 0.10 euro as added value for the producers and 0.1 euro for the promotion of the programme (LSA, 2001).

#### Quality management system

VPF specifications, as created in 2000, are mainly for producers and respected at a level of 90% of the production ground according to VPF data in 2004. The objectives are to guarantee the French origin of pork products and to assure good practices relatively to the sanitary conditions and pig production in order to offer to consumers a level of quality and optimal safety of pork meat (CNA, 2002). VPF specifications are a voluntary commitment of producers or producer groups (ITP, 2004). The membership requires signature of commitment and an initial audit.

At the production level, pig producers must respect:

- origin of pig (Pig born and raised in France),
- traceability,
- animal feed plan without animal flour and antibiotic components, besides animal feed formula must be preserved during three years,
- sanitary and veterinarian treatments regulations for breeding, farrowing, finishing and preparation of pig for slaughter.

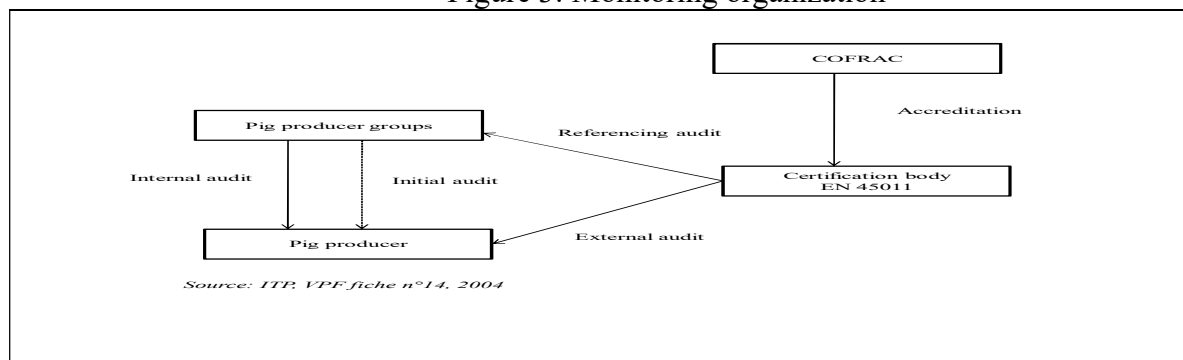
Pig producers must stock up with referenced suppliers.

Beyond production, the VPF programme obliges the respect of traceability system which allows finding the origin of raw materials. Thus, traceability of pig meat must be respected between the different stages of the chain (slaughtering-cutting, processing, packaging) with a numeral identification.

VPF is subjected to controls exercised by authorities and also by third certification body, according to the request of the professionals' members (ITP, 2004). Objective of monitoring is to follow the product as regard to the VPF control plan and to verify good respect of traceability system imposed by the programme. A monitoring report is provided at the end which may contain various points audited with non conformity.

Thus, an internal audit one time per year is realised by a technician from the producer group. This control is completed by an external audit of 5 to 10% of producers, insured by a third-party certification body accredited by COFRAC or French Accreditation Committee, an association created in 1994 and governed by the 1901 law ([www.cofrac.fr](http://www.cofrac.fr)). A control is organised in the retail stores about two or three times per year (Liot, 2009).

Figure 3: Monitoring organization



## ✓ IKB

IKB (Integrated Chain Control) is a private quality scheme for pigs initiated in Netherlands in 1992 ([www.ikbvarkens.nl](http://www.ikbvarkens.nl)). This integrated chain management programme IKB was established in the Netherlands by PVE ( industry, farmers and unions, the Pork council) as a result of a series of residue problems in the late 1980's and 1990's (MAF, 1999).

IKB has been implemented by 95% of all parties in the pork chain in the Netherlands (Wognum and al., 2007). In 2005, about 98% of all pig farmers in the Netherlands were 'IKB Varken (pig)' certified (EMA, 2008 c). The objective of the programme is to support and guarantee pork quality and traceability (IKB Varken, 2008a).

IKB is a private quality management system introduced by PVV (Productschap Vee en Vlees), which serves as the product board for livestock and meat in the Netherlands (EMA, 2008c). The slaughterhouse plays a central role in creating IKB production chain for primary production (European pork chains, 2009& Beckmann, 1998).

