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Analysis of the Antecedents of Inter-Functional Coordination in the Supply Chain Context: Case of the Medicament Flows in a Moroccan University Hospital

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Abstract

This paper aims to identify the antecedents of inter-functional coordination in the Supply Chain context « Case of the medicament flows in a Moroccan University Hospital ». In doing so, the analysis of the literature allows to derive a series of factors influencing the coordination. The main influencing factors such as: culture, formalization, trust, commitment, information sharing and informal relations. Therefore, an exploratory qualitative study, based on semi-structured interviews, is necessary to report the results of a verification of the stated factors above.

Keywords: coordination, supply chain, hospital system, Morocco relationship

1. Introduction

The environment of health system is changing. It has in recent years many changes such as: growth of health spending, aging population, the integration of more sophisticated and expensive of technology, shortage of health workers and so on (Di Martinelly, 2005). These changes have caused a mutation in the search of patient satisfaction.

This mutation challenges the questioning of the fragmentation of services within hospital. In this sense, the hospitals must insert into approaches of coordination and integration of all structural and operating functions (Costin & Chitou, 2012) with the objective of patient satisfaction. The Supply Chain Management (SCM), from the industrial sector assumption, appears as an important approach of the coordination to enable improving the customer satisfaction in the hospital sector. It is defined as “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole” (Mentzer et al., 2001, pp. 18). In this definition we find that without such inter-functional coordination (IFC), supply chain management cannot achieve its full potentials (Mentzer et al., 2001). It is the coordination between the functions of the organization: engineering, purchasing, marketing, manufacturing and logistics (Mentzer, 1993).

By analogy to the industrial SC, hospital can be defined as a Hospital Sypply Chain (HSC) (Andre & Fenis, 2007) which requires coordination between several intra-hospital services for a common goal: patient satisfaction. It is the coordination between the administration, care units, technical platforms and logistics services (Moisdon & Tonneau, 1999; Kharraja, 2003).

In the Moroccan context, the health sector is in transition. It has in recent years experienced a growth of health spending, a slowing population growth, early of aging (Berraho et al., 2006) and the integration of technologies has been increased sophistically and more costly.

In this context, Morocco is in a logic transformation of its care system, organizational structures and approaches to management (Zerouali & Bendou, 2012). Therefore, the Moroccan hospital, especially Moroccan University Hospital (MUH), will play a role in the increasing significance of the public health system (2006). The main concern is to make the MUH more competitive in its offer quality of care, with particular emphasis on logistics as vector control policy costs, mobilization and rationalization of resources (Zerouali & Bendou, 2012).

Before focusing on the logistics of the Moroccan hospital, it seems judicious to verify whether the internal context of the MUH has a set of characteristics that allows focusing on logistics. This way of approaching our research aims to identify the variables that explain the coordination between the services of MUH which intervenes successively on physical flows (medicament) as well as associated flows information for better understanding the role of each variable that influences this coordination. Thus, our research question is structured as following: Does the internal context of MUH have characteristics that influence favorably the IFC? To address this problem, this paper is structured of three parts. First, a first point addresses the IFC in the context of the SC, the HSC and the identification of the variables used in our research. Next, the research methodology will be specified in the second part. Finally, the presentation and discussion of results will be presented in the third part.

2. Conceptual Framework and Research Proposals

2.1 The IFC in the SC Context

In the context of SCM, coordination appears to be a central element in a large number of studies (Belin-Munier, 2008). It is considered the essence, the key and the central lever of SCM (Fugate et al. 2005; Fing, 2010; Ballou et al., 2000). In this context, while remaining in the definition of Mentzer et al. (2001), we can assume that the SCM is based on a comprehensive vision and open-plan between the various departments and organizations (Morana, 2002). Thus, coordination in the context of SCM can take two dimensions: IFC and inter-organizational coordination. However, Balou et al. (2000) add that the intra-functional coordination as a third dimension of SCM. It is the coordination of activities within the logistic function.

The IFC has become a topic of current interest in recent years (Kanovska & Tomaskova, 2012). It focused on the interest of several disciplines: social science, marketing, SCM, Human Resources Management and so on. In the context of the SCM, the IFC is an essential element for the success of SCM (Min, 2001; Mentzer et al., 2001; Golicic & Vitasek, 2007). The IFC is justified by the need for transversality within organizations to create rapprochement and synergies between the different functions (Kosremelli, 2011) with the objective of creating value for targeted customers and offer a quick response to customers (Porter, 1985).

