

Supply Chain Construction In The Moroccan Public Administration

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ABSTRACT: *The construction supply chain is characterized by the multiplicity of links and the divergence of the actors, making customer satisfaction difficult to measure. The purpose of this paper is to explore the concept of satisfaction and identify the determinants that influence it, in the supply chain construction, through a study conducted on the Moroccan public administration.*

The literature review involved several relational parameters including trust, commitment and effective communication, and transactional factors such as control, power and formalization that influence satisfaction, more tangible variables to measure an abstract concept. To focus our study and look for concrete answers, the research orbit will be the Construction Supply Chain related to the Moroccan public administration contracts.

KEYWORDS: *Supply Chain, Supply Chain in construction, Satisfaction, relational, transactional.*

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I. Introduction:

In the construction industry, the adoption of contradictory contracting approaches and business opportunism have produced a less efficient industry with criticisms of low productivity according to (Egan, 1998) and (Kumaraswamy et al., 2010). The poor performance is due to incompetent stakeholders, lack of cooperation according to (College, 2005); also the engagement of these stakeholders reveals the deployment of short-term relationships.

Relationships between several members of the project team may be based on formal contractual relationships, relational links or a combination of the two. In a formal contract, parties often act in an atomized manner, looking for their own personal interests according to (Williamson, 1975). On the other hand, a relational contract supports different approaches that establish working relationships between the parties for win-win situations for all according to (Sanders & Moore, 1992).

Many authors have already studied the different types of determinative factors in supply chain relationships, which sometimes are summarized by the concept of "relationship atmosphere" (Hallén & Sandström, 1991). For (Andersen & Kumar, 2006), the "relationship atmosphere" addresses six specific dimensions often listed in the literature: power / dependency balance, trust / opportunism, spirit of cooperation / competitiveness, understanding, proximity / distance and commitment. In more precise models a total of 18 key indicators have been identified by (Meng, 2010). The authors sometimes use different concepts to interpret quite the same situations, but the importance of trust and commitment are predominant and underlined in most of the studies. These different notions reflect the different level of supply chain perception as well as the reliability of the members (Boer et al., 2005) and (Hausman & Johnston, 2010). And this member's capabilities, actions and behaviors, affect undoubtedly the level of commitment, communication, opportunistic actions and information sharing. (Carter & Jennings, 2002; Johnston et al., 2004) accordingly information sharing is widely regarded as an essential prerequisite for the creation of trust, thus maintaining long-term supply chain relationships (Nyaga et al., 2010; Ren et al., 2010).

From a slightly different point of view, power, dependence, control and surveillance also have a clear influence on the relationship (Hvolby et al., 2007, Zhao et al., 2008, Liu et al., 2010). Mutual dependence and power appear to be the basis for a collaborative relationship, allowing for the development and maintenance of long-term relationships (Narasimhan et al., 2009; Cheng, 2010). The concept of project success has evolved considerably over the last thirty years (Davis, 2014; Ika, 2009). The focus was primarily on the "iron triangle" : cost, time and quality (Pinto and Prescott, 1988, Pinto and Slevin, 1988, Shenhar & Dvir, 2007). Now, it is

clearly recognized that the success of construction projects must be also assessed from the the different stakeholders point of view (Atkinson, 1999, Gemunden, 2015, Turner & Zolin, 2012). And of course the most important of these stakeholders is the client.

In fact, customer satisfaction is an essential dimension measurement of project success (Davis, 2014, Dvir et al., 2003, Ireland, 1992, Serrador & Turner, 2015). Hence this research work proposes an interoperability framework for construction project stakeholders. The framework aim to push forward the project chances of success and satisfy the final client, in our case the contracting authority¹. Trough a peripherally planned contract² this framework will make project managers avoid obstacles hindering public construction projects.

The starting point is identifying the nature of relations between the contracting parties. And then we will study the factors influencing the Construction Supply Chain in the Moroccan public contracts³.

II. Literature Review:

The concept of Supply Chain Management consist on the "coordination of independent enterprises to improve the performance of the entire supply chain" (Lau, Huang, & Mak, 2004) which work collaboratively to meet customer needs (Egan, 1997) Contemporary supply chain management practices view the supply chain as an integrated flow of value generation rather than a set of independent activities (Vrijhoef, Koskela, & Voordijk, 2003). (Christopher, 2000) added that trust, commitment and information sharing among the stockholders are required for an efficient supply chain.

2.1. CONSTRUCTION SUPPLY CHAIN:

Unlike the retail and manufacturing sectors, the construction industry has been slow and reluctant to employ the concept of supply chain according to (Love, 2000). This is due to short-term relationships with the supplier-subcontractors who are vulnerable due to the temporary nature of construction projects (Akintoye, McIntosh, & Fitzgerald, 2000). Due to the complexity of the sector and the number of suppliers in a single project, (Arbulu, & Ballard, 2004) proposed a strategy to improve construction supply chain management using Lean principles and techniques. The application of Lean principles and solutions facilitates supply chain management and helps to achieve a significant reduction in time, cost and inventory (Walter & Rodriguez, 2011). In the construction industry, relations with third parties have traditionally been managed by contradictory approaches leading to adverse effects on the performance of the project according to (Palacios, Gonzalez & Alarcón, 2013).

