Developing cooperation in discontinuous s/c relationships: a case study in the construction industry

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Abstract

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The aim of this paper is to identify mechanisms at play in the development of cooperation in industries characterized by a high level of purchase discontinuity. The paper concentrates on the construction industry.

In the construction industry adversarial relationships between actors (customers, contractors, subcontractors, suppliers,..) are usually the rule on specific projects such as real estate projects, construction of plants,… Several factors favor this kind of opportunistic behavior: the existing purchasing procedures based on competitive tendering, the industry fragmentation, the uniqueness of construction as a product, the distinction between design and execution, and the specific role of consultants….The crisis that this industry went through in the 90s' led to huge competition between actors which in turn led to increased opportunism. This generated negative consequences such as difficulties for the main contractor to foresee the profitability on a given project, frequent cost and schedule overruns, confrontation and claims. Faced with these problems important changes occurred in the French construction industry at the end of the 90s'**.** Main contractors attempted to implement new modes of relationships with customers.

This paper is based on a case study. It analyzes the evolution of a relationship between a main contractor (SBP) and two subsidiaries (DRESS and CLOTH) of the same customer group over a 9 years period. During this period, the main contractor changes its offering (including more pre-sale services, consultancy and feasibility studies when defining and designing the project) and the way to involve the customer in the management of the project (similar to the way traditional industry such as the automotive manages project with suppliers). The objective is to interact with each customer as soon as a project emerges in the customer organization. This anticipative approach aims at allowing the contractor to limit (or to avoid) the scope of the call for tender (highly uncertain), to bring more value to the customer and to have a better predictability on each project profitability.

The empirical study focuses on 7 projects (warehouse) with DRESS and CLOTH (SPB has been awarded 5 projects). Projects after projects the s/c relationship moves from an arm's length approach (call for tender and lowest price bid, distinction between design phase and execution phase), to a cooperative and partnerial approach (no distinction between design phase and execution phase which are managed by the same company in relation with the customer). As a consequence of these changes, the nature of the relationships between the main contractor and the subcontractors and suppliers also evolve and become more cooperative.

Because actors are involved in several relationships, the more connections an actor has, the greater its learning opportunities. Taking a Market as Network perspective, we suggest 4 elements explaining the learning process: the individual project, the succession of projects in a given relationship (multi project perspective), the experience transferred between two interconnected relationships (DRESS and CLOTH are two subsidiaries of the same group), the developments generated on several projects in other s/c relationships.

INTRODUCTION

For twenty years, fundamental changes have been affecting many industries worldwide. Changes in inter organizational relationships (suppliers, customers or competitors) lead to increasing dependencies between them. As a consequence, traditional approaches to markets are being rapidly replaced by market as networks approaches. Many papers presented at IMP conferences and articles published in reviews by its members confirm this evolution. But this change is not homogeneous along the whole industry especially in industries characterized by a high level of purchase discontinuity leading to discontinuous s/c relationships (Cova, Ghauri and Salle, 2002). This is particularly the case in the construction industry which seems to meet difficulties to evolve as other industries did and still do.

In the literature many researchers dealing with construction industry qualify firm as having poor relationships between customers and suppliers (arms-length relationships). As stated by Love (2000) in the introduction of a special issue of the European Journal of Purchasing & Supply Management dealing with the Construction Supply Chain: « The importance of developing and maintaining good relationships with customers and suppliers in construction is a critical factor affecting project success performance. The combination of poor relationships between customers and suppliers, the absence of a quality focus, and the lack of carefully developed systems for monitoring and controlling resources, has meant that time and cost overruns have become endemic features of procurement process in construction". This short term orientation in relationship led to a lot of difficulties such as quality problems, claims , reworks or costs overruns. This perception is shared by several researchers from different countries, even if this industry has not the same structure and working habits across countries. Several attempts to change this situation have been initiated either by governments (e.g in UK, see Latham Report, 1994) and/or by companies. Some new directions such as alliancing or partnering emerged, but the results are very contrasted.

The paper we present is part of an ongoing research program dealing with dynamic of change in s/c relationships in construction industry. In this program we focus on a main contractor (SPB, a subsidiary of a French major in the construction industry) attempting to evolve from a traditional approach to a more collaborative approach with customers. We follow all the projects in which SPB is involved (successful and unsuccessful projects) and we analyze changes within SPB organization, both in s/c relationships and in relationships with

subcontractors and suppliers. In this paper we explore the nature and the evolution of relationships between this main contractor (SPB) and two customers (DRESS and CLOTH, two subsidiaries of the same group) during seven successive projects (stores). Along all these projects SPB tries to experiment different forms of relationships: some are based on a traditional approach, others are based on a collaborative approach. In this paper, we first detail the characteristics of the French construction industry and its history. We point out the reasons of the crisis that this industry went through in the 90s and its consequences for the different actors involved. Then, we give some information about SPB history in order to understand its evolution within the construction industry and its motivation to promote change. We describe the 7 projects which emerge in the relationships between SPB and DRESS and CLOTH between 1993 and 2001. Finally, we discuss and conclude on the evolution of cooperation in s/c relationships in discontinuous industries such as construction.