Literature is marked by the existence of several definitions of the IFC (Narver & Slater, 1990; Hodge et al., 1996; Tay & Tay, 2007; Kanovska & Tomaskova, 2012). To make a consensus definition of coordination, we must consider that the coordination of the SC is often justified on the basis that the independent functions of the SC should work together. Thus, we adopt a minimal and simple definition of coordination in our research: working together for the common goal Pinto et al (1993). In this sense, (Min, 2001, pp. 376) defines the IFC as the "coordinated efforts across functions to accomplish common goals, such as creating a customer value and responsiveness to market changes, under close relationships among the functions".

2.2 The Hospital Sypply Chain

Many authors see hospital as a center of production, albeit with important features, with sufficiently similar characteristics which are widely proven in industrial sector (Martinelly et al., 2005). Therefore, a comparison with an industrial SC is obvious. Indeed, the current hospital, due to its increasing complexity, is closer to a huge supply chain whose agents aim to satisfy the patient (Andre & Fenis, 2007). Thus, Andre and Fenis (2007) propose to define the hospital as a HSC.

The HSC "Aims to coordinate partners of first suppliers (manufacturers or transporters) to the latest distributors (care units/patient), whose interrelated activities allow for the elaboration of a product or a service and its disposition to the final customer" Taher (2006, p. 53). From this definition, we find that the HSC implies the presence of multiple intra-hospitals (hospital services) and inter-hospital partners (manufacturers, laboratories, transporters, suppliers, patients) (Taher, 2006; Andre & Fenis, 2007) willing to coordinate for a common goal: satisfaction of patient. These partners are bound by several flows: physical flows consisted of patient flows, products flows (medicaments, hygiene products, hotel equipment, medical equipment ...) and information flow.

While addressing the medicaments flows and the information flows, our research question is to highlight the variables that explain the coordination between intra-hospital services. In this sense, to coordinate these services, a set of antecedents arise. They are factors that appear to us as à key to development and strengthening of the IFC. Thus, it is imperative to have a better understanding of these factors and their impact on the IFC in the HSC context.

2.3 The Antecedents of IFC

One of the main issues of the IFC that stimulates the interest of researchers is antecedents. To reinforce the IFC, the organization should have commitment among the personnel from different functional areas (Min, 2001; Mentzer et al., 2001), trust (Min, 2001; Mentzer et al., 2001), and culture (Eng, 2005), formalization (Thompson, 1967; Van

de Ven et al., 1976; Mintzberg, 1982), information exchange (Eng, 2005) and informal relation (Mintzberg, 1982; Tsai, 2002). Therefore, we will identify each variable in order to clarify its impact on the CIF within the SC.

2.3.1 Culture

Organizational culture is defined as "a pattern of shared basic assumptions that a group learns as it solves its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems" (Schein, 1985: 9). From this definition, it appears that one of the main functions of culture is the internal integration of members. Indeed, culture is a way of uniting, in a consistent and the structured way, the actions of a social group around common goals. In this way, culture enhances the behavioral consistency of organizational members and thereby facilitates coordination. This type of consistency is a powerful source of stability and internal integration that results from a common mindset and a high degree of conformity (Senge, 1990).

The principle of consistency whose culture seems to be the vector took the interest of a certain work. Denison (2000), in his model of organizational culture, provides consistency as a cultural trait. This trait is considered essential for the internal integration based on its ability to facilitate the coordination of activities. It is explained by three indexes: core values (share a set of values which create a sense of identity and a clear set of expectations), agreement (are able to reach agreement on critical issues and reconcile differences when they occur) and coordination and integration (work together well to achieve common goals) (Denison, 2000). It is through these three dimensions that we could lead the role and impact of culture on the IFC.

These developments lead us to ask the following proposal:

P1. Culture is associated with increased IFC in a HSC context.

2.3.2 Formalization

"The formalization aims to further define rules of conduct more or less explicit in order to regularize and stabilize the action by strengthening the formal structure" (D'Amour et al., 1999, p. 79). There are many types of formalized tools: rules, procedures, nomenclatures (Thompson, 1967; Lawrence & lorsch, 1967; Van de Ven et al., 1976; Mamad & Ouazzani, 2013).

Besides, other researchers discussed formalization as a technique for coordinating activities, controlling behaviors and maintaining organizational structure (Pinto et al., 1993). At the inter-departmental level, Moenaert & Souder (1990) suggest that increased formalization between departments produces a more harmonious climate. In the same perspective, Galbraith and Nathanson (1978) have noted that rules and procedures can be an effective method for achieving interdepartmental coordination. They offer a mechanism for integrating or coordinating activities. Providing empirical support for this assertion, Reukert and Walker (1987) found that written or formalized rules and procedures have a significant positive relationship with the perceived effectiveness of interdepartmental relations.