The current and popular reflection in construction is however that best practices for managing relationships should always foster highly collaborative approaches based on high levels of trust and transparency other than typical opportunistic and contradictory approaches (Cox, Ireland, & Townsend, (2006). It is necessary to move away from the contradictory attitude towards enlightened cooperation relations (Fernie, & Thorpe, 2007). Based on the success of other industries, several reports have encouraged this approach to overcome a situation of low profitability and poor performance (Koskela, 2000). If the construction industry should move from a contradictory to a collaborative environment, it should openly use supply chain management core concepts from (Love, Irani, & Edwards, 2004).

(Proverbs & Holt, 2000) advocates effective Supply Chain Management through the early involvement of both contractors and subcontractors as a way to reduce effectively overall construction costs. (Sobotka et al., 2000) studied the flow of building materials and found that in the delivery of the physical flow of materials between the stockholders in the supply chain, 0.3% to 0.6% of time is the added value. He has also shown that the interaction between the main contractor and the supplier has an average potential cost reduction of 10% (cost of materials) through improved logistics procedures.

¹ Client or contracting authority: an authority which, on behalf of one of the public bodies referred to in Article 2 above, passes the contract with the contractor, supplier or service provider.

² Contract: contract for pecuniary interest concluded between, on the one hand, a contracting authority and, on the other hand, a natural or legal person called contractor, supplier or service provider for the performance of works, delivery supplies or the provision of services.

³ Decree No. 2-12-349 of 8 June 1434 (20 March 2013) on public contract.

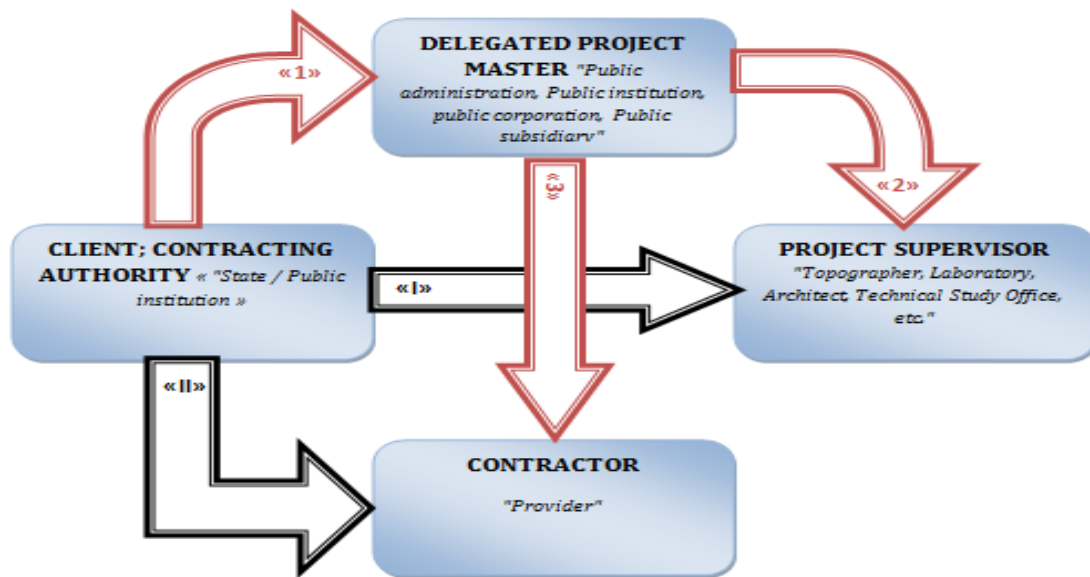


Fig.1. Construction supply chain of in the Moroccan public contracts.

"1": Agreement for the execution of missions delegated by the client;

"2": Contracts for consideration, concluded in MOD4 and M&E (contract for the provision of study and project management⁵);

"3": Contracts for consideration in MOD and the Contractor (Works contracts);

"I": Contract for pecuniary interest concluded in MO and M&E (Contract for the performance of study and project management);

"II": Contract for consideration in MO and the Contractor⁶ (Contract for construction works);

Morocco is still in its first stammering in terms of Construction Supply Chain. Especially instate public works, which is a very promising market.

Previous research works have essentially dealt with this problematic by focusing on macroeconomic conditions (regulation, customs duties ...) or macro-logistics (infrastructures...), or organizational (information systems, standardization of processes, etc.);

«In the 4th quarter of 2015, activity in the construction sector would have increased, according to 35% of the bosses interviewed, 46% stable and 19% down. This upward trend would have been mainly the result of increased activity in both the "Electrical Installation" and the "Road and Highway Construction", while in the "Construction of Fluid Networks" and "Other installation work", the activity would have declined.

The situation of order books was considered to be of a normal level by 40% of the bosses of the sector and little garnished by 39%.

As for employment, stability would have been expressed according to 57% of employers. In this context, the rate of utilization of productive capacity (TUC) would have been 66% in the 4th quarter of 2015.

Lastly, more than three-quarters of business owners (77%) reported investment in 2015, mainly to replace part of the equipment⁷, makes it difficult to integrate the philosophy of Supply Chain in the Moroccan market. We propose here to study a variable which has not been studied enough: the satisfaction of public administrations works. The evaluation of this variable will be done through the criteria mentioned in the literature review.

⁴ Delegated contractor: public administration, public institution, state-owned company or public subsidiary to which certain tasks of the developer are entrusted.

⁵ The contracts for the provision of studies and project management, which include, where appropriate, specific obligations related to the concept of intellectual property.

Contractor: provider, supplier or service provider.

⁷ Survey of the economic situation of the national economy with economic operators in the sectors of mining, manufacturing, energy and environmental, construction, 23/03/2016 of the High Commission for Planning.

