

Firm and Industrial Organization Boundaries: An Empirical Analysis of Inter-firm Network in the Winter Sports Industry¹

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Abstract .

This paper explores a model of inter-firm network in the case of winter sports industry. It discusses the problem of skiing resort boundaries and the nature of the inter-firms arrangements to produce the final product (ie. Spending holidays in a mountain resort). Two network archetypes are spotted. They ensue from two well-known approaches in economics: the Transaction Cost Economics and the French Theory of Conventions. In conclusion, we show that these two networks are complementary. Thus, skiing resort can no longer be seen as autonomous organizations with spatial boundaries. Their boundaries are extended to the contractual or conventional arrangements which characterize the new winter sports industrial organization.

Key words: inter-firm network, industrial organization, firm boundary, organizational design, winter sports industry

1 Introduction

The objective of this paper is to build a model of inter-firm network in the case of winter sports industry. More precisely, we discuss the problem of skiing resort boundaries and the nature of the inter-firms arrangements to produce the final product (ie. Spending holidays in a mountain resort). We try to explore a certain paradox in economic research applied to the winter sports industry.

On the one hand, Industrial Economic models dedicated to the analysis of industries structures consider a skiing resort as a simple “technical or technological” stage of the global value added chain. Serious well-known criticisms can be addressed to these models: organizational dynamic between firms is ignored, the vertical dimension of arrangements is overestimated [14], and boundaries of industries are designed with institutional conventions which are not consistent with firms’ core activities [47]. On the other hand, researchers in the field of local development discuss the question of the nature of “internal” boundaries of the skiing resort focusing on the exclusive impact of spatial or non economic dimensions [36]. Skiing resorts are not placed in their strategic environment which can impact their final performance (2).

We attempt to reconcile these two viewpoints showing that relevant boundaries of skiing resort must be defined in an extended way, not limited to structural determinants or spatial proximities. We explore a network model to capture the skiing resort as an organizational form extended to a cluster of independent firms, vertically linked, which contribute to the same final product. Our construction mobilizes two theoretical conceptions of inter-firm network. The first one is the transaction costs tradition which considers the network as a hybrid form without a proper existence. The second one is the French theory of conventions yielding another vision of inter-firm network as a collective and non contractual governance structure. With these two conceptions, we construct two business network archetypes (3).

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The empirical methodology is qualitative and based on interviews with 10 top managers of winter sports industry firms (from all levels of the value added chain of the final product). The first objective is to confront empirically the two business network archetypes. A first series of variables captures the nature of networks in the winter sports industry. A second series of variables describes the structure of business networks through five central dimensions (formalization, density, intensity, centrality and stability). A second objective is to test the complementarity or the substitutability of the identified networks (4 and 5).

In conclusion, the main issue under discussion is the nature of skiing resorts and business networks boundaries. Can we continue to consider skiing resorts as autonomous organizations with spatial boundaries or can we extend skiing resorts boundaries to contractual or conventional dimensions? (6)

2 The winter sports industry: structure and organizational dynamics

What is at stake here is to describe the winter sports industry and its evolutions in the last ten years. It stresses the new nature of inter-firms relations that limit the significance of the classical patterns of industrial economics (2.1). Indeed, it is regrettable that these models cannot really grasp new economic processes like industrial concentration, networking, and power reversals in the added value chain (2.2). A more specific point relates to the representation of the skiing resort as the sphere of valorisation of the final product (ie. Spending holidays in a mountain resort). It is at this level that these models are simplistic to explain organizational dynamics. They apprehend the skiing resort only through its internal coordinations. Skiing resorts and territories boundaries are alike, ignoring upstream and external actors which contribute directly to the production of the final product (2.3).

2.1 The reconfiguration of winter sport industry: industrial concentration and new patterns of cooperation

The production of the final product (spending holidays in mountain resorts) requires a specific organization to match with two types of consumption. One is dedicated to the set of skiing equipment (textiles, shoes, skis or other tools, accessories...). The other concerns the practices in mountain resorts. The winter sports industry splits up into two value chains. The first focuses on the set of equipment. The other produces an engineered provisions of services less or more capitalistic that go from the valorisation of private investments to social economy.

Figure 1 gives us a streamlined representation of the production of the final product. We make a distinction between the upstream agents which are out of mountain resorts and the local agents embedded in mountain resorts territories.

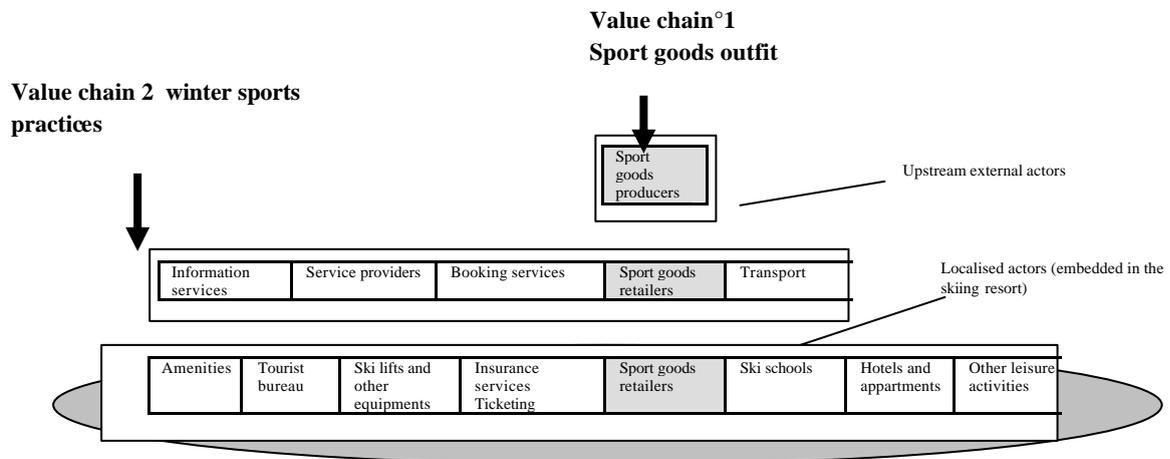


Fig.1. Streamlined representation: the industrial organization of the production of winter sport holidays

These two value chains are currently undergoing major changes through the impact of new constraints such as Information Technology diffusion, the evolution of consumers' needs, new competitive pressures, the globalization of markets. *“It is undeniably true that a comparison can be drawn between this industry and the food industry ten years ago² »*. This shows how the new industrial dynamics make a break with the previous path. More precisely, three main elements can explain such an evolution. First, it would be pointless to deny the impact of the new production model based on competencies to face consumer requirements. Second, the uncertainty and the cognitive complexity of the external environment lead to new patterns of coordination between firms to guarantee a better reactivity and flexibility. Finally, the pressure of shareholders constrains firms to rationalize and focus on their core competencies (outsourcing non valuable activities). It results in new firms' strategies valorising internal capabilities and taking advantage of synergy effects with external partners in order to create global answers for consumers.