DE LA DIADE A LA PERESPECTIVE RESEAU + APPPRENTISSAGE

CONSTRUCTION INDUSTRY IN FRANCE

According to Campagnac (1996) and Benhaim (1997) French major companies emerged at the turn of the century in the civil engineering sector. They profited from the post war reconstruction. At the end of the 60s they began to decline. In the 70s the opportunities for international projects financed by oil-rich countries boosted their development and compensated the decrease in public markets. This international development allowed these companies to improve their position as main contractors able to control and coordinate complex and technologically innovative projects. In order to maintain their position on the French market they resorted to a lot of small subcontractors. In the 90s the French market, as many others in Europe declined (production index 100 in 1990, 101.6 in 1991, 100.6 in 1992, 93.8 in 1995, source Eurostatistics) so the competition became very aggressive. This led to lower prices, an increasing pressure on subcontractors and tensions between the different actors involved in this industry.

The main characteristics of construction industry in France and in western countries are very similar. According to Cox and Thompson (1997): « Traditional contractual relations in the Western construction industry have been conducted at arms –length. This has been compounded by drives of "value for money" where through competitive tender, the works are procured at the lowest price supplier with little or no guarantee (or even incentive) of future

work. Thus relations focus on the short term (for the duration of the project), with both parties attempting to lever what they can out of the existing contract. The result has been manifested in adversarial arms length relations with the parties selecting opportunistic behavior rather than working together" (p.129).

Several factors can explain this behavior.

- The French construction industry is highly fragmented, with a polarization at its extremes, where there are numerous small firms and few major companies (Bouygues, Eiffage, Spie, Vinci). In particular, small firms are responsible for 50% of the industry turnover in France: 300 000 craftsmen employ 800 000 people. As a consequence relationships between major companies acting as main contractor and these small subcontractors are very unbalanced. Subcontractors are dominated, so they adopt different strategies. Benhaim (1997) observes different options : to continue to struggle on the basis of price, to reduce main contractor power by influencing the rules within a corporation (lobbying at a national level) or by developing local monopoly based on a differentiated and unique offering.
- Construction industry is also characterized by fragmentation into a number of distinct phases which often operate independently, such as briefing, design, procurement and execution on site[1], which lead to difficulties in coordination and affect the project performance (Campagnac and Winch, 1998; Love, Li and Mandal, 1999)
- In France, organization of work is well defined and "based upon Taylorist principles in the French construction industry, which is more developed in France than in other countries" (Campagnac and Winch, 1998). According to Ben Mahmoud Jouini, Charue-Duboc and Midler (2000) : "Architecture in France is governed by special legislation prohibiting the integration of architects into construction companies. This professional barrier reflects the dichotomy in the French training system between schools of architecture, which give preference to artistic and stylistic aspects, and school of engineering, which focus on technical and economic considerations. To move such a split professional context along a coherent transition is difficult from any actor involved, even important ones as the French Majors. The conflicts on distribution of roles in the new professional patterns may have precedence to the development of the collective efficiency of the sector".

[1] Or: front end development phase / design and execution phase

- Major companies are influenced by the public sector procurement regulation (code des marchés publics) even in their practices on private markets, and the tendering system. As a consequence, contractors "tended not to produce for final customers, but to meet governmental regulations. » (Voordijk, de Haan and Joosten, 2000), (p. 217).

Many scholars from different countries share the same view of construction industry in their respective country. For instance, according to Bresnen and Marshall (2000) in the UK: "Collaboration (rather than conflict) is the aberration to the norm: as over 30 years of government and industry reports have shown, lack of cooperation based upon fundamental differences in interests between clients, contractors and others is endemic and almost a defining characteristic of the industry". In Sweden, according to Dubois and Gadde (2000) opportunistic behaviors are the rule and « transactional exchange is the dominant form of business »(p. 213).

Following Kadefors (1995), Brousseau and Rallet (1995), and Dubois and Gadde (2001) one can conclude that like in other European countries, construction industry in France is subject to strong institutionalization. In this context change is difficult to promote. However in the mid 90s several attempts to change appeared.

Evolution after crisis in the 90s: an attempt to change the nature of relationships between actors

Many debates took place in professional (see for instance the Latham report in UK, 1994) and academic communities since the 90s. So the literature on this issue is abundant . Basically the question is: why is construction industry unable to promote similar approaches as other traditional industry such as the automotive industry for example (which generally is used as standard for benchmark purposes)? In the academic field several communities question this industry: scholars from the project management community, scholars from the supply chain management community, scholars from the business to business marketing community.

Important changes occurred in the French construction industry. Three interdependent reasons can be pointed out (Benhaim, 1997):

- Change in customer attitudes who started to into account in their calculation all costs taking a life cycle cost perspective. They asked for new services especially financial

ones such boot (build, owned, operated, transferred). In fact these expectations are more frequent in private markets than in public markets.