2.2. QUESTIONS AND OBJECTIVE OF RESEARCH:

The state of art illuminated the following observations:

-A deficiency of studies and research works about supply chain management in construction markets;

-The lack of the Supply Chain Management philosophy in the construction markets in the Moroccan public administration. This leads us to ask the following research questions:

“What are the scopes and limits of construction supply chain management in the Moroccan public administration? And finally what are the factors of the contracting authority satisfaction?”

Question1: What is the nature of relations inside the Construction Supply Chain in the Moroccan public contracts?

Question2: What are the precursors of satisfaction of construction in the Moroccan public contracts?

This part aims to understand the relationships between actors through the transactional and relational approach within the Supply Chain and to study the precursors of client satisfaction in construction projects in public administration. This study could be useful to:

- Improve research works that fill in construction supply chain.

- To study the determinants or precursors of the satisfaction in the Moroccan public contracts;

2.3. THE DETERMINANTS OF SATISFACTION IN SUPPLY CHAIN CONSTRUCTION:

Client satisfaction has been documented by several authors in particular (Ndubisi, 2003, Anderson, 1994, Fornell, 1992, & Hirschman, 1970). First, according to (Richins, 1983), when clients are satisfied, the probability of leaving the relationship is greatly reduced. On the other hand, the confirmation / reversal theory (Churchill & Surprenant, 1982; Oliver, 1980) explain that satisfaction is achieved when expectations are met, and dissatisfaction means the opposite. (Lovell, Patterson, & Walker, 1998) cited the virtues of customer satisfaction: satisfaction is inextricably linked to customer loyalty and engagement. Secondly, satisfied customers will be positive word-of-mouth and will play an advertising role to the company. In other hand a satisfied customer may be more forgiving. A customer, who has benefited from good services many times in the past, is more apt to believe that service failure is a deviation from the norm. Other studies have shown that satisfied customers are less sensitive to competitive offers.

Many research works have shown the importance of internal (employee) satisfaction to external satisfaction (client). (Hill and Alexander, 2000) stated that there is a positive relationship between employee satisfaction and customer satisfaction. This approach is adopted in companies promoting motivation and retention among employees. They stated that "employees, who are more motivated to achieve customer satisfaction, tend to be more flexible in approaching their work, making fewer mistakes and using more initiatives." (Fecikova, 2004) conducted index-based surveys to measure customer satisfaction and reported that internal customer satisfaction is one of the basic factors to satisfy the external customer because they will be able to deliver the product or the superior service when they are internally motivated.

Since the 1990s, some authors have demonstrated a positive relationship between customer satisfaction requirements and delivery performance and logistics solutions (Sharma et al., 1995, Choi & Eboch, 1998, Beamon, 1999, Cermak et al., 1994). (Cermak et al., 1994) discussed the fact that customers can even participate in the specification and provision of services. In this sense, suppliers must react quickly to customer demand by increasing their capabilities to control all processes, including logistics.

According to the definitions and the studies of the authors preceded, we deduce that client satisfaction is linked to a combination of factors pertaining to relational and transactional approach. Next we study the variables of these approaches influencing satisfaction.

2.3.1. CONCEPTUALIZATION OF THE COMMITMENT:

(Moorman, Zaltman & Deshpandé, 1993) defined engagement as the belief of partners in a continuous relationship, maintained in importance to ensure maximum effort. This can be translated by the desire to maintain a quality relationship by believing in the importance of the relationship. According to (Cook & Emerson, 1978), engagement is the center; the basis of relationships in marketing, (McDonald, 1981) in the literature of marriage, the durability of the relationship is the result of commitment and mutual trust, which has allowed the differentiation of other types of relational exchanges. (Anderson & Weitz, 1992; Moore, 1998) in supply chain, engagement is defined as the attitude of the supply chain's partners for a stable, mutually, and continuously relationship.

Client satisfaction, mediation of client engagement, has been shown to influence future intentions (Garbarino & Johnson, 1999). (Brown, Barry, Dacin & Gunst, 2005) argue that a consumer's cumulative assessment of satisfying consumer experiences has a positive impact on the degree of engagement in a marketing relationship. (Fullerton, 2011) in his study of banking, hairdressing, and auto repair industries shows that satisfaction is significantly and positively related to emotional engagement.

H1: The commitment acts positively on the satisfaction of the Client (Contracting authority);

2.3.2. CONCEPTUALIZATION AND DETERMINANTS OF TRUST:

(Moorman, Deshpandé & Zaltman, 1993) defines it as "the desire to rely on a partner whom one has confidence in" where the firm belief that the trustworthy partner is reliable, they have incorporated "will", it is the behavioral intent "if one believes that the partner is trustworthy without wanting to rely on it, confidence will be limited".

Trust can be associated with honesty, responsibility, fairness, competence, loyalty, efficiency, utility ... (Anderson & Narus, 1990,) define trust as the belief of the firm that another (Spekman,1988) considers that trust is the basis of any partnership strategy since it represents a rewarding character and encouraging parties to engage in such relationships, as well (Achrol, 1991) asserts that trust is the major determinant of any engagement.

Trust has been described as an important dimension of inter-organizational relational governance, (Zaheer & Venkatraman, 1995). In the TCE (transaction cost saving theory), (Williamson ,1985) concluded that trust can control opportunism.

Therefore, the impregnation of these two concepts in the construction SCM will allow the establishment of a long-term relationship between the members of the supply chain, which is due to the presence of trust and open communication; and a strong commitment between the various players in the chain who will be ready to invest in training and development of the supply chain organization.