2.1.1 The value chain 1: Sports goods outfit

The intensification of the concentration process is a main characteristic of this value chain. Seasonality constraints reinforce this process. The downstream stage was the first concerned with this phenomenon. Consumers become actors. They are more autonomous, more responsible but also more capricious, looking for a dedicated offer. These new requirements are supported by the acceleration of the Information Technology diffusion which guarantees easily accessible and less anonymous choice solutions³. Retailers take advantage of this new trend extending their offer to new products and services (packages). To achieve this, most retailers have engaged long-term relations with external partners to assume complementary investments or proceeded in fusions and mergers operations. These strategies resulted in the reduction of information asymmetries for consumers.

In response to this concentration process, the upstream producers engaged equivalent strategies. They centred upon propriety and designed new firm boundaries. To take an example: just consider, by way of illustration, the recent mergers of Rossignol by Quickquilver or Salomon by Amer. This shows us the firms' strategic intent to gain winter markets and internalize core competencies to cope with unstable and innovative markets. These operations of external growth also illustrate the firms' ambition to set out to conquer a lost monopoly market power.⁴ ». Reaching a “rank optimum”, relations between producers and retailers seem to be on equal terms in a context of “coopetition”. But, in reality, there is no evidence to support this fact. Certain producers declare: *“they're holding a gun to my head”*,⁵ ». They do not have solutions to « negotiate » with powerful retailers. Other producers disagree with this opinion and tell us they have a real autonomy and relations based on equal terms with retailers. It is not surprising if we consider their ability to create their own franchise network such as Salomon, Rip' Curl, Oxbow, ...).

2.2.2 The value chain 2: winter sports practices

The value chain n°2 changes in the same way under the Information Technology impact and the evolution of consumption standards. Tours Operators perceived the opportunities and have developed on line all inclusive offers. This product innovation has contributed to the emergence of new partnerships between agents of the value chain. The most striking example of cooperation concerned tours operators with ski lift companies on the one hand, and tour operators with sport goods retailers on the other hand. Some retailers blame firms for doing this. For instance, a top manager of the largest French retailing company declares *« Our major competitor sells 50 to Tour Operators instead of 100 to the consumer. We prefer to sell 80 to the final consumer and stay independent⁶ »*. In his view, the

² According to a top manager of a large sport goods retail company.

³ For more details about the impact of Internet upon tourism markets, see [28]

⁴ The sport goods producers suffer from a stiff competition of large retail companies which develop their own brand.

⁵ According to a sport goods producer

⁶ This strategy is possible because the retailer adopted a e-commerce network (via a market place)

presence of Tour Operators as central agents in the whole system regulation produces a destructive competition and domination effect.

By opposition, firms agree with the fact they have more action of freedom in the *business to consumer segment* (B2C) Indeed, when they can sell directly, the system is not the same. An important aspect is to gain the final consumer and improve the global attractiveness of the skiing resort. Despite the high degree of rivalry between mountain resorts and the pressure of substitutes, actors play a cooperative game. Some relations of cooperation (more or less formalized) can be concluded to create new productive solutions and valorise the final products. The partnerships dedicated to the production of events in mountain resorts are good examples. These relations can engage firms embedded in a same territory or can be extended to external firms. Let us consider, for instance, the arrangement between a snow-grooming machine producer and a famous brand of street and surf wear to organize “free style” exhibitions in mountain resorts. The long-term contractual arrangement between the world leader of ski set equipment and a car constructor to create their own world tour gives us another example. These formal or tacit agreements can require a large scope of actors (private firms but also local or professional institutions). Multilateral relations between firms and institutions are set up to pursue a common objective (image and reputation). They share a common interest: to improve the notoriety, the image and the reputation of products brands and territories labels.

2.1.3 The winter sports industry

From all this, two evolutions characterize the reconfiguration of the winter sports industry. The first one is the intensification of the concentration process at all stages of the global added value chain. The consequence is more competition at each stage.⁷ The second one is the emergence of new patterns of cooperation between the two value chains at different stages which result in the creation of new business (i.e : events), products and services (i.e: packages). This reconfiguration means a new industrial organization which contributes to reduce costs and information asymmetries under reinforced competitive pressure. At the same time, this industrial organization contributes to improve firms’ competencies and their ability to innovate. It is clear that the whole industrial dynamic acts on firms and industrial organization boundaries

The empirical literature mobilizes two theoretical traditions to describe the productive system. On the one hand, the approach in terms of value chain is able to describe the structure and in some aspects, the dynamic of the production process in the case of well identified activities (as regards accounting). On the other hand, the approach in terms of local governance focuses on spatial dynamics of the local system. Even if there is a fundamental difference between these two approaches because they do not deal with the same object, they ask the same question: “What are the key factors of success of a (local or industrial) tourism system? We can conclude that research dedicated to the local tourism system gives a vision of the value chain as « *an endogenous mechanism which can produce a self development process* » [32, p. 258].

2.2 The winter sports industry as value chain model : pros and cons

The value chain models are unable to explain the evolutions just described above. Theoretically, the value chain is seen as an organizational sequency which, starting from raw materials, adds value through different stages of transformation, transport, storage, availability to end in the final output. This techno-economic viewpoint is largely used in empirical studies applied to tourism systems. The industrial organization is reduced to a simple summation of activities, which results itself in an aggregation of firms producing the same output. It describes statically the way the final market influences the production processes. In other terms, the structure of the value chain is determined by

⁷ For instance, the brand manager of a famous sport goods producer says that « *the market is very competitive. Barriers to entry, especially technological ones are very low. There are more and more products on the market. The competitive advantage is only based on marketing competencies* ».

three key dimensions: the nature of the market, the nature of the final product and the nature of the technology. In dynamics, the evolution of the value chain is a function of some element or other of these key dimensions which in turn will affect the whole system. This deterministic vision is largely criticized because it cannot explain the tourism business reality. A first critic deals with the boundaries of the observed system: “*Things are never so simple*” [32, p.251]. Flows can concern different businesses, a diversity of technologies and know how. This raises the problem of the definition of the value chain. In fact, this definition depends on the availability of data which delimitates the production system in a public finance way standing very far from the firms’ strategic activities [47]. Most often, this accounting definition locks in firms into false activities and ignores inter-firms relations outside the initial perimeter. In empirical studies, this definition defies credibility because it dams up the two value chains which should be highly connected. This is only one part of the criticism; added to this the inter-firm relations are only seen vertically and chronologically. Horizontal flows are ignored [14]. Moreover, inter-firm relations are seen as buying and selling interactions. No attention is given to specific arrangements which do play an important role in the dynamics of the tourism system. Finally, the organizational density is ignored. Firms are seen as black boxes, as places of technical operations whose main objective is to transform input into output. Nothing is said about “how it is produced in the added value chain”. Actually, these operations need a set of more or less hierarchical organizations. They require specific procedures and routines, different governance structures such as markets, institutions, firms and cooperation. They also need an information system to coordinate the whole system and valorise each semi product with market or transfer prices to produce the final output. The coordination of activities is an essential question. To tackle this point, we must overcome this deterministic vision which ignores the organizational dimension of coordination. It is more accurate to adopt a conception in terms of industrial organization. This suggests that the study of inter-firm relations is more important than the study of micro-economic agents themselves, interacting in a given market structure. The relations that firms built together become the main issue.