- Change in contractor's strategy with customers. Contractors attempt to create more value based on services offering and a more extended view of the customer project upstream and downstream: design & build (D&B), design-build-maintenance-operation, design-build-finance-operate (DBFO), BOOT, turnkey projects. This approach allows the contractors to early interact with customers. But, according to managers from the construction industry and to scholars, these new approaches still remain based on a short term perspective focused on each project and using a call for tender procedure.
- Change in regulations: An attempt to introduce new regulations appeared at a state level. In France, a recent norm specifies the nature of cooperation between firms from the construction industry and their customers. On the UK market, following the Latham report (1994) several attempts to change the rules to create new relationships took place. New forms of contracts were promoted. These contracts are gentlemen agreement to reduce opportunistic behaviors (Cox an Thompson, 1997).

However, its appears that the effects of this attempt to change the nature of relationships in this industry are very contrasted.

- According to some scholars, traditional behavior remains deeply rooted in this industry even if a more cooperative relationships is wished : "Many clients share the view that closer cooperation with the contractor would be advantageous. They look for a better integration of design and construction, less conflict and more flexibility. Still, many clients are suspicious of contractors and are reluctant to abandon general contracts and their control of the design. There is a tendency that clients view cooperation as something that primarily benefits the contractors" (Kadefors, Gerle and Nyberg, 2001). In UK, according to Cox and Thomson (1997), only 30 % of partnerships were successful. These two scholars are very skeptical about new contract forms: « once this contract's honeymoon period has subsided, adversarial arms-length behavior is likely to predicate". Thompson, Cox and Anderson (1998) criticize partnering because they find that: "there is little benefit gained from shared learning or synergy between parties as the fragmentation leads to individualism and self seeking interest. Relationships are confined to the discrete duration of the contract; trust, commitment, reciprocity and other behavioral aspects associated with long-term

collaborative relations are essentially absent. Instead, the parties tend to rely heavily on the formality of the governing contractual conditions: the focus of the transaction is contractual rather than relational" (p. 33).

- According to others scholars, long term oriented relationships exist in the construction industry. Eccles (1981) and more recently Hakansson, Havila and Peddersen (1999) explain that contacts pattern between the main contractor and the suppliers/subcontractors are long-term oriented.

Because of project specificities: discontinuity resulting from low purchase frequency, complexity (involvement of numerous business and non business actors), uniqueness (each project is design specifically for a customer) and high level of institutionalization, changes seem very difficult to implement in the whole construction industry. Collective action could change behavior in this industry, but, as stated by Brito (1996): "a collective action arises when several actors mobilize and aggregate their resources and coordinate activities in order to defend or promote their mutual interests". In fact, it seems very difficult to modify the alignment (strong communities of practices according to Dubois and Gadde, 2001) between so many actors (customers, sponsors, contractors, subcontractors, suppliers, non business actors…) whose interests to change are not always converging. It can be argued that the construction industry is not homogeneous as a whole: if in public markets very strongly defined rules constrain the companies, in private markets a wide variety of customer behaviors exists. Consequently, on private markets companies face situations on which they can try and implement locally new approaches and ultimately learn from them. So, the ability to take into account these different situations met on specific projects and to imagine different modes of interaction and relationships with customers and other actors involved, appears to be a key element.

RESEARCH METHOD

The aim of this paper is to describe and analyze the changes which occur project after project when the supplier (SPB: a French main contractor) attempts to promote a closer and more cooperative relationship with its customers.

In order to both capture the effects of SPB approach on each specific project **and** the ongoing change process within a specific s/c relationship (several projects with the same customer),

we focused on a succession of seven projects from 1993 to 2001 (warehouses) with two customers (DRESS and CLOTH) belonging to the same group.

In this research, we adopt a longitudinal case study method. Information and data come from various sources including in depth interviews with a number of people involved and company documents. Interviews have been conducted:

- in the SPB organization at three levels: Headquarters for general and strategic information, regional manager for information within a special area and sales engineer level for project and customer specific information.
- In the DRESS and CLOTH organization: actually, the person in charge of managing construction projects in the customer side remain the same.

We collected data since 2000 directly interviewing people involved in ongoing projects. Before 2000, we used data from a retrospective description of what happened in projects and in s/c relationships.

CASE STUDY PRESENTATION

The supplier SPB

With 4600 people, Spie Batignolles' turnover (SPB) reached 800 M€ in 2002. SPB is ranked 4 among the French construction companies. Its main markets are: industry, environment, underground works (subways, tunnels), distribution outlets, office buildings, housing, public works, structure, infrastructures, hotels and tourism both in public and private markets.