H2: trust has a positive impact on the satisfaction of the Client (Contracting authority);

2.3.3. CONCEPTUALIZATION OF COMMUNICATION:

A concept widely studied in inter-actors relationships that incite information sharing, often associated with trust and commitment (Lages et al.,2005) defines it as "human activity that creates and maintains relations between the different parties involved in the exchange" (Hoang, 2009), which considers it as one of the essential factors in the functioning of the supply chain. Communication contributes to a better coordination of the actions of the partners enabling them to achieve the objectives more easily (Anderson & Narus ,1990). It helps to reduce the risk of conflict and malfunction and increases the benefits that parties can derive from the relationship (Anderson & Weitz, 1992).

(Anderson & Narus,1990) also point out that there is a new vision of communication as an interactive dialogue between the company and their client that takes place during all stages of the project to provide timely and trustworthy information; in addition, communication helps maintain confidence. Because language is imperfect, open dialogue is often a necessary means to develop and maintain a shared understanding of the relationship (Sabel, 1993). Effective communication between the company and the customers leads to a better relationship, customer satisfaction and loyalty.

H3: Communication acts positively on the satisfaction of the Client (Contracting authority);

2.3.4. CONCEPTUALIZATION AND DETERMINANTS OF INFORMATION TECHNOLOGIES:

(Lin & Tserng, 2001) have highlighted that supply chain management is about rapidly obtaining real-time information, minimizing costs, and increasing service levels, improve communication between the components of the supply chain, and increase flexibility in terms of delivery and response time. In the traditional construction industry, construction processes are always labor, employment, and time. With the advent of information technology, it is possible to manage the construction supply chain by seamlessly connecting all components of the construction chain with real-time information. The chain of supply construction contractors includes the construction of the internal supply chain and the external power supply construction chain. The researchers propose simplified models for internal and external logistics supply chains to carry out supply chain management for construction using information technology. These information technologies tailored to supply chain management include Internet, Intranet, Extranet, and mobile devices (such as Personal Digital Assistant device). In addition, XML is introduced for the standard and technology designed to accelerate data sharing by integrating systems across the supply chain efficiently.

H4: The "IT" information technologies acts positively on the satisfaction of the Client (Contracting authority);

2.3.5. CONCEPTUALIZATION AND DETERMINANTS OF THE FORMALIZATION:

The formalization or the contractual conception of the inter-actors relations has been of great interest in the SC according to the authors (Woolthuis et al., 2005, Poppo & Zenger, 2002, Dekker, 2004, 2008). These discussions are part of the transactional approach (the theory of transaction costs and agency theory) and the theory of resource dependence (Paché & Sauvage, 1999).

The formal contract theory defines formalization as a written agreement between two or more parties, which are perceived or intended as legally binding (Woolthuis et al., 2005), the results are supposed to be effective when

the contractual form accurately reflects the " uncertainty, asset specificity and transaction frequency (Williamson, 1985).

In this research focus, considering the transaction cost approach has shown that formal contracts provide the guarantees and the mechanisms that can protect economic trade from the consequences of limited rationality and opportunism (Williamson, 1985). Formal contracts can detail the roles and responsibilities that must be performed, specify monitoring and sanction procedures for non-compliance, and determine outputs to be delivered (Poppo & Zenger, 2002, Reuer & Arino, 2007).). The different project processes are generally organized into distinct enterprises linked to one another through contractual relationships

H5: Formalization has a positive impact on the satisfaction of the Client (Contracting authority);

2.3.6. CONCEPTUALIZATION AND DETERMINANTS OF POWER:

(Cox,2001) demonstrated that power is at the heart of trans-organizational relationships, power is the ability to influence the behavior of other members of the relationship.

(French & Raven, 1959) identified five types of power: expert power, reference power, legitimate power, reward power and coercive power. According to this classification, several dichotomies appeared. For example, the first three types were identified as non-economic power by (Etgar, 1978) and as non-contingent by (John,1984), while the last two types of power were considered economic power by(Etgar ,1978) and as contingent power by (John,1984).

Supplier satisfaction is defined as the feeling of equity in the relationship, no matter the existence of an imbalance of power. The authors (Hunt & Nevin, 1974, Lusch, 1976, Michie & Sibley, 1985) found relatively positive effects of non-coercive power on the satisfaction and negative effects of coercion.

H6: Non-coercive power has a positive impact on the satisfaction of the Client (Contracting authority);

2.3.7. CONCEPTUALIZATION AND DETERMINANTS OF THE CONTROL:

In fact control ensures that the partner behaves in accordance with its expectations in order to coordinate activities in the value chain (Bouquin, 2001). At the inter-organizational level, (Dekker, 2004) proposes two main functions for control: creating the conditions for achieving the desired results and ensuring coordination of interrelated tasks. According to (Roy & Bygras, 2000), control tools cover all the activities and evaluation processes used to manage and control inter-stakeholder relationships throughout their evolution.

According to (Juran, 1998), there are three quality management processes to improve quality such as quality planning, quality improvement and quality control. In this process, quality should have two aspects; products and services with or without fewer defects that required different processes of quality planning, control and improvement. In addition, as reported by (Dale,2009), quality is the integration of marketing, engineering, production and service that fills customer satisfaction as well as its systematic approach that requires the participation of all functions such as quality control, quality maintenance and quality improvement. According to (Jerry,1989), quality control is a business method rather than technical activity, it is because technical activities involve materials, machinery and processes and operation. It further emphasizes that the human relationship is a fundamental element of quality control activity to generate progressive commitment to Total Quality Management (TQM) such as senior management, employee involvement, offer, open communication and measuring the cost of quality. Effectiveness of quality control has become the most important guide to organizational growth and success due to quality control moved from technical method to a business method. Thus, quality control defined as an effective method to integrate the development of quality, quality maintenance and quality improvement. Quality control involves manufacturing, processes, products and services leading to customer satisfaction.