2.3 The skiing resort as a governance model: pros and cons

After studying the deterministic vision of value chain models, let us consider now another meso-economic approach that cannot be neglected here because of its importance in the field of tourism. We refer to the local governance models following on from localised industrial system models. In these approaches, the territory is seen as an actor. The final product is no longer the link between firms; instead, the local dimension becomes the nexus of integrated actions. The most important thing is to observe the quality of coordination between actors embedded in a same territory. This representation emphasizes the collective dimension of coordination.

The local governance viewpoint considers the economic system as a spatial one. Applied to the winter sports industry, it is the mountain resort as the final sphere of valorisation of the product which is observed. The mountain resort is a localised system in which private and public agents can interact. [3],[12]. According to this conception, the productive organization regulates the system. The production requires non-market coordination mechanisms such as trust, reciprocity, power, social conventions, ... [42], [43]. Hence, this concept of the governance supposes intermediary modes of regulation, not etatic neither market value, which reconcile private and public interests, economic and social aspects [4]. The empirical studies look at the skiing resort as a set of four central dimensions: the skiing resort is seen as a place where (1) private and public actors can interfere, (2) where most importance is given to intentions and coordination of embedded actors, (3) where the patterns of coordination are complex (ie : vertical as well as horizontal coordination, formal and informal agreements, cognitive learning process and power), (4) where the skiing resort has a collective identity.

From all this, it follows that the competitive advantage of the localised system is based on the quality of its embedded coordination. In that sense, it is richer than the technico-economic approach. First, horizontal inter-firm relations are explicitly taken into account. Second, we are able to discuss the nature of inter-firm relations as well as their mechanism of regulation. Finally, it tackles the problem of coordination between public and private actors. Nevertheless, serious limits originate from the overestimation of the spatial determinants in the whole economic dynamics. It is the icon of the territory as an actor which is the building block of a general model of coordination rather than as special kind of network. Yet, competitive advantage and innovation process do not come only from

territorial patterns of coordination. There are other well-known efficient means of coordination such as organizational network, cooperation, trust ...which are not necessarily embedded.

To sum up, the local approach improves the industrial conception because it considers the value chain through an endogenous mechanism which builds up its competitive advantage. Yet, the spatial proximities are largely overestimated and we cannot consider the territorial network of actors as an independent organization. It is most important not to reduce the industrial reality into an ad hoc representation with fixed spatial boundaries.

2.4 The industrial organization and the skiing resort: an interaction model

Although the two approaches that have been discussed before are not close (cf. Table 1), they both do not explain the boundaries between the firms and their industrial organisation. These boundaries are confined to given deterministic conditions. An alternative may be to develop an industrial organization approach [37], [38]. The tourism system can be seen as a set of activities which need to be coordinated according to different patterns. At each step, the question of the choice of the coordination arises. The answer is different depending on the time, the place, and the stage of production. Thus, there are no given structures here. Therefore it is important to have a new theoretical framework to explain inter-firms coordination modes without pinpointing at first any coordination mechanisms. It is quite certain that the network concept can be the building block of this alternative paradigm

Table 1. Value chain model versus local governance model

	Value chain model	Local governance model
Main issue	Product focus	Spatial focus
Unity of analysis	Transaction	Rules
Coordination mechanisms	Transfer and market prices	Any kind of mechanism, especially non market mechanism
Industrial organization boundaries	Confined to the product/market/technology constraints	Confined to the territory
Nature of the industrial organization	Firm aggregation in a given market structure	Collective body in a given territory
Main limits	Organizational dimension of coordination is ignored	Organizational dimension of coordination limited to spatial area.

3 The inter-firm network: a new industrial organization?

The concept of network is particularly adapted to the winter sports industry. The final output is the collective result of complex pattern of market or non market relations between a large variety of actors. These relations are far beyond spatial or accounting representations. The concept of network stresses the importance of coordination between firms rather firms themselves. In the theory of the firm, it suggests «*to leave aside the image of the autonomous firm confronted with its environment for the image of a firm connected with its environment*» [7, p.8]. Nevertheless, this move from intra- towards inter-organization does not produce a unified framework (3.1). Obviously, there is a sharp split between the transactional approach and the approach in terms of industrial organization. On the one hand, the transactional cost economics considers these «*grey areas*» as a simple continuum between market and hierarchy [10], [51]. On the other hand, the French theory of conventions sees in these «*grey areas*» specific governance structures [39],[38],[20] (3.2).

3.1 The network concept to analyse the industrial organization

In the theoretical literature, the network concept is a fuzzy and ambiguous one. On the one hand, the transactional approach extends the coordination phenomenon to internal organization while holding tight the optimization hypothesis. It results in a radical change in the unit of analysis: “*the transaction rather than the firm or the market*” [55, p.13]. This move permits the analysis of intermediate forms of coordination. The inter-firm network is not a distinctive form compared to market or hierarchy. It is a hybrid arrangement whose main object is efficiency (cost minimization). The main issue is to give autonomy to the theory of the firm recognizing an alternative to the firm/market dichotomy.

On the other hand, the industrial organization approach builds up a real theory of inter-firms relations [37]. It overcomes the limits of transactional cost economics: the hybrid forms becoming specific objects of study where we can clearly find relations of “coopetition. This conception necessitates a hypothesis of complex rationality: the procedural rationality⁸ [39], [40] while asserting the reference to internal coordination.

These two concepts of network highlight a wide gap on epistemological, methodological and theoretical grounds. We aim here to confront these two conceptions with the winter sports industry in order to describe the real nature of coordination and the structure of business networks. In this way, we evaluate the significance of the two theories (a priori rivals) within a unified framework. Therefore, we consider the network as «*a plain tool able to analyze the emergence and the dynamics of basic institutional forms in the economy, from partnerships more or less explicit to market structures*” [11].

3.2 The theories of inter-firm network: Transaction Cost Economics versus the French Theory of Conventions.

We conduct a theoretical survey on Transaction Cost Economics and the French theory of conventions to answer this question: “what is the nature of inter-firm network?” This aims to elaborate a grid reference to capture two archetypes of networks which follow on from these theories.

3.2.1 Transaction Cost Economics: the continuum thesis

The methodological posture of Transaction Cost Economics is of a strict individualism (i.e. complete rationality and imperfect information). That is why, hybrid forms are not distinctive objects compared to market or hierarchy. This is the continuum thesis [1].