There are two competing IKB systems are used in the Dutch pork sector (Brouwer et al., 2004):

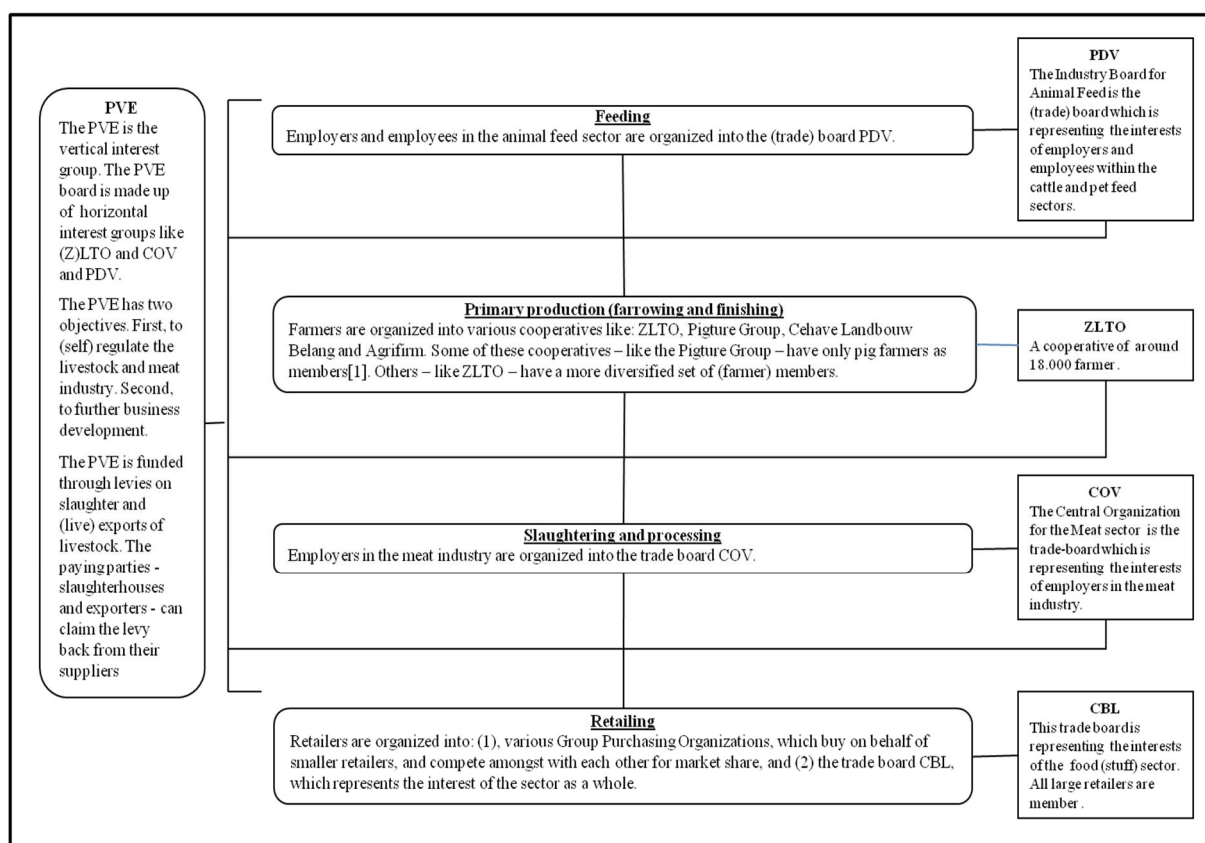
- IKB Varken, set up by PVE (Brouwer et al., 2004).
- IKB 2004, which is owned by the Dutch farmers Association 5NVV) (Brouwer et al., 2004; IKB, 2004, 2008a).

Thus, according to the type of IKB system we have two private parties signal owners: PVE who transferred responsibility to a certifying agency (CBD/CBS) in the first part, and in the second part the NVV or Dutch Farmers Association. PVE, the Product Boards for Livestock, Meat and Eggs is a vertically organized interest group, including a board with representatives from horizontally organized groups like farmers associations and meat producer organizations (Wever, 2010).