Up until the mid 90s, SPB as well as its competitors was adopting the usual, classical approach characterizing the French construction industry that we described previously. Several factors led SPB to progressively change its market approach:

- A decrease in the number of public projects (which represented 80% of SPB's turnover in 1997) as well as the early 90s crisis which increased competitive pressure, pushed prices down and generated a reduction of profit margin.
- The decision of Schneider-Electric (a diversified French group in which SPB was a business unit) to divest SPB in 97 so as to focus on its core business the electrical equipments. The company was then taken over by its employees for 54% of its shares and by the British Group AMEC SA for 46% of its shares

- The successful implementation by AMEC SA of « Alliancing » strategies on projects. These partnership approaches are coherent with SPB's willingness to develop a true customer orientation and convince the British stakeholder of their feasibility and profitability.

This new context increases the pressure on profitability and pushes SPB to guarantee its stakeholders a positive margin and a more predictable profitability as well as a reduction of the risks and uncertainties of its activities. Given all these constraints, a new strategy is developed along five lines:

- Select most attractive market segments according to the corporate goals and modify the balance between public markets and private markets (increasing the share of private markets). Private strategic partnerships have an advantage over their counterparts in the public sector in that private entities are relatively free of regulation on the form and substance of their internal operational activities and contractual relationships. Private markets and more specifically industrial markets are thus identified as a key priority due to their greater openness to value creation and to their capacity to value the profits generated. They are also less sensitive to a dominant price logic as compared to public markets. A first segmentation leads the company to focus on few industries.
- Change their project management methodology ("the Concertance methodology") and develop new offerings. In this methodology, the main idea is to interact very early with the customer as soon as its projects arises in order to commonly develop the project specifications and then realize its construction. This approach is based on few key elements: the early creation of a project group including all parties concerned (the customer, the main contractor, the architect, a quantity surveyor, key subcontractors), costs transparency (cost + fee approach: the main contractor's profit margin is set at the beginning) and development of a trust atmosphere between actors. This type of approach differs from traditional approaches where the customer first defines its specifications alone or with the support of an architect, and then publishes a call for tender for the construction of its project.
- Classify projects according to their characteristics in order to choose the best suited methodology,

- Develop a relational approach with customers with the idea of developing repeat project business whenever possible,
- Modify internal practices and the company's relational pattern with their network of partners: subcontractors, suppliers, engineering firms.

From 1997 onwards, SPB starts being increasingly selective in its projects choices. It is awarded several projects based on this alliancing approach ("Concertance methodology"), while continuing to win projects in the traditional scheme.

The customer: DRESS and CLOTH

CLOTH is a distribution chain specialized in discount clothing. CLOTH is a subsidiary of the DRESS group distributing mid and upper-range clothing. Given the boom of the discount clothing market in France, DRESS has decided to create the CLOTH brand to tackle this market. CLOTH is therefore rapidly expanding and has developed an aggressive strategy of store development on the entire French territory. The design of CLOTH stores is generally basic (little decoration, and finishing off) in coherence with the brand aggressive low pricing strategy.
The construction price of CLOTH stores (including real estate price, and internal fitting out price) is a key element as it directly impacts the store's return on investment time. In this low margin activity, any delay in the store's opening generates important trading losses.

The DRESS Projects (DRESS 1, 2, 3, 4)
The first relationship between SPB South (South of France) and DRESS is initiated in 1993. The sales engineer involved in SPB is Mr Rivel. SPB builds a store for DRESS (project DRESS 1) in Avignon based on a traditional approach. The main decision-maker – Mr. Crayon- is the Technical Manager of DRESS, in charge of all the new store projects for DRESS in France. He is based in the North of France. The choice of a location results from the customer's development strategy. Once a location is defined, an opening date set and an investment level defined, Mr. Crayon is in charge of the land research, the choice and management of an architect, and the choice and management of a principal contractor to construct the building. Mr. Crayon's strategy is to work with a limited number of selected

companies in a given region. From one region to another in France, the panel of selected companies is different.

In 1995, DRESS launches a competitive call for tender for the renovation and extension if its Store in Avignon located in the south of France (the DRESS 2 project). The design of the building is developed by an architect, and forms the basis of the tender. SPB wins the DRESS 2 project after « *a very tough negotiation* » led by Mr. Rivel in SPB.
Several factors seem to have influenced the choice of SPB by DRESS :

- The quality of first contacts between Mr. Crayon and SPB's design engineer–Mr. Bernand,
- The reference to the DRESS 1 project,
- The geographical proximity of SPB South premises to the Avignon store. The next best ranked competitor was located in Paris, which was a disadvantage.
- The capacity of SPB to carry out the project while leaving the store opened so as to « *avoid loosing any single customer* ».
- The involvement of SPB sales engineer during all the construction phase and thus having close contacts with the store manager in Avignon.

In 1999, a tender for a principal contractor is launched by DRESS for a new store based in Montpellier (DRESS 3 project). The customer appoints an architect for the design phase. SPB is faced with a large competition, in particular from a group of local companies. SPB finally gets the deal with a very tight price. According to Mr. Rivel, the sales engineer : « *SPB has won with an equivalent price to that of the local group. But the customer had more risks on delays and resources with a group. Our advantage was to offer a unique interface*». In fact, during the execution phase, SPB decides to increase its involvement to compensate for the architect's lack of project follow-up. Having won this project at a very low price, SPB puts in turn the pressure on its subcontractors prices.