H7: Quality control acts positively on the satisfaction of the Client (Contracting authority);

III. Methodology And Results Of The Exploratory Survey:

We will outline the tools used to achieve the objectives pursued by this research. First, we discuss the data collection procedure and describe the techniques used to analyze this data. Then, we will present the results of the exploratory survey to end with a discussion.

3.1. COLLECTION OF QUALITATIVE DATA:

Data collection is often an intensive period, especially in qualitative methods. The quality of the research depends to a large extent on the collection methods set up to observe the phenomenon and the richness, relevance and volume of data collected. The following developments describe the data collection phase.

The data collection strategy should be considered once the terrain has been determined by the researcher. Indeed, "it allows the researcher to collect the empirical material on which to base his research" (Baumard et al., 1999). Conducting a diversified collection strategy for the researcher is strongly recommended

in qualitative research (Giroux, 1993; Wacheux, 1996). The empirical phase assumes that "a phenomenon is documented using several techniques of data collection (document studies, interviews, observations, etc.)" (Giroux, 2003).

As part of our research, we conducted a series of interviews with two types of informants. The first series, of a semi-directive type, are dedicated to the actors who form the units of our analysis (client, architect, entrepreneur), while the other, non-directive, also called "experts or academics" are devoted to persons who have expertise through their functions, specialties or experiences, that will allow them to better understand the problem posed, its various aspects and the critical points to be taken into account (Evrard et al. ., 2003).

An interview screed (guide) was constructed to collect the information sought. It allowed us to ask the same questions to all the interviewees and provide a valuable database to analyze. It has been developed around four main themes that could provide sufficient insight into these relationships.

The plan of the interview guide includes the following topics:

Theme 1: the nature of the inter-stakeholder relations of the Supply Chain in the construction markets of the public administration;

The actors involved in the Supply Chain in the construction markets.

Theme 2: the relational determinants of the client's satisfaction;

Theme 3: the transactional determinants of the client's satisfaction;

Theme 4: obstacles hampering the success of a construction project.

In this order, our data collection constitutes an important wealth of discourse in view of the various semi-directive and non-directive interviews conducted during this phase. The secondary data (documents, internal reports, press articles ...) also represent a fairly large volume in our research.

The progression of the interview:

Following the example of the researchers who preceded us in the interviews and following the recommendations of our thesis supervisor, we presented a summary of our research and the objectives of the interview, free and open discussion;

Before each meeting with the target actors we visit their website. This operation allowed us to acquire data of great use to the extent that they have been used to support the respondents' comments.

In order to learn about the relationships between the actors of the construction SC, we have limited ourselves to the guidelines of a semi-directive interview that stipulates that we are not directive during the interview with the respondents in order to create a current of sympathy and of understanding, without influencing the actors, and we intervene from time to time with the respondent, to refocus on the objective of the research or to encourage him to deepen some particularly important aspects of the subjects.

In order to reduce the personal interpretation margins of the respondents, we made a preliminary explanation, backed up by concrete examples drawn from the reality of the activity of the company concerned. This approach was only possible thanks to the preliminary studies carried out on the companies concerned;

To summarize, we conducted 12 semi-directive interviews, often of long duration, ranging from 2 hours 30 minutes to 4 hours. All the interviews were carried out over a period of more than 8 months, from March 2016 to October 2016 (see table below).

Table1: The exploratory sample of our study:

<i>OBJECTIVES</i>	<i>IDENTIFY THE NATURE OF THE RELATIONS INTER-ACTORS OF THE SC DE CONSTRUCTION IN MOROCCO AND REVEAL THE DETERMINERS OF THE SATISFACTION OF THE CLIENT (CONTRACTING AUTHORITY) AND THE SUCCESS OF THE PROJECT.</i>	<i>ACTORS</i>
Time of the interview is 2hours to 4hours each	1- Buyer DRETL 2- International buyer 3- Frame/framework within DRETL Launching of contracts 4- Buyer in a public institution 5- TP Project manager 6- DEP Architect 7- Quantity Surveyor At The Ministry Of The Interior	<i>Client- Contracting authority</i>
	1-Manager BET 2- Architect 3- Chief Engineer (Associate Director in a BET)	<i>Project supervisor</i>
	1-CGI Chief Engineer 2-Architect Manager of projects to the Company Al Omrane Rabat	<i>Provider</i>

This exploratory research is structured around a series of 12 semi-directive individual interviews. Each phase of the research was the subject of a discourse analysis based on a thematic analysis. The objective of this exploratory phase of research is to better understand our field of empirical investigation, to ascertain the relevance of the hypotheses formulated at the end of the literature review and to enrich the

measurement of the scales that will be used later through an operationalization that takes into account the specificities of the respondents.

After presenting the techniques of analyzing qualitative information gathered during the exploratory phase, based on the thematic content analysis, the results and their discussion will be presented.

Based on the results of our interviews, we will present a global discussion on the nature of the inter-stakeholder relations of Supply Chain in public administration construction markets and the transactional and relational determinants of satisfaction of the client.