PVE prepares policy and executes it on behalf the two boards of PVV (Product board for livestock and meat) and the PPE (Commodity Poultry and eggs), which are autonomous organizations with their own administrative responsibility.

The role of PVE/PVV is now to support activities if initially it made drafts of IKB standards, and initiating changes to IKB (Wever, 2010).

Figure 4: Composition of IKB's administrator (PVE)



For the IKB pig, adapted structure in 2003, CBD is the owner of the IKB pig standard. There are three main entities in the organization:

- CCvD a committee of experts which decide about the development of IKB standard thus make twice a year an adjustment of IKB standard and in charge of monitoring.
- Certification body: in charge of comparison of IKB standard and inspection result
- Inspection body: in charge of inspection of IKB Pig Standard at pig farms.

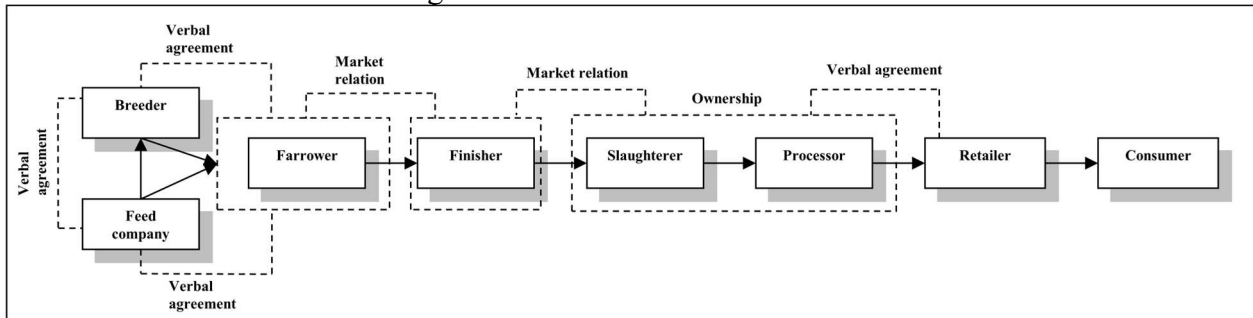
For IKB Netherlands pigs, the management structure includes a college of expert with a president, a secretary and a board composed with various players in the upstream link (pork producer, pig farmer, slaughterhouse, and veterinarian, IKB NV, 2007).

### Governance structure

According to Wever and Wognum (2008), different governance structures can be found at different stages in the supply chain (contracts exist in breeding stage of chain, market transactions can be found in farmer-slaughterhouse relations). Overall, contract relations are relatively rare in the chain: even though most relations are long-term, the relations are often not formalized into written contracts.

IKB has various characteristics' which affect the GS. It allows for more market types of GSs by setting chain-wide quality standards (facilitates in achieving a coordinated response by the various chain actors in meeting consumer demands, communicating quality requirements), standardizing quality across the industry by means of its large scale adoption rate, and increasing quality standards without requiring large investments in quality management resources (Wever, 2010).

Figure 5: Governance structures



### Quality management system

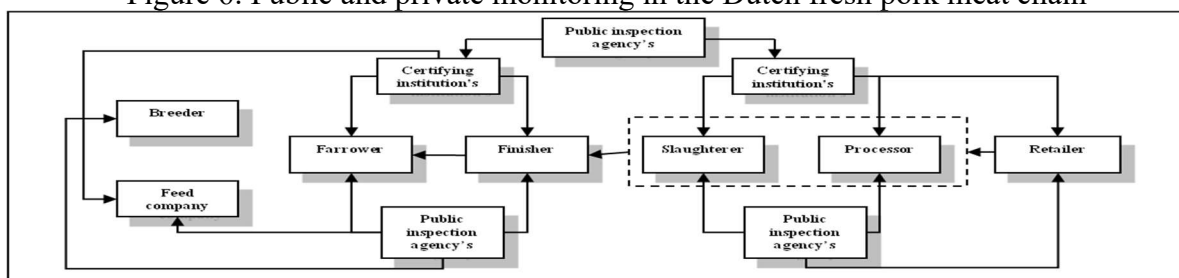
IKB regulation defines different criteria for the stakeholders of pork chains (IKB Varken, 2008a). According to CBD data, IKB is based on EU and NL legislation (EG 852/2004, 853/2004 & 183/2005). IKB relates to traceability, feed quality, hygiene, use of veterinary drugs, (absence of) residues of inputs of the pork products (Wognum et al., 2007), animal health and welfare. IKB system includes in addition a monitoring system for Salmonella and forbidden substances like hormones (EMA, 2008c). IKB is based on GMP and HACCP (Wognum and al., 2007). Indeed, requirements for farmers who produce according to IKB are:

- GMP+ feed (IKB Varken, 2008 b) which combines ISO 9001 with specific hygiene regulations for production, trade and transport of feed and the HACCP concept (European pork chains, 2009). Thus, GMP+ certifies the Good manufacturing Practice (Van der Fels-Klerx et al., 2005) ; ensures that feed as well as additives are produced and transport according to the legal product requirements ( and guarantees a basic feed quality (PVD, 2005).
- Arrangement with a registered veterinarian who adheres to the GVP (Good veterinary Practice in regard to animal health, welfare and food safety, IKB Varken, 2008 c).

### Monitoring mechanism

A compliance monitoring (audits and sanctions) with the IKB programme is done by third certification body control (Wognum and al., 2007). This inspection is annual. Chain actors wanting to participate in IKB can select between three certifying institutions. The third party certifying institutions are monitored by the Dutch accreditation council. In addition, two public inspection agencies AID (General inspection service) and VWA (Food Consumer product Safety Authority) monitored compliance with legislative requirements (Wever, 2010). Besides, chain-actors might inspect their suppliers for monitoring compliance with their own standard (Wever, 2010).

Figure 6: Public and private monitoring in the Dutch fresh pork meat chain



#### 4-2 Comparison of cases: alignment in perspective.

According to Wever (2009), the comparison synthesis of the two signals IKB-VPF focuses mainly on three aspects: type of signal owners, aspect of segmentation strategy used and the characteristics of QMSs and GSs. Firstly, similarities are found between the signal owners because both programme involved collective chain actors for administration (college, committee and board) and decisions concerning the signal, and investment. However, some difference appears about the importance role of Certification Institution in the organization of IKB schemes. Secondly, concerning the differentiation strategy, as similar, food safety, traceability, animal welfare constitutes differentiation aspect for VPF and IKB. Differences for VPF are the environmental (impact) management included in the topic list of specification. In addition, the French origin of end product (pig born, raised, slaughtered and processing in France) is a key element for VPF differentiation. Considering the characteristics of QMSs, QMSs of VPF as IKB are quite similar. VPF and IKB are two private quality management systems based on public regulation and legislation regarding traceability and identification from production to retailer and completed by some private specifications. Both monitoring of compliance is done by third-party certification. High membership is also observed in the both programme. IKB as VPF cover each over the whole supply chain.

Table 3: QMS, a comparison of VPF and IKB

	<b>VPF</b>	<b>IKB</b>
<b>Scale and scope</b>		
Scale	+++	+++
Scope	+++	+++
<b>Ownership</b>	Private	Private
<b>Resources</b>		
Nature and characteristics	Human resources (administrative staff), financial budget, information systems	Human resources (administrative staff), financial budget, information systems
Idiosyncrasy	+	+
<b>Organization of control</b>		
Nature of third party certifiers	Accredited certification body EN 45011	Accredited certification body EN 45011,
Degree of specificity	+	+

As regards to the governance design, both VPF and IKB systems participation are voluntary for companies. For VPF there is no specific formal contract and trust: only market relations and verbal agreements between the chain actors. Nevertheless, there is a written agreement for membership toward the VPF association mainly for producers. About the price coordination mechanism, there is a price agreement between the retailer and the slaughterhouse for VPF: a premium price is paid by the retailer to slaughterhouse subdivided as in one part, added value for producer and association contribution in other part. For IKB, the premium price is also paid by slaughterhouse to pig producers. For IKB slaughterhouse plays an important role in the IKB production chain but no formal contracts exist in most parts of the chain. In addition, the slaughterhouse is responsible for auditing all aspects of the chain supply (breeder, fatterer, and the feed supplier, MAF, 1999). Veterinarians are heavily involved in the programme and are required to give advice to participating farmers on animal health issues as well as providing some audits of breeders and fatterers (MAF, 1999).