Williamson sees the network as a hybrid organizational form consistent with specific assets that are by no means insignificant. It is an efficient governance structure because it maintains market incentives while bureaucratic distortions are avoided (cost minimization). The inter-firm network is considered as a trade system able to plan or react like an integrated firm whose internal efficacy could be compared to market mechanisms [50]. For the author, the market and the hybrid form are two alternative modes of governance. The choice does not depend on the nature of attributes but on their degree. The fact of the matter is that the network is not a proper object. From the introduction of the hybrid firm, it follows on that the initial dichotomy between firm (labour relation) and market (trade relation) becomes fuzzy. There would be only contractual arrangements (firm, market and network) in competition. In this continuum thesis, the concept of network is defined by default: no market, nor hierarchy. Williamson does recognize that the network is an unstable form per se and will move towards hierarchy or market according to the level of transaction specificity.

In this tradition, the network is a strict cooperative game. The players who have concluded contractual and explicit arrangements are part of the network. These cooperative contracts are made to constrain

⁸ This concept is the generic one. It has been keenly studied and qualified (i.e. situated rationality, interpretative rationality, ...)

the parties to respect the commitment made ex ante. Yet, these contracts are still incomplete contracts and they do not prevent from opportunistic behaviour. In the case of significant specific assets, their internalization can only lessen that kind of risk (propriety of assets). There appears to be “*an overestimation of positive effects ensuing from propriety and an underestimation of positive effects ensuing from contracts taken outside the hierarchy*»[1].

According to that conception, the network has no organizational density. Each contract is studied separately. The collective dimension is erased by a series of contractual arrangements between individual firms endowed unbounded rationality. There is no explicit hierarchy between the co-contractors, or any kind of power. If power can exist in the model, it is confined inside the firm via the propriety of specific assets.

Many researchers have criticized this continuum thesis. They put forward another conception we will name «the integrated organization» [22], [34]. In their sense, the inter-firm network must show “*an explicit hierarchy along with its supervision apparatus, subordination levels between firms and a central mode of regulation for strategic orientation*»[22, p.39]. The basis of integration is no longer the propriety of assets. Fréry states that three modes of integration give power to a central firm over the other partners of the network: (1) media integration coming from brand power that ensures partner loyalty, (2) logistic integration built on Information Technologies to control partners remotely, (3) cultural integration based on reciprocity and social conventions to cement non market relations between partners.

Thus, Fréry shows that firm boundaries are not always designed by propriety rights. In many situations, other « critical resources » [34] extend these firm boundaries to those of the network.

3.2.2 The French theory of convention: the specificity thesis

The French Theory of Conventions is very different from Transaction Cost Economics based on a hypothesis of complex rationality. This hypothesis introduces two kinds of uncertainty: (1) an external uncertainty because firms do not know the entire list of the possible outcomes and do not anticipate the consequences of their action; (2) an internal uncertainty which hinders firms from obtaining an optimal result. This dual uncertainty implies to look differently at inter-firms coordination. As the matter of fact, the contract is no longer sufficient in itself because all the contracts are incomplete contracts. We need other kinds of rules (conventions) different from contractual rules or constraints. These new rules are not intentional (as the contracts are), nor completely unintentional (as the constraints are). Firms create these rules by interacting but they do not hold these created rules. These rules become a frame of constraints outside the firms. The stabilisation of these rules is possible because the firms have forgotten the particular reasons why they created these conventions.

The importance of rules to coordinate firms' behaviour results in the inversion of the role of the market: as long as contracts are incomplete, effective inter-firms relations are based on social forms that are outside the market. These social forms are collective knowledge which are crystallized in specific rules (no contracts, nor constraints)[20]. According to Favereau, it is possible to describe situations where an organization has to learn if we build a proper theory of rules and define the organization as an internal market [20].

Favereau defines rules as collective mechanisms (conventions) which capture the knowledge and permits firms to solve problems with the sole necessary and sufficient condition: to master the rules' vademecum. Thus, conventions are knowledge economies: firms have to know “how to do things?” and are dispensed from knowing “Why do things?”

Organization and market are opened to each other. Eymard-Duvernay [16] illustrates this aspect showing the importance of product in the interaction between these two areas. As soon as the hypothesis of product homogeneity is dropped, quality is no longer an objective reality. On the contrary, it becomes a specific construction because « *the transaction can be on a service, and be done by personal relationships without explicit media like rules or tools*” [16, p. 240]. Some tools, some “forms” ensuring « *product qualification* » are necessary to regulate the relations between seller and buyer. Thus, firms create conventions of quality to obtain the expected result. This qualification is

based upon a variety of management criteria according to the nature of the product. In other words, there is no one best way to manage the inter-firm coordination problem. Basically, the inter-firm network is a very adapted form to manage with uncertainty: firms share a common vision of problems and solutions. “The achievement of the product and the profitability of firms are at the same time the motive to cooperate and the hazardous outcome depending on complex coordination patterns » [46, p. 64].

In the French Theory of Conventions, the firm acts in the production sphere rather than in the transaction one. The objective is to pass the test of selling the final collective product. This success rests on specific investments in rules which guarantee the coordination between firms. The firm is no longer seen as a mere function of production which only combines production factors and contractual arrangements. The firm must develop a collective learning process based on complex interactions between firms. This learning process is essential for creating stabilized rules to attain the objective. What is at stake here are firms’ capabilities to manage the collective coordination. The success on the market relies basically on the quality of this coordination [16].

Hence, the networking of firms depends on the resources complementarity and no longer upon transaction attributes. The inter-firm network is firstly, a place of coordination between heterogeneous actors and secondly, a place of on-going learning process to create new collective competencies. The collective body is not given but constructed by rules. These rules can be elaborated by different means (resources, experience,) [24],[21].

After this short survey, two clear cut conceptions of inter-firm network (see, Table 2)

Table 2. The two theoretical conceptions of inter-firm network

Dimensions	Transaction Cost Economics	The French Theory of Conventions
Objective of inter-firm network	Efficiency (transaction sphere): To reduce the transaction and production costs, to manage information asymmetries (informational coordination)	Learning process (production sphere) To create new competencies, new solutions in a context of radical uncertainty, quality oriented coordination (cognitive coordination)
Nature of inter-firm network	Hybrid form between market and hierarchy (no self identity)	Collective and autonomous governance structure (self identity)
Regulation mechanism	Contracts between firms (cooperation)	Conventions between firms (cooperation and/or competition)
Structure of inter-firm network	Network of bilateral contractual arrangements	Network of multilateral conventional arrangements
Production/coordination	Dichotomy	Interdependence

4 Methodological framework

We aim to operationalize the two theoretical models on the grounds of the network structure. We want here to specify as far as possible the architecture of these networks. We refer first to the relations that exist between the firms belonging to the networks. Second, we observe the consequences of these inter-firms relations upon the structure of the networks. The five dimensions investigated are largely found in the empirical literature dedicated to business networks [48]. Two archetypes of inter-firm network can be derived from these dimensions (4.1). In relation to these two archetypes, testable propositions will be formulated (4.2).

4.1 Empirical model: the two archetypes of inter-firm network

A first dimension is how inter-firm networks are regulated. They may be regulated by deterministic forces (structural or spatial dimensions) as suggested by meso-economic models (i.e 2.2 and 23.) Networks also regulate internal relations between their members through explicit agreements (formal contracts) that define rights and obligations between specific parties (Transaction Cost Economics). The conventionalist tradition considers other mechanisms such as conventions and ties embedded in deeper social relations between members.