3.2. THE NATURE OF THE INTER-ACTOR RELATIONS OF THE CONSTRUCTION SC IN MOROCCO:

In the field of construction, the nature of the relationship has been clearly described as a contractual relationship by different actors (C⁸1, P.S⁹1, C4, P.S2, C5 C.6), the latter have described a relationship in a formal contractual framework governed by specifications and/or laws, such a relationship has been described by (Williamson,1975) who agrees that in a formal contract, the parties often act in an atomized fashion, looking for their own personal interests adopting hence the Transaction Cost Economics (TCE) theory based on the transaction and the transfer of assets. On the other hand, actors quoted a social dimension of exchange, where the relational aspect of the relation appears, according to (the PROVIDER 1) it is a relationship of trust, bound with contracts, as for the (P.S3) who asserted that in the majority of the cases, the interpersonal skills take him on the regulations and the procedures which govern the relations inter actors, and thus allowing a mutual planning between the parts of the possible relational contract.

We asked the following question to the various actors: How it's translated in your organization? It was explained by (C1) as a relation which is translated by contracts signed and rectified by the various stakeholders respecting the rights and duties of each and where the deadlines and the transaction costs are determined, (P.S3) adds that if the relations are good, it allows to facilitate the exchanges, to favor the success of the projects, to establish the confidence between the partners, to perpetuate the contact and the collaboration ... Otherwise, it will give an inverse effect and the collaboration break becomes imminent.

In addition, public projects are usually procured through a tendering process and therefore public clients have fewer rights to offer contractors future relationships. On the other hand, greater adoption of contractual relational practices is advantageous, since it leads to better project results (Ling & Tran, 2012).

Still in the Supply Chain concept of coordinating independent companies to improve the performance of the entire supply chain, this typically involves a group of companies that work collaboratively to meet customer needs (Egan, 1997), we asked a question about the different actors involved in the Supply Chain in the Moroccan construction markets, the answers were similar, deceiving a diversity of stakeholders between the developer, the consulting office, the architect, the Treasurer ... we had as a remark towards the end of our investigation by the majority of the actors that this diversity of stakeholders is an obstacle in the field of construction, this specific point will be detailed later.

This diversity of links has led us to ask about the relationships that can coexist between the client and the contractor. Relationship of commitment of assiduity of benevolence is required according to (C1) and a relation of confidence according to (C2) It is a relation of collaboration and respect of the prescriptions inscribed on the (C4) and many other notions responded to this questioning such as commitment, collaboration, cooperation, good reputation, mistrust, transparency ... which has led us to look again further by trying to identify the determinants of the client's satisfaction within construction while comparing our results with the literature review.

3.3. THE DETERMINANTS THE SATISFACTION OF THE MASTER OF WORK WITHIN THE CONSTRUCTION SC IN THE PUBLIC ADMINISTRATION:

The analysis of the speeches enabled us to highlight the reasoning discerned by the persons involved in the construction markets of the public administrations for the satisfaction of the client. We present here some parts that synthesize the variables explaining the satisfaction.

3.3.1. COMMITMENT IN THE INTER-STAKEHOLDER RELATIONS OF THE MOROCCAN CONSTRUCTION SC:

In the Supply chain (Anderson & Weitz, 1992, Moore, 1998) define commitment as the attitude of the chain partners to maintain a stable, mutually, continuously and incessantly developing relationship, in this context we asked the question: How does the involvement in the project affect the satisfaction of the partner? The various

⁸ C : Client, contracting authority ;

⁹ P.S : Project supervisor ;

actors have reported the positive impact of the involvement on the project's success, project completion and partner satisfaction (C1, P.S3, C5, C6, PROVIDER1) the implication has been described by (P.S2) as a synonym for continuity and commitment, that the involvement of the client in the project allows the partner to better understand its expectations according to (C3). (Moorman, Zaltman & Deshpandé, 199) defined engagement as the belief of partners in a continuous relationship, maintained in importance to ensure maximum effort; from this definition we asked the following questions: Is your institution trying to maintain a long-term relationship with this partner? Do you consider yourself to be part of the same family? How important is your relationship with this partner? Will you do the impossible to maintain the relationship with this partner? And if this is necessary, will you be ready to put an end to the relationship quickly? (C3) says that the public administration seeks to succeed in all projects with partners by trying to avoid constraints and while (C4) shows that a well-committed partner and a partner whose relationship must be retained and of course consolidated, (PROVIDER 1) adds that the relationship with a partner means sustainability and evolution of my institution. The latter can not continue to exist or improve if we neglect to retain customers and finally the determining factor is the presence / absence of honesty and willingness to carry out the partnership projects. The various actors confirmed that the work was a team work for a single purpose the success of the project from where the client's satisfaction. All the answers support the hypothesis that the commitment acts positively on the satisfaction of the developer.

3.3.2 TRUST IN THE INTER-ACTORS RELATIONS OF THE MOROCCAN CONSTRUCTION SC:

Trust has been described as an important dimension of inter-organizational relational governance (Zaheer & Venkatraman, 1995). In the TCE (transaction cost saving theory), (Williamson,1985) concluded that trust can control opportunism. In several researches, trust has been associated with honesty, responsibility, fairness, competence, loyalty, efficiency, utility ... (Anderson & Narus, 1990), indeed, several actors in our investigation confirmed that honesty and integrity represent an important aspect leading to mutual satisfaction (C1, C7, P.S1, C3, P.S3, C4, P.S2, C5, C6). stresses the positive impact of this relational parameter on satisfaction, and the importance of this determinant which crosses with other determinants such as commitment, according to (PROVIDER 2) confidence represents a moral commitment that automatically influences the commitments (Achrol, 1991) claiming that trust is the major determinant of any commitment. Thus, the actors confirmed that their partner is credible, that they can count on him to do what is right, that trust is mutual. According to (C4) generally confidence is acquired at the beginning of the project, it decrease or increase according to the behavior of the partner towards the client. For this purpose, the results confirm that the satisfaction has a positive impact on the satisfaction of the client.