CLOTH 1 and 2 Projects

In 2000, the DRESS group decides to launch a discount clothing brand in reaction to a similar move from its main competitor. The prices of this new brand called CLOTH are approximately 25% lower than those of DRESS.

Mr. Crayon is in charge of managing the development of CLOTH stores in France. Two CLOTH stores are opened in the year 2000: one in Paris (CLOTH 1) and the other in West France (CLOTH 2). SPB is not selected for these projects. In these two projects, a traditional approach was used by CLOTH: separation between the design phase and the realization phase and call for tender procedure to choose the builder.

The CLOTH 3 Project

The Toulon store project « comes out » in February 2001 (CLOTH 3 project). It consists in the refurbishment of old facilities. Mr. Crayon launches a restricted call for tender and consults 4 companies (including SPB) based on specifications defined by an architect. A local company forms SPB's fiercest competitor on this project. Mr. Rivel leads negotiations for SPB up until the contract signature. This is once again a very tough negotiation. The local competitor offers a lowest price but Mr. Crayon from CLOTH « *does not want to take the risk of working with a local firm he has never heard of*». The price offered by SPB amounts to 2 M €. Very soon after, SPB realizes that the real budget for the CLOTH 3 project was 1,5 M € based on Mr.Crayon's estimates. According to SPB sales engineer: « *he had severely underestimated his budget. This put him in a difficult situation internally and generated several time losses once the contract signed*». The construction work starts with 3 to 4 weeks delay. According to SPB sales engineer: « *we played on the traditional legal contract conditions so as to protect our interests and avoid paying contract penalties for late achievement* ».

Once the contract obtained, SPB selects several subcontractors for various work packages:

- Stonework is granted to a local firm (SC1)
- Technical work packages:
    - Electrical work is granted to SC2 which belongs to a panel of subcontractors who regularly work for SPB.
    - Structure and roof work is granted to SC3 which belongs to a panel of subcontractors who regularly work for SPB.
    - Paint, finishing off and tiling is granted to SC4. This company has a national coverage and regularly works for DRESS and CLOTH.
    - The air conditioning work package is granted to SC5. This company based in Orleans is used to working with CLOTH: CLOTH does not force SPB to select

them but as they are the most price competitive, and as they know CLOTH type of building and expectations well, they are in the best position.

According to Mr. Crayon : *« Out of 4 different projects, we have had to deal with 4 different project managers at SPB and they all gave us the same level of satisfaction* ». SPB's project organization relieves Mr. Crayon who is based in North France and thus approximately 800 kms away from the store's location. The project is ended without any major conflict between SPB and its subcontractors.

At the end of this project, Mr. Rivel, the sales engineer shows the customer how SPB could have adopted a partnership approach to construct the CLOTH 4 project (the Concertance methodology) which could have helped gain 3 months on the total delay and adjust price to the project budget. This approach had already been implemented by SPB to refurbish a luxury hotel on the French Riviera.

The CLOTH 4 Project

At the end of May 2001, Mr. Crayon tells Mr. Rivel about a project of a new store (CLOTH 4) in Aix (South East France) on the premises of an existing warehouse. According to Mr. Rivel, the sales engineer : « *he has not even finalized the warehouse purchase when he tells us about the project, we are at the end of May but his objective is to open up the new store by mid December before the Christmas break*».

Beginning of June : SPB South gives to Mr. Crayon a detailed presentation of the Concertance approach.

- He declares being ready to test this approach on the Aix store project. According to the sales engineer : « *he had grasped the basics of the method right from the beginning and had already set his budget ».*
- He accepts to share the benefits from project optimization with SPB.
- The customer accepts to pay for the overhead costs of SPB (a given % of the project amount)

One week after, the customer sends the first specifications and announces his budget (1,8 M €). SPB helps CLOTH find a local surveyor able to rapidly take measures and obtain a planning permission. From there on, SPB launches the feasibility study. They require the help

of an architect and a legal expert (for security aspects). These two service providers are paid directly by the customer to help define the project specs. At the end of the feasibility study, SPB has a global budget exceeding of 200 K€ CLOTH's initial budget.

The customer then accepts to review his budget with SPB so as to optimize it. A two-day working session is organized in that purpose including:

- The client (Mr. Crayon),
- SPB : Mr. Bernand from the design department (who has detailed knowledge of the CLOTH stores from the origin of the relationship), the sales engineer and the project manager who will pilot the project from its conception to its execution.
- The architect.
- The company in charge of the air conditioning work package : SC5 (which had already been selected for CLOTH 3).
- The company in charge of the electrical work package SC2 (which had already been selected for CLOTH 3).
- A local structure and roof work company: SC6 (not involved on CLOTH 3, but known by SPB)
- A local stonework company (SC7) that SPB is testing on this project.
- A roadwork company (SC8) who had contacted SPB and that SPB is also testing on this project.