A second dimension concerns the number and complexity of relations that are considered in the network. The focus of analysis may range from relations between a small number of members as is found in Transaction Cost Economics (bilateral dimension), to complex patterns of relations creating a collective body (Economics of Conventions)

A third dimension is about how important the network is to its members. In Transaction Costs Economics, firms may have committed substantial resources to the network they cannot really use for alternative purposes (significant specificity). According to conventionalist models, firms cannot survive alone in a context of radical uncertainty. Moreover, the final product may require some resources controlled by other firms (complementarity).

A fourth dimension is about the way that power is distributed through the network. In Transaction Cost Economics, this notion is absent. There is no relation of subordination between the parties. But, we can argue that a central firm is necessary to coordinate separated transactions in the absence of a collective body. The power of the central firm is not unilateral but depends on the degree of specialization of members with regard to the central firm's assets. For the "*integrated organization*" thesis (Baudry, 2004), the point of view is quite different. The network power of some firms is real and not limited to propriety rights on specific assets. Power depends on critical resources such as ideas, good relationships with customers, new machines, management tools... From the conventionalist perspective, no particular member is central to the network. On the basis of common rules, members can create a central body to share the decisions, manage common resources, facilitate information flows and create new products and process. This does not suggest that conflicts are absent between members. But each firm can participate to the evolution of the collective rules and processes.

The fifth dimension is about the stability of networks. The exchange perspective suggests that network is an efficient arrangement to reduce information asymmetries. In dynamics, the stability of the network is not guaranteed. "*As far as the level of specificity varies, so does the nature of contractual arrangement* ». The overestimation of opportunism implies the instability of the network. By opposition, the production perspective considers the network as a means to create new competencies and increase the predictability of the external environment. The collective dimension based on conventions, confidence, social and cultural embeddedness contribute to enforce the stability of the network.

From this short review, two archetypes of inter-firm network emerge. The first type supports the contractual perspective (efficiency). In this network, there is a central firm which coordinates the different parts of the final product. We will call this archetype "*the star network*". The second one illustrates the conventional perspective. In this network, firms pursue common and complementarity goals. The coordination does not appeal to centralized mechanisms. It is based on common and collective well-accepted rules. We will call this second archetype the "*community network*".

Table 3. The two network archetypes (Adapted from de [48])

Objectives of inter-firm network									
Contractual perspective					Conventional perspective				
Efficiency: To reduce costs and information asymmetries					Learning : To create new collective competencies				
Organizational design of inter-firm networks									
Formalization High level (contracts)	Density Low density (bilateral relations)	Intensity Moderate to high intensity (informational cooperation)	Centrality High centrality (Central firm)	Stability Low stability (opportunism)	Formalization Low level (conventions)	Density High density (complex patterns of relations)	Intensity High intensity (cognitive cooperation)	Centrality Low centrality (collective body)	Stability High stability (confidence)
Archetypes of inter-firm networks									
Star network					Community network				

4.2 Testable propositions

First at all, we have formulated the idea of explaining the emergence and the nature of inter-firm networks in the winter sports industry. To set up this question on solid grounds, we explored four theoretical approaches.

The first two deterministic approaches we have explored at the beginning of this paper do not give a model of inter-firm network. Yet, they explain the emergence of inter-firms relations in a productive system (industrial or spatial). The determinants of networking are exogeneous. They are taken into account in our empirical model as control variables (i.e. Appendix A2).

In that perspective, we can formulate a first proposition related to the emergence of inter-firm network in the winter sports industry:

P1 – The inter-firm network's boundaries in the winter sports industry are not confined to territories or the firms' core business. The inter-firm network boundaries are defined by contractual or conventional strategic arrangements.

The last two theories helped us to design two types of inter-firm networks (star network and community network). These archetypes are different according to their objective (efficiency versus learning) and their structure (formalization, density, intensity, centrality and stability). To explore these models empirically, we can formulate the following propositions:

P2. In the winter sports industry, the two types of inter-firm networks can coexist: the star network is a guarantee for temporary mechanisms of adjustment. The community network is for long-term arrangements and allows the firms to create new capabilities and competencies to manage with uncertainty.

P3. In the winter sports industry, the two types of inter-firm networks are complementary. The community network may be the link between firms belonging to the value chain and the firms belonging to the territory (skiing resort). This network is the area where they can discuss and interpret common values and rules.

4.2 Exploratory data collection

We used a qualitative method to collect data from the actors of the winter sports industry. An interview grid was especially designed for this purpose. This methodology is in conformity with our exploratory step which aims to qualify logics and forms of coordination between the actors⁹.

We selected the firms' leaders of the two value chains. The interviews of the top managers of these firms were conducted from April 14th 2005 to July 1st 2005. Each stage of production is represented (suppliers, producers, retailers). Ten top managers were interviewed (Cf. Appendix n°1). The firms they manage act in very concentrated market configurations. In each market, the main actors are generally less than seven. The requirement for confidentiality imposed by the various respondents does not allow us to communicate individual data. Each interview lasted on average three hours and was conducted by two researchers. The retranscription of the talks has been validated by each respondent. The check of the communicated data was carried out in a documentary way as well as with a posteriori cross validation with other interviewees.

Data were processed through two techniques: (1) post-coding the textual data with the assistance of each interviewee, (2) use of a « verbatim » data processor with the Sphinx Lexica software.

5 Main results

5.1 The inter-firm networks: validity of a territorial or industrial activity division (P1) ?

Figure 2 below describes the relations between upstream and downstream actors according to the nature of the final product (spending holidays in a skiing resort). We note the coexistence of two inter-firm networks that are a priori distinct.

These two inter-firm networks share a common point: they federate heterogeneous firms from the point of view of their principal activity and their position in the industry. Yet, these relations relate indifferently to firms belonging to the two value chains at any stage of the industry. This first observation confirms the limits of the classical industrial models. The final product cannot be confined to a branch of activity (within the meaning of accounting methods). It is a complex product, combination of separated elements, pre-assembled sets of services (lodging, leisure, sports practices ...) sold contractually. This concept of assembling and regrouping is at the core of network activities.

The difference between these two inter-firm networks can be appreciated in terms of the nature of the actors. One network included the intermediate actors who usually sell a total service such as Tours Operators. The reference product here is a Business to Consumer product (B2C). It is the tourist himself who carries out the task of researching and for assembling, by establishing direct relations with the service providers or the product retailers. This "actorconsumer" may use Information Technologies (i.e. market places) to guide his choice or use more traditional information systems.

By opposition, stand in the centre of the second network the Tour Operators. They are major providers of all inclusive offers. They are in charge of combining and booking any elements of the final product (lodging, ski lifts, ski packages ...) and sell it under particular price conditions.