3.3.3. SHARING AND EXCHANGE BETWEEN THE ACTORS OF THE MOROCCAN CONSTRUCTION SC:

Another relationship factor has been widely studied in the literature review communication, information sharing often associated with commitment and trust, (Hoang, 2009) considers it as one of the essential factors in the functioning of the Supply Chain . We asked a variety of questions to highlight the importance of information sharing in partner satisfaction. In your relationship with this partner, what is the importance of sharing information in the satisfaction of the partner? Does your partner expect it to exchange information? Is this done in a regular and frequent manner? Is this sharing exclusive information between you? If so, what? (business planning, meetings, supply forecasts, etc.)

What is the transfer volume of this type of data? What is the most common type of exchange between you (EDI, internet ...)? Is there compatibility between your information systems and your partner's systems? Do you work on the implementation of common systems? All the actors have affirmed the essential role of information sharing in the smooth running of the project and the satisfaction of the partners, that the sharing makes it possible to update the information and (C5, C1, C6, C4) reminding (Anderson & Weitz, 1992) that communication contributes to reducing the risks of conflicts and malfunctions and increases the benefits that the parties can draw from the relationship. Our actors add that the transfer of data is regular through meetings between the stakeholders and that sometimes it is exclusive such as exchange with the partner services orders or in case of emergency (C3, C1), internet being an almost common choice as a type of computerized exchange via e-mails. It is concluded that effective communication between the company and the customers leads to a better relationship, customer satisfaction and loyalty.

3.3.4. FORMALIZATION IN RELATIONS BETWEEN THE ACTORS OF THE CONSTRUCTION SC IN MOROCCO:

Our investigation also aims to test the hypotheses concerning the transactional factors influencing the satisfaction of the client that had been drawn from the literature review. The classic contract theory defines

formalization as a written agreement between two or more parties (Woolthuis et al., 2005), the results are assumed to be effective when the contractual form accurately reflects the uncertainty, asset specificity and frequency of the transaction (Williamson, 1985). Indeed, our actors have asserted that they are always written contracts, precise and complete (C1) explains that the written contracts determine exactly the rights the duties of each one, which also makes it possible to define the project in the time and cost, the partners are satisfied because they know what it is and will not be surprised by any unexpected result (C4) adds that it allows to guide and to write all the steps that it must be respected and therefore it can be positive. In the same context, formal contracts can detail the roles and responsibilities that need to be performed, specify monitoring and sanction procedures for non-compliance, and determine outputs to be delivered (Poppo & Zenger, 2002; Reuer & Arino, 2007), on the other hand (P.S3) explains that sometimes it is perceived as professionalism in work. In other cases, it may be misinterpreted (lack of confidence, rejection of responsibility ...), (P.S1) adds that sometimes the formalization gives an opposite effect, whereas (C7) adds that it can complicate task to the partner contrary to (C5, C6, C3, PROVIDER 1) who agree that the formalization acts positively on the satisfaction of the client, as well as (PROVIDER2) adds that formalization and contracts are in line with the procurement rules.

3.3.5. POWER IN RELATIONS BETWEEN THE ACTORS OF THE CONSTRUCTION SC IN MOROCCO:

Power is the second transactional determinant we have tested in our survey (Cox, 2001) demonstrated that power is the heart of trans-organizational relationships, power is the ability to influence the behavior of other members of the relationship.

In our survey, the answers were contradictory. We tried to explain the type of power that can be exercised to materialize it in terms of sanctions. The partner can constitute an indispensable reference to the other's brand image on the market, whether it imposes trading conditions on it, whether the institution's survival or growth is linked to the partner, whether the two partners are dependent on it. 50% of the respondents said that power had a negative impact on customer satisfaction (C3) explained that there was no power relationship between the Client and the partner, it is not a relationship of dependency, it is a contractual relationship between the client and the contractor for the realization of a project and if this contractor fails, this project will be carried out by another enterprise following the relaunch of the market. (C1 and P.S3) add that no one needs to use power over the other; automatically it will harm the relationship, the commitment, and the satisfaction of the stakeholders. In the same line, (C5) adds that the partners are aware of their rights and duties and that power must not be present (P.S2) has shown that power cannot lead to satisfaction of the partner especially when it comes to pressure.

On the other hand, the other half agrees with the contrary of what has been said, (P.S1) assures that the power allows the necessary decisions to be taken in accordance with the clauses of the contracts and contracts (C7) adds that the power gives (C6) agrees that non-coercive power can have a positive impact on the satisfaction of the developer.

The authors (Hunt & Nevin, 1974, Lusch, 1976, Michie & Sibley, 1985) found relatively positive effects of non-coercive power on the satisfaction and negative effects of enforcement. That said, we maintain the hypothesis resulting from the literature review which approves that the power has positive impact on the satisfaction of the developer.