Table 4: Governance design, a comparison of VPF and IKB

	<b>VPF</b>	<b>IKB</b>
<b>Number of stage</b>	4	4
<b>Institutional structure</b>		
Spot market	+++	
Verbal agreement	(+)	
Formal contract	++	++
Equity based contract		
Vertical integration	+	+
<b>Network governance form</b>		
Shared governance		
Lead organization	(+)	+
network administrative organization (NAO)	+	(+)

### 5-Concluding comments

The objective of the communication is to explore the question of alignment, applied to the pork meat chain and its network context. Stemming from a conception of alignment in the TCE paradigm, extended by strategic management scholars, we have proposed an original analytical grid where the notion of dimensionalization appears to be crucial. Indeed for heuristic motives - i. e. disentangle the complexity of pork meat supply chains -we have suggested reducing the number of components, and we have identified the singularities and differences between the two systems around a limited number of criteria.

The VPF and IKB systems have many similarities in their scale and scope of adoption, ownership and organization of control. The resources seem to be quite similar. The governance designs have shown some differences, mainly in the respective roles of professional bodies and leading firms.

The positioning of the pairing governance design/QMS has a main difference. VPF is at the same time company and consumer-oriented, thus aiming at some forms of differentiation. IKB clearly positioned itself as a company-to-company system without communication towards the final consumers. Does this difference between the two systems clearly affect the way the alignment is done? Further investigation on that point will be necessary.

This question of alignment is important both for policy makers and managers. A misalignment may have negative consequences either at the firm level (sub optimality of resources) and at the chain level (discrepancies between actors, conflicts of objectives etc.). The sub optimality could also be found for marketing and standardization reasons: the differentiation could be either irrelevant or too costly, and the standardization could lack of efficiency in its procedures and implementation. So it is necessary to acknowledge the fact that the alignment principle has consequences for economic reasons as well as organizational and strategic reasons. In spite of limitations, we think that our research on alignment shows the interest of an often neglected yet important topic.

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Webography:

INAPORC: [www.leporc.com](http://www.leporc.com)

IKB: [www.lkbvarkens.nl](http://www.lkbvarkens.nl)

CIV: [www.civ.viande.org](http://www.civ.viande.org)

COFRAC: [www.cofrac.fr](http://www.cofrac.fr)

Abbreviations:

VPF: Viande de Porc Française (French pig meat)

INAPORC: Interprofession Nationale Porcine (French Pork National Council)

SNIA: Syndicat National des Industries de l'Alimentation Animale (Nationale syndicate of animal feed industries)

SYNCOPAC: Syndicat National des Coopératives de Production et d'Alimentation Animal (National syndicate of production and animal feed cooperatives)

FNP: Fédération Nationale Porcine (French Pork National Federation)

FNCBV: Fédération Nationale de la Coopération Bétail et Viande (National federation of cattle and meat)

FNEAP: Fédération Nationale des Exploitants d'Abattoirs Prestataires de Services (National federation of slaughterhouses)

FNICGV: Fédération Nationale des Industriels et Commerçants en Gros des Viandes (national federation of meat industries and wholesalers)

SNCP: Syndicat National du Commerce du Porc (National syndicate of pork marketing)

FICT: Fédération Française des Industries Charcutiers Traiteurs Transformateurs de viandes (French federation of processors and salted meat manufacturers)

CFBCT: Confédération Française de la Boucherie-Charcuterie, Traiteurs (French union of butchers and caterers)

CNTC: Confédération Nationale des Charcutiers-Traiteurs et Traiteurs (French union of charcutiers and caterers)

FCD: Fédération des entreprises du Commerce et de la Distribution (Federation of retailers)

CCC: Association de la Restauration Collective en Gestion Directe (Association of collective catering)