The role of the skiing resort is very different according to these two networks. In network 1 (B2C), the firms are totally anchored in a territory. The tourist chooses first his destination, the skiing resort. When on the spot, he will choose all the services to put together his holidays. The embedded producers will organize themselves to increase the final products value. From that point of view, "*the coordination of the activities on the spot is the fundamental element. It leads to privilege the analysis of the actors and their interaction rather than that of the product*" [28, p. 73]. The emphasis is put on

⁹ We have studied the network from the final product point of view (tourist stay). This methodology is well adapted to analyse the relation patterns between the members and their ongoing behaviour.

the organizational complementarity and the interdependence between actors sharing the responsibility to manage flows of tourists.

On the contrary, in network 2 (B2B), the actors acknowledge the a-spatialization. Their role is to ensure the production and the marketing of the whole bundle of destinations in competition. Insofar as the final product is all inclusive, the local actors have little role to play. Their room for manoeuvre, as we will see, is very small.

The place of the skiing resort differs according to the type of the product. This second observation puts at fault the territorial approaches of the tourism system. Indeed, the territory cannot be apprehended independently of the upstream actors even if they work to extract themselves from any territorial anchoring (B2B).

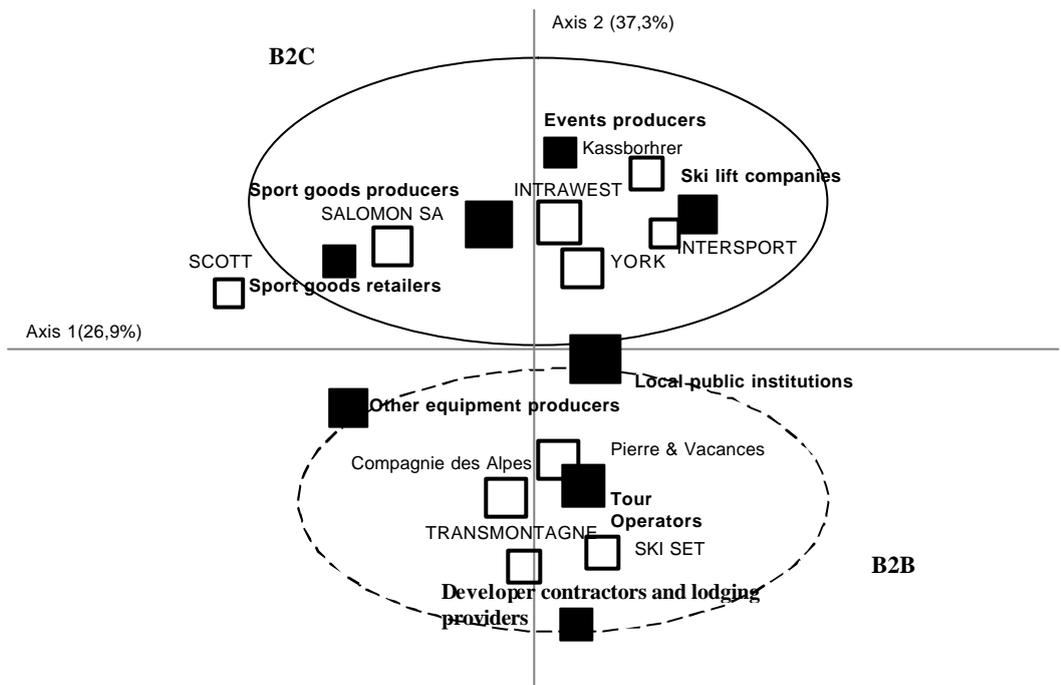


Fig. 2. The two inter-firm networks and their members

5.2 The objective of the two inter-firm networks: contractual or/and conventional perspectives?

According to the objective acknowledged by the managers, “to pursue common goals” and “to preserve a reputation”, we can assess that network B2C looks coherent with the conventionalist perspective. For us, the collective dimension is fundamental as one of the managers declares “*we feel very close to all skiing resorts in every country. Skiing resorts try to capture the tourists; we try to equip the tourists with our outfit. There is a community of interest. On this market, it is the brand power which defines the competitive position*». This dynamic is facilitated by a low competitive pressure insofar as the consumer has already chosen his destination. The objective is to offer on the spot services and products of high quality to increase the tourists’ consumption and gain their loyalty.

The common critical resource of the firms in the network is the image of the skiing resort. The valorisation of this image is due to the organizational complementarity between all actors. Thus, some key actors such as events producers, sport goods producers and retailers contribute directly to increase the value of the final product by means of events, for instance. The firms in network 1 (B2C) show clearly a logic of complementarity and collective learning to create new productive solutions to provide an unsegmented and specific offer (One to One offer)

The internal mode of regulation of the network is mainly based on non contractual devices such as the feeling of belonging to the same community, common rules of behaviour, shared representations and conventions (see Appendix A3). Relations are essentially informal and based on confidence. However

there is one exception: the relations between the sport goods producers and the retailers are made on contractual arrangements. These arrangements are most often negotiated by central merchandisers living few rooms for manoeuvre to the local retailers.

Network 2 (B2B) works on another kind of logic (see Appendix A4). The all inclusive formula is the result of a cooperation aiming at the optimization of the occupancy rate and the short-term profitability of the skiing resort. « *It is a comprehensive insurance against the risk of a bad weather forecast*¹⁰ ». The task of the actors in the network is to sell an all inclusive service at a fair price. The attractiveness of the skiing resort rests on its capacity to propose the best quality/price ratio.

The pressure exerted by the Tour Operator is strong and their capacity to negotiate their commission is illustrative of that aspect. This type of network excludes a priori some non significant actors or those who refuse to integrate this type of product (ie Intersport). The division of the quasi-rent takes place primarily between two types of large firms. On the one hand, there are Tour Operators who hold the critical resource of access to the market. On the other hand, there are lodging providers and ski lift companies who have the localised specific assets. The posted objective is to minimize the costs and optimize the result.

This objective is sustained by formal and explicit contracts between the Tour operator and the ski lift companies, contracts renegotiated each year. Market incentives are still present. They prevent from opportunistic behaviour. This dynamics is consistent with the transactional description. Yet we can notice that lodging providers and developer contractors regulate their relations with Tour Operators and ski lift companies on contractual mechanism (ie. confidence). This is not surprising insofar as some ski lift companies or Tour Operators are themselves in charge of providing the lodgings or developing the skiing-resort (ie. IntraWest, Transmontagne).

5.3 Coexistence and/or complementarity of the two inter-firm networks ? (P2)

Let us describe the two inter-firm networks according to the five dimensions of our empirical models. The post-coding operated on the 5 variables: formalization, density, intensity, centrality and stability of the network, leads to the following results (see, Table 4 below):

Table 4. Architecture des réseaux inter-firmes dans l'industrie du séjour touristique

Organizational design of inter-firm networks									
B2C network					B2B network				
Formalization	Density	Intensity	Centrality	Stability	Formalization	Density	Intensity	Centrality	Stability
-	+	+	-	+	+	-	+	=	=

Network 1 (B2C) is composed of a large number of heterogeneous actors, linked on the basis of complex patterns of cooperation going “*from daily break at the coffee-shop to the annual meeting of the tourist bureau*”. Some managers acknowledge concluding new partnership by a simple handshake. The social, cultural, spatial and organizational proximities contribute to a climate of confidence between actors who do not require a priori formal arrangements whatever the nature of investment. The exercise of formalization would be of unproductive nature and would mark on the contrary a climate of suspicion and control.