3.3.6. CONTROL IN THE RELATIONS BETWEEN THE ACTORS OF THE CONSTRUCTION SC IN MOROCCO:

Monitoring, evaluation and monitoring is an important part of ensuring that the partner is behaving in accordance with expectations and coordinating activities and operations. This factor was part of our investigation and we asked several questions the impact of the control on the satisfaction of the developer. Doing evaluation and monitoring have an impact on partner satisfaction? Do you regularly check your partner's activity (respecting deadlines and schedules, presentation)? Does your partner periodically report on the progress of operations through regular reporting? Is the monitoring of operations common among you? the responses were similar between the different actors on the one hand, and with the results of the researchers on the other hand, according to (Jerry, 1989) quality control defined as an effective method to integrate quality development, maintenance and quality improvement. Control involves manufacturing, processes, products and services leading to customer satisfaction. The different actors (C1, C2, C3, P.S1, P.S2, PROVIDER1, PROVIDER2, C4, C5, C7 ...) asserted that the control has a positive impact on the satisfaction of the contracting authority, that the evaluation was carried out in a regular and mutual manner between the various partners in order to ensure the smooth running of projects, that a control office in general was responsible for monitoring operations through reports prepared after each meeting; according to (PROVIDER2): "a permanent evaluation system has been established for this purpose" (C5) adds: "In fact, these are the minutes of meetings of work sites which periodically report the progress of work on the site, these minutes are signed by the two speakers.

Finally, it is concluded that control has a positive effect on customer satisfaction.

Discussion of the findings of the exploratory survey allowed us to develop the final version of the Client Satisfaction Analysis Model.

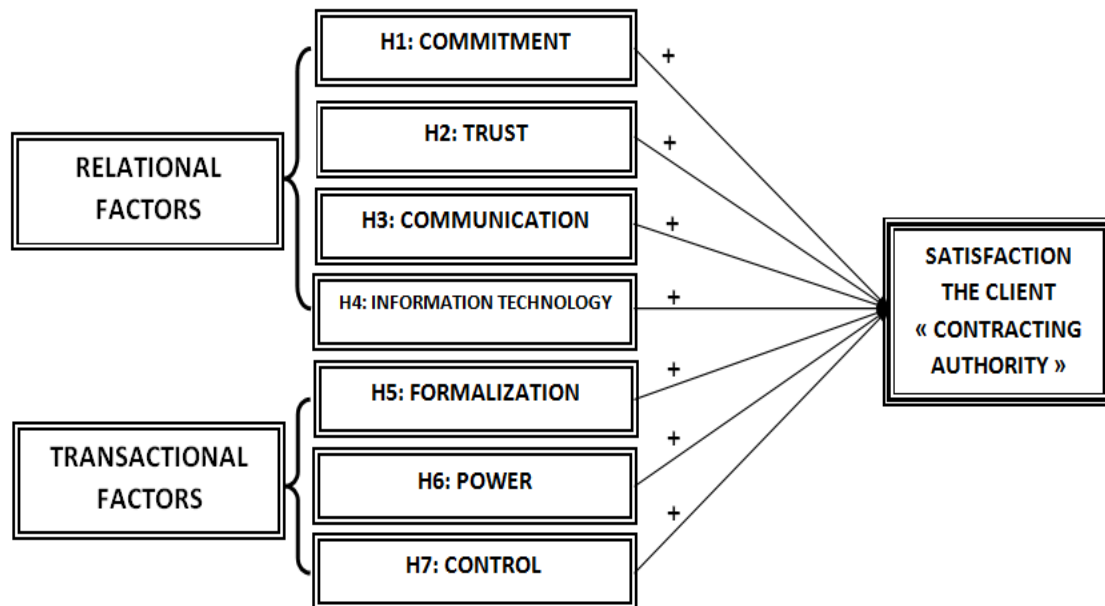


Fig. 2: The definitive model of an inter-actors relationship of the construction SC in the Moroccan public administration.

IV. Conclusion:

In conclusion, we asked two questions that encompass the purpose of our inquiry;

The first: Can we determine the crucial factors of client satisfaction in construction markets?

Relationships between several members of the project team may be based on formal contractual relationships, relational links or a combination of the two. In a formal contract, parties often act in an atomized manner, looking for their own personal interests according to (Williamson, 1975). On the other hand, a relational contract supports different approaches that establish working relationships between the parties for win-win situations for all according to Sanders and Moore, (1992). Thus allowing mutual planning between the parties of the possible relational contract, in the process of projecting exchange in the future according to (Macneil, 1974). In the same context, the actors raised the determinants of satisfaction that responded to both the transactional and relational aspects. According to (C2) the determinants of satisfaction are Confidence Commitment Information Sharing Control Time Respect Cost. And according to (C1), a contracting authority is satisfied when he finds all the recommendations present in final work and when the different parts are satisfied too. We can summarize the determinants of satisfaction in terms of good management of the project (planning, risk management ...), quality of service, appropriate human and material resources, good communication and good relationship (honesty and integrity ...) and indeed the respect of deadlines and standards. Thus, we were able to identify among all the answers the determinants drawn from the literature review and their impact on client satisfaction.

- The commitment has a positive impact on the satisfaction of the client.
- Trust has a positive impact on the satisfaction of the contractor.
- The communication and information techniques have a positive impact on the client satisfaction.
- The formalization has a positive impact on the client satisfaction.
- The power has a positive impact on the satisfaction of the contractor.
- The control has a positive impact on the satisfaction of the contractor.

The second question: What are the challenges constraining the success of a construction project?

Among the frequent answers to this question by the actors, the main obstacle is the diversity of the players involved in the construction projects work-flow. This diversity and some time divergence require additional wasted time and formalities one hand, and resulting a lack of communication and coordination on the other. However, these obstacles can be overcome as the Construction Supply Chain culture take place, which is not very widespread in the Moroccan context.

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