During this meeting, all optimization alternatives are analyzed without jeopardizing the overall project quality (in terms of surface, comfort, legal constraints...), nor reducing the profit margin of SPB and its partners, nor impacting the overall functionality. In this approach, several optimization proposals come from subcontractors.

At the end of these two days, the price remains higher than 1,8M€. Other budget lines are then analyzed and CLOTH's target price is finally reached. The contract is signed.

In parallel, the customer had benchmarked SPB's initial offer with that of a competitor. CLOTH transmitted the subcontractor's proposals for non technical work packages obtained from the competitor to help reach lower prices. According to the sales engineer, Mr. Crayon needed to have such a behavior to justify adopting a different approach with SPB to his top

management, i.e. not using the traditional competitive bidding approach. The project is realized according to the expected budget and delay.

DISCUSSION

In spite of a low transaction frequency (7 projects spread over 9 years, including 5 projects won by SPB), and the economic relationship discontinuity between SPB/ DRESS and CLOTH, the relationship appears to evolve over time towards a greater level of cooperation on each project. So, the question to be asked is : is it either just a series of projects where it is more convenient to work together or a long term relationship? Möller and Wilson (1995) distinguished four forms of relationships : (1) market transactions form, (2) short term dyadic relationships form, (3) long term relational exchange, (4) networks form. In this case study, the logic at play seems to be an ongoing learning process in a kind of relationship life cycle as described by Ford (1980) and by Dwyer, Schurr & Oh (1987). Project after project the need of coordination increases and the s/c relationship evolves: (1)➔(2)➔(3). Taking into account Dubois and Gadde (2001) explanations, it is also possible to say that coupling (tight coupling) within a single project had increased ((1)➔(2) in Möller and Wilson classification) but between two projects loose coupling predominates.

By adopting a Market as Network approach, i.e. re-embedding the focal s/c relationship in its relationship context (Hakansson, Havila and Pedersen, 1999; Dubois and Gadde, 2001), it is also possible to understand the learning process and evolution logic at play. According to the 3 authors (Hakansson, Havila and Pedersen, 1999) : « the more connections a relationship has, the greater are the possibilities to learn. ». Each project thus creates a relationship between a group of actors on the customer's side (architects, design offices, …) and on the supplier's side (main contractor, sub contractors, suppliers). Similarly, the set of projects issued by a single customer mobilizes several actors directly and indirectly connected to each focal actor. Thus the supplier's learning will result from :

- *The characteristics of each individual project (DRESS 1, 2 & 3 then CLOTH 1, 2, 3, & 4) and of the relationships between the various actors involved.* Depending on each project characteristics, the customer will be more or less opened to modify the organization of work (level of outsourcing of certain phases: front end development phases / design and execution phases) and to maintain or accept to modify its way to

approach suppliers (arm's length approach versus relational). All projects issued by DRESS and CLOTH are technically simple. The respect of the budget and of the delays for store delivery constitutes the major customer's stake. The choice can be compared to what Hobbs and Andersen (2001) call :

- the « *traditional sponsorship* » which creates a break between the pre-contract phase (in which the customer autonomously manages the front end development phase) and the post-contract phase (the main contractor selected manages the design and execution phases) : « Before the contract is signed, the suppliers have little opportunity to influence project development as their involvement would corrupt the competitive bidding process, and after it is signed the owner/developer has limited ability to influence further development." In this case, each contract is viewed independently of the others (transactional logic) which corresponds to the dominant logic in the construction industry. In France as indicated by Ben Mahmoud-Jouini, (2000), « The contractors are characterized by a low level of capitalization of experiences cross projects. The strategic management obeys essentially a logic based on seizing opportunities and competitive bidding for contracts".
- Or the "relational development and execution" in which: « there is no significant period of project development prior to the involvement of firms that not only possess important competencies in project execution, but also will actually do the work during the design and execution phases" (Hobbs and Andersen, 2001). Given the limited projects complexity, such relational patterns on a given project are fairly unrealistic at the beginning of a new customer relationship. The learning process in the relationship is necessary to lead the customer to prefer this relationship pattern over the traditional sponsorship.

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- *Of the transfer level of the experience developed on a specific project to another project within the same customer relationship: DRESS 1 ➔ DRESS 2 ➔ DRESS 3 and CLOTH 1➔ CLOTH 2 ➔ CLOTH 3 ➔ CLOTH 4.* In the case study presented above, the transaction frequency with DRESS and CLOTH is low. Therefore, the opportunities for building a long lasting relationship based on the succession of several episodes (Hakansson, 1982) seem limited. Projects developed by DRESS are technically simple. They are thus viewed and managed by the customer in a purely