The actors consider the intensity of the relation to be strong. They easily conceive strategic dimensions associated with the objective “*to do better together*”. The mutual interest is well understood and the prospect of increasing the quality of the final product collectively forms part of their concerns. Their perception of their own contribution to the output gives them a fair representation of the quasi-rent division. Coordination between the actors is made complex because of a multitude of interaction in time and space. There does not exist a priori a central firm whose object would be to organize the collective production on the spot. However, two significant actors appear. These actors are the ski lift companies and the tourist bureau. The former plays a part in the diffusion of information towards the other actors to create the basis of a common representation or a “strategic vision for the future”. They put at the disposal of the local actors, each year, their marketing and economic information system so

¹⁰ According to the top manager of a ski lift company

as to create a learning process. It is important however that the ski lift companies do not impose their own vision and individual objective going against any collective dynamics. From this point of view the tourist bureau has the responsibility to organise the network by setting up governance committees open to the whole set of producers, including the non localised producers. The meetings are held out according to variable reasons and rhythms. They are not subject to a formal instrumentation. The stability of network B2C is real and enforced by the small number of new entrants and the proximities between actors: “every one knows everyone; it is a small milieu!¹¹ “.

Network 2 (B2B) differs from the expected results on the basis of two dimensions (centrality and stability) which lead to partially amend the theory of Transaction Cost Economics. Regarding formalization, density and intensity, our results are coherent. Relations between actors are generally bilateral and rest on the couples of Tours Operators/Ski lift companies and lodging providers/Tour Operators. These relations are controlled by formal contracts in which all the characteristics of the transactions are negotiated. Some contracts comprise specific clauses (exclusiveness) to fight against opportunism. The relations between contracting firms can be conflictual. However, the impact of Internet is real and gives ski lift companies' power over Tour Operators. The result is more balanced relations insofar as some ski lift companies operate a large bundle of skiing resorts. The strategic value associated to this B2B network is essential for the skiing resorts because it ensures interesting outlets (China, Central Europe, Eastern countries). Some ski lift companies seek to gain power over Tour Operators by developing their own tour operating activity (i.e Transmontagne). The evolution of this type of network may result in an exacerbation of the competition generating new fears, suspicions of opportunism.

This implies a certain ambiguity on the centrality dimension. Our interviews showed powerful actors. Power is scarcely exerted by the firm which holds the localised specific assets (as stated in the Transaction Cost Theory). More often, it is the firm which has the critical resources (access to the market) which is able to exert power. These critical resources represent expansive investments in Information Technologies. One could thus conclude the existence of symmetrical relations. However, the ski lift companies tend to gain power, investing directly in tourism market places or creating their own on-line travel agencies. We are not able to measure precisely the level of commitment of these companies in this direction. Nevertheless, it seems significant for at least one actor out of two.

Ski lift companies are able to offer exclusive and quality oriented skiing-resorts. This kind of offer helps them to negotiate with Tour Operators on better conditions. This implies that the success of the all inclusive final product depends on the quality of the coordination between all the producers. We understand here why the ski lift companies, relayed by the tourist bureau, act as an interface between the two network dynamics.

¹¹ According to a snow-grooming machine producer who commits himself to the organization of events in skiing resorts.

5.4 What part do the local actors play in the final product? (P3)

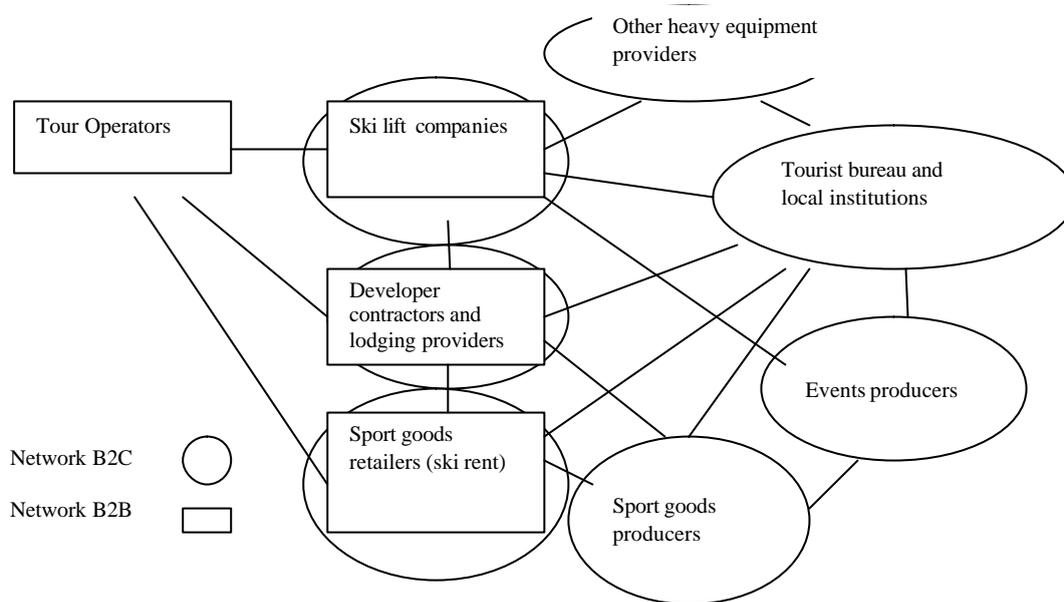


Fig. 3. The winter sports industry: two complementary networks

The firms interviewed are at the core of the two logics. For some of them at the end of the value chain such as sport goods producers or retailers, restaurants, leisure services, these two logics may appear contradictory. The pressure exerted by some retailers and the incapacity of the ski lift companies (or public institutions) to negotiate advantageous conditions results in a destructive competition and depreciates the total image of the skiing resort.

The ski lift companies do not always play the collective game. They are most often trying to increase the short term profitability. However, one respondent asserted a 15% total growth in turnover while only 3% growth in volume. This reveals the effectiveness of the coordination between all the actors of the industry. Obviously, this valorisation of the tourist stay is due to the two (B2C and B2B) networks. It is by an increase of quality on the spot that the intermediaries agree to negotiate their margins, insofar as the strategic variable is no longer just the price. This strategy of valorisation and differentiation of the final product confirms the importance of the community network. The community network may be the link between firms belonging to the value chain and the firms belonging to the territory (skiing resort). This network is the area where they can discuss and interpret common values and rules. Up to now, there was no other place where they could confront their different values. As a matter of fact, the B2B network federates only the large operators mostly subjected to profitability requirements. The values are industrial and financial. The B2C network is structured around the same large actors who hold the localised specific assets as well as small firms which carry on community and patrimonial values. Their ability to create a common vision and operate a collective learning process is the key factor success of the territory (skiing resort). Thus, it is necessary to study the mechanisms of regulation (stakeholder governance). This must be done not only within the limits of the skiing resort border but also for those defined by shared conventions.