competitive scheme. The evolution from DRESS 1➔DRESS 2➔DRESS 3 reveals an evolution of exchange relations in the project dyads from « contract-based » to « routine-based » (Söderlund and Anderson, 1998) linked to the development of projects frequency. Even though the search for a low price remains an important factor for the customer conditioning its choice of supplier, some adaptations occur project after project in the SPB/DRESS relationship as well as in the SPB/CLOTH relationship. Even though these adaptations are not very complex, they contribute to create a certain trust level between the two actors and in particular between Mr. Crayon (DRESS then CLOTH) and Mr. Rivel (SPB). These adaptations are associated to the uncertainty the customer perceives on two dimensions: the respect of the price objective in so far as additional works that could not be anticipated may appear during the execution phase (specs are not detailed enough to prevent such a risk) and the delay which directly impacts the opening date of a new store. Thus, the existence of adaptations generate some interdependency between the two actors, in spite of the fact that the customer has a high degree of freedom and choice due to transactions discontinuity. Project after project, a trust atmosphere is being developed leading the customer to ask its supplier to compensate for the architect's deficiency (whose mission is to write specs and supervise the stores construction for the customer). Within the SPB/CLOTH relationship, the CLOTH 4 project developed under a brand new cooperation pattern is the direct continuity of a new partnership pattern (integration by SPB of the design and execution phases).

- *Of the transfer level of the experience developed on several projects with DRESS towards CLOTH ("parent" relationships as DRESS and CLOTH belong to the same group).* The two project series carried out with DRESS and CLOTH are managed by the same dyad of individuals over the 9 year period: SPB sales engineer (Mr. Rivel) the Technical Manager of DRESS and next of CLOTH (Mr. Crayon). Therefore, the two individuals are "carrying with them" the learning process that emerged over time. Mr. Rivel (SPB) can thus be informed very early of the emerging projects within DRESS and CLOTH (information exchange role of personal contacts in Turnbull, 1979).

- *Of the transfer level of the experience developed on several projects with other customers than DRESS and CLOTH towards DRESS & CLOTH projects.* From1997

on, SPB tries to position itself away from traditional projects and towards projects favoring co-design and co-engineering. Several projects are developed by SPB according to this new methodology (called Concertance in SPB) associating SPB and the customer very early in the front end development phase and in the design and execution phases. During these projects, the capitalization of experiences generates the creation of new resources used on the CLOTH 4 project.

The evolution of main contractor - subcontractor relationships

SPB's development of a new customer project methodology based on the early cooperation with the customer also has consequences on the nature of relationships developed with subcontractors. The shift of approach from the CLOTH 3 to the CLOTH 4 project is highlighted at two levels:

- The early integration of key subcontractors in the design phase carried out by SPB and CLOTH.
- The stability of these key subcontractors from one project to the other (the same subcontractors are selected)
- A shift of relationship pattern with subcontractors between the traditional approach (CLOTH 3) and the cooperative, partnership approach (CLOTH 4).

Given SPB's change of approach, its goal is to increase its level of control over the network of key resources from subcontractors. Thus the main contractor's change of approach generates the development of a new organizational form –a "quasifirm" (Eccles, 1981) between the general contractor and its key subcontractors. As indicated by Eccles (1981): "When construction projects are not subject to institutional regulations which require competitive bidding (as in projects funded by federal, state, and municipal agencies), relations between the general contractor and his subcontractors are stable and continuous over fairly long periods of time and only infrequently establish through competitive bidding. This type of "quasi integration" results in what I call the "quasifirm". It is a preferred mode to either pure market transactions or formal vertical integration. On a project basis the relationships resembles neoclassical contracting since both parties have strong incentives to complete the project. As these parties continue to work together from project to project the relational contracting mode appears".

CONCLUSION

Many descriptions of the construction industry show a strong reliance on tender and bids for each project. So, arms-length and opportunistic behaviors still seem to be dominant. Based on the study of a s/c relationship along seven projects over a nine year period, this paper shows that despite the fact that the companies do not have continuous relationships, interactions between different actors directly and indirectly linked to focal actors allow to develop cooperation on projects.

So, these changes lead companies and specifically main contractors to deeply modify their practices and their behavior. In the traditional approach, the relevant unit of analysis to take into account is the project. Due to the evolution in approach the unit of analysis evolves towards the project/customer couple. Finally the ultimate objective would be to manage s/c relationships in which projects would emerge like in traditional industry.

In the case of SPB several consequences can be drawn:

- a need to precisely qualify projects and customers. As a consequence the information system had to be more developed
- resource allocations appear to be more selective. Methods such as segmentation or portfolio management are used to target segments, customers and projects.

As in many other industries, the basic question is then: is this relational approach more effective than traditional ones? One can give the following results. SPB focuses on less projects than previously, and is successful 1 / 3 (whereas the success rate is closer to 1 / 10 using the traditional approach. The share of public markets in SPB's turnover move from 80% to less than 30% over a 5 years period, whereas the share of the industrial activity (private markets) moves from less than 5% to approximately 30% in the same period. This change in turn over repartition leads to a better stability in profitability.

REFERENCES

Bengtson, A., Havila, A. and Aberg, S., (2001),"Network dependencies and project termination: Why some relationships survive the end of a project", 17th IMP Conference, Oslo, Norway.