6 Conclusion

The reorganization of the winter sports industry is accompanied by the emergence of new inter-firm relations whose nature and boundaries exceed the traditional scheme of economics. On the one hand, these relations are not due to exogenous constraints, which the actors would undergo. It reveals a real strategic intent of the actors to coordinate each other in quality. From this point of view, the deterministic models that we explored in the first part of this paper must be dismissed. On the other hand, we have shown that the coordination to produce the final tourist stay is more important than the actors themselves. This could be done thanks to the concept of inter-firm network. This concept has

been analyzed through two approaches a priori distinct in theoretical ground. Hence, we have defined two network archetypes: the star network in which actors seek efficiency and are linked by bilateral contractual agreements. The community network aims at creating new productive solutions where “scattered” actors are engaged in a learning process. Multilateral and non contractual relations are guiding their path.

From the confrontation of the two networks, we can conclude that they are complementary. This complementarity is mainly due to the role of the ski lift companies and the tourist bureau. This need not mean that they have received a delegation of responsibilities, or that they have obtained power. If it was the case, there would be no collective dynamics. Indeed, it is more a question of providing cognitive resources to the networking firms in order to build together new conventions.

The data collection we are actually carrying out in nine French skiing resorts will help us to better understand the dynamics of the community networks. We will know better the representations of the private firms and those of the local public institutions. We will then be able to thoroughly analyze the collective learning processes within the conventional boundaries of the skiing resorts.

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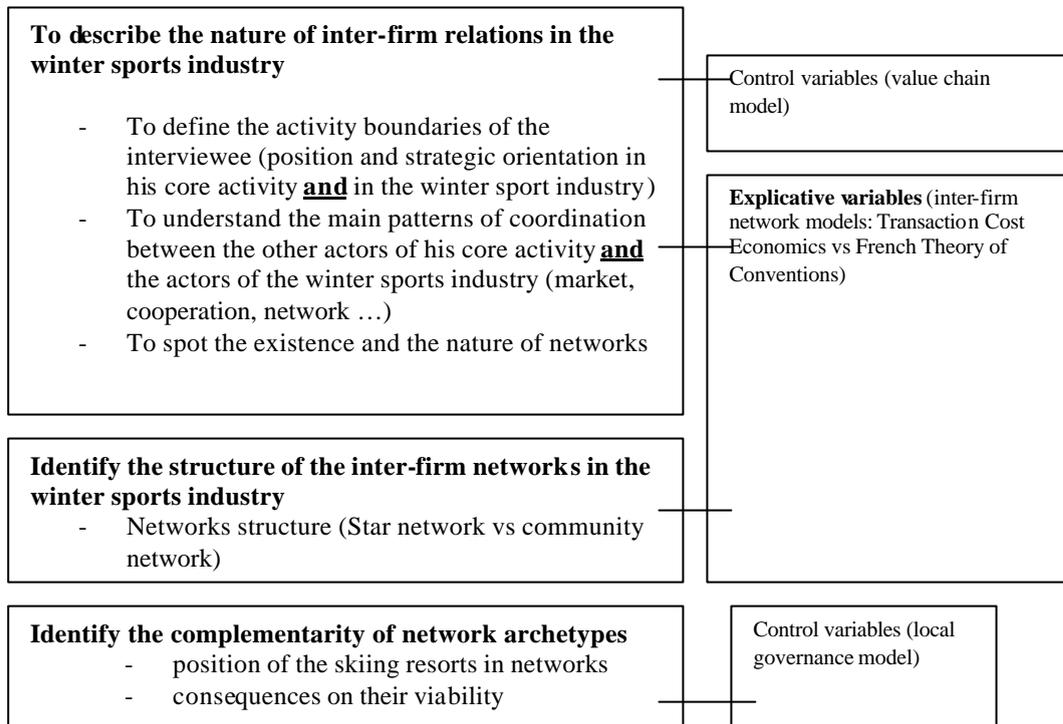
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Appendix

Appendix 1. Nature of the respondents

Value chain	Market share or position on the pertinent market	Function occupied
Value chain : leisure and sports practices in mountains		
Heavy equipment providers	York Neige (37,77% - leader of the snow production)	Marketing manager of the European subsidiary York Neige
	Kässbohrer (60% - leader of the snow grooming machines)	General manager of the French subsidiary
Ski lift companies	Compagnie des Alpes (Largest ski lift company ; operates ski lifts in many European skiing resorts)	General manager-CDA Domaines Skiables
	Transmontagne (French leader operates ski lifts in skiing resorts of medium size (from 2 to 10 M euros))	Chairman of the holding Transmontagne
Tour Operators, developer-contractors and lodging providers	Intrawest (developer contractor and operator. World leader)	Vice-Chairman of the European division
	Pierre&vacances (Lodging provider. European leader)	Operations manager Rhône-Alpes
Value chain : sport goods outfit		
Sport goods producers	Salomon (World leader)	Brand manager
	Scott USA (World leader in ski poles)	General manager of the French subsidiary
Sport goods retailers	Intersport (French leader of sport goods retailing)	Mountain retail manager
	Ski Set (French leader of ski rent)	Chairman of the company

Appendix 2. Architecture of the interview grid



Appendix 3 Table. Network n°1 (B2C), contracts versus conventions

	Sport goods producers	Sport goods retailers	Events providers	Ski lift companies	Local institutions
Compagnie des Alpes	2,00	-	-	-	3,00
INTERSPORT	2,00	-	-	3,00	3,00
INTRAWEST	2,00	2,00	2,00	3,00	3,00
Kassborhrer	2,00	-	3,00	2,00	3,00
Pierre & Vacances Tourism	-	2,00	-	2,00	3,00
SALOMON SA	3,00	2,00	2,00	-	3,00
SCOTT	3,00	2,00	-	-	-
SKI SET	2,00	-	-	-	3,00
TRANSMONTAGNE	-	-	-	-	3,00
YORK	-	-	3,00	2,00	2,00
TOTAL	2,29	2,00	2,50	2,40	2,89

Blank = no relation

2 = contractual arrangements

3 = conventional arrangements

Appendix 4 Table. Network n°2 (B2B), contracts versus conventions

	Heavy equipment providers	Tour operators	Developer contractors and Lodging providers
Compagnie des Alpes	2,00	2,00	2,00
INTERSPORT	-	-	-
INTRAWEST	-	2,00	-
Kassborhrer	-	-	-
Pierre & Vacances Tourism	-	2,00	3,00
SALOMON SA	2,00	-	-
SCOTT	2,00	-	-
SKI SET	-	2,00	3,00
TRANSMONTAGNE	2,00	2,00	3,00
YORK	2,00	2,00	-
TOTAL	2,00	2,00	2,75

Blank = no relation

2 = contractual arrangements

3 = conventional arrangements