Benhaim, M., (1997), "Interfirm relationships within the construction industry : towards the emergence of networks ? A comparative study between France and UK", DBA thesis, Henley Management College/Groupe ESC Grenoble/Brunel University.

Ben Mahmoud-Jouini, S., (2000),. "Design Process and Innovation Based Supplies Strategy". In P. Benghozi, F. Charue-Duboc and C. Midler (Eds), *Innovation Based Competition & Design Systems Dynamics,* L'Harmattan , Paris, 75-92.

Ben Mahmoud-Jouini, S., Charue-Duboc, F. and Midler, C., (2000), "A longitudinal Analysis of the Design Dynamics in Industrial Firms", In P. Benghozi, F. Charue-Duboc and C. Midler (Eds), *Innovation Based Competition & Design Systems Dynamics,* L'Harmattan , Paris, 39-73.

Bresnen, M. and Marshall, N., (2000), "Partnering in construction : a critical review of issues, problems and dilemmas", *Construction Management and Economics*, 18, 229-237.

Brito, C., (1996), "Collective action in industrial networks. The case of the port wine industry". PhD thesis, University of Lancaster.

Brousseau, E. and Rallet, A., (1995), « Efficacité et inefficacité de l'organisation du bâtiment : une interprétation en terme de trajectoire organisationnelle », *Revue d'Economie Industrielle,* 74.

Campagnac, E., (1996), « Stratégies et formes de rationalisation : le cas des grands groupes de BTP » in *L'innovation en chantier, Plan construction et architecture,* 33-36.

Campagnac, E. and Winch, G., (1998), "Civil Engineering Joint Ventures: The British and French Models of Organisation in Confrontation", In R.A. Lundin and C. Midler (Eds)

Projects as arenas for renewal and learning processes, Kluwer Academic Publishers, 192-206.

Cova, B., Ghauri, P. and Salle, R.,(2002), *Project Marketing : Beyond Competitive Bidding,* Wiley.

Cox, A. and Thompson, I., (1997), "Fit for purpose contractual relations: determining a theoretical framework for construction projects", *European Journal of Purchasing & Supply Chain Management,* l2, 3, 127-135.

Dubois, A. and Gadde, L-A, (2000),"Supply strategy and network effects – purchasing behaviour in the construction industry", *European Journal of Purchasing & Supply Management*. 6, 207-215.

Dubois, A. and Gadde, L-A, (2001), "The construction industry as a loosely coupled system – Implications for productivity and innovativity", 17th IMP Conference, Oslo, Norway.

Dwyer, F.-R., Schurr, P.-H and Oh, S., (1987), "Developping Buyer-Seller Relationships", *Journal of Marketing,* 51, 11-27.

Eccles, R.G., (1981), « The Quasifirm in the Construction Industry", *Journal of Economic Behavior and Organization*, 2, 335-357.

Ford, D., (1980), "The development of Buyer-Seller Relationship in Industrial Markets", *European Journal of Marketing,* 14, 5/6, 339-354.

Hakansson, H. (Ed), (1982), *International Marketing and Purchasing of Industrial Goods: an Interaction Approach,* Wiley.

Hakansson, H., Havila, V.and A Pedersen, A-C.,(1999)"Learning in networks", *Industrial Marketing Management*, 28, 443-452.

Hobbs, B. and Andersen, B., (2001), "Different alliance relationships for project design and execution", *International Journal of Project Management*, 19, 464-469.

Kadefors, A., Gerle, C.and Nyberg, L., (2001), "Trust and distrust in temporary client-contractor relations". 17th IMPConference, Oslo, Norway.

Kadefors, A., (1995), "Institutions in building projects: implications for flexibility and changes", *Scandinavian Journal of Management,* 11, 4, 395-408.

Latham Sir M. (1994) *Constructing the Team*. London: HMSO.

Love, P.E.D, (2000).Editorial on Construction Supply Chain, *European Journal of Purchasing & Supply Management,* 6, 145-147

Love, P.E.D. , Li, H. and Mandal, P., (1999), "Rework : a symptom of a dysfunctional supply chain", *European Journal of Purchasing & Supply Management*, 5, 1-11

Möller, K. and Wilson, D. (1995). *Business marketing: an interaction perspective.* Boston: Kluwer Academic Press.

Soderlund, J. and Andersson, N., (1998), "A framework for analyzing project dyads – the case of discontinuity, uncertainty and trust", In R.A. Lundin and C. Midler (Eds) *Projects as arenas for renewal and learning processes,* Kluwer Academic Press, 181-189.

Thompson, I., Cox, A. and Anderson, L., (1998), "Contracting strategies for the project environment", *European Journal of Purchasing & Supply Management,* 4, 31-41.

Turnbull, P.W., (1979), "Roles of Personal Contacts in Industrial Export Marketing", *Scandinavian Journal of Management,* 325-337.

Voordijk, H., de Haan, J. and Joosten, G-J, (2000), "Changing governance of supply chains in the building industry: a multiple case study", *European Journal of Purchasing & Supply Management,* 6, 217-225.