Thus, it appears that the formalization should have a positive influence on the IFC in the context of HSC. Hence the following proposition arises:

P2. Formalization is associated with increased IFC in a HSC context.

2.3.3 Commitment

"Commitment is a psychological state that characterizes the employee's relationship with the organization, and has implications for the decision to continue membership in the organization" (Meyer et Allen, 1991, p. 67). According that authors, commitment manifests itself in three relatively distinct manners: normative commitment (involves a feeling of moral obligation to continue working for a particular), affective commitment (refers to employees' emotional attachment, identification with, and involvement in the organization) and continuance commitment (refers to employees' assessment of whether the costs of leaving the organization are greater than the costs of staying) (Allen et Meyer, 19991). It is through these three dimensions that we could clarify the role and the impact of trust on the IFC.

Commitment is the degree to which individuals at all levels of the organization are engaged in pursuit of the mission and work in a collaborative manner to fulfill organizational objectives Zakari et al. (2013). In the same context, Maltzun Kohli (1996) "argue that people who are committed to their organization's have the desire to achieve organization's goals and thus are motivated to seek inter-functional interactions to find ways of attaining those goals" (cited in Min, 2001). Thus, commitment is a key antecedent of IFC (Min, 2001; Mentzer et al., 2001).

These findings lead us to propose that:

P3. Commitment is associated with increased IFC in a HSC context.

2.3.4 Trust

Trust is defined as “is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al., 1995, p. 712). these authors focused on three of the most prominent factors of trust: Ability (is that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain), Benevolence (is the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive) and Integrity (the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable) Mayer et al. (1995). It is through these three dimensions that we could clarify the role and the impact of trust on the IFC.

A clear understanding of trust and its causes can facilitate cohesion and collaboration between people. In fact, trust is seen as an important social resource that facilitates cooperation and enables better coordination of interactions (Mayer et al. 1995). Thus, trust is a key antecedent of IFC (Min, 2001; Mentzer et al., 2001; Eng, 2005). These findings allow us to impose the following proposition:

P4. Trust is associated with increased IFC in a HSC context.

2.3.5 Information Exchange

Information exchange–defined as the formal and informal sharing of meaningful and timely information – has identified as a key component of successful SC (Graw et al., 2008). The information ensures the coordination between the different actors of SC (Di Martinelly, 2008).

The exchange can involve transfer of information within a company or extend externally to customers and suppliers (Zailani & Rajagopal, 2005). At the inter-departmental level, information exchange helps to coordinate actions and gain efficiencies (Graw et al. 2008). In the same perspective, Fabbe-Coste (1998) "believes that the information exchange between units within an organization is a feature of the increasing importance in logistics since it is necessary (...) to coordinate between the interveners" (cited in Lièvre. 2000. p.4). There for, we can state that IFC in the context of the SC requires the participation of different functions for sharing information (Eng, 2005).

Moreover, for better exchanging information we must meet three conditions O'brien (1995): The temporal dimension (timeliness, frequency ...), the content (accuracy, completeness ...) and the form (clarity, supports: Technologies of Information and Communication...). It is through these three dimensions that we could clarify the role and the impact of the information exchange on the ICF.

The findings lead to the formulation of the following proposition:

P5. Information exchange is associated with the increased IFC in a HSC context.

2.3.6 Informal Relations

Informal is defined as “the spontaneous and flexible ties among members, guided by feelings and personal interests indispensable for the operation of formal, but too fluid to be entirely contained by it” (Dalton, 1959 cited in Mintzberg, 1982, p. 46).

The informal relations (IR) comprise a more voluntary and personal mode of coordination. The IR helps to coordinate the activities across different organizational units Tsai (2002). In this sense, Mintzberg introduces a concept of mutual adjustment as a coordination mechanism which refers to the IR Nizet and Pichault (1999). These relations can take two dimensions Mintzberg (1982). On the one hand, IR related to work: life is too complex to be fully regulated. In this sense, for the greater part of the work, the execution is simply impossible without a minimum of informal communication. On the other hand, IR of social nature, people need to have relationships with other human beings (Mintzberg, 1982). Employees interact through a network of relationships. This refers to the concept of “socially embedded relationships” (Granovetter, 1985). In general, a network is defined as a structure of link between points. These points can be objects, people or organizations, leading researchers to distinguish three types of networks: the technical network, which connects terminals (information technology), the interpersonal network that connects individuals and the inter-organizational network that connects organizations. All focusing on interpersonal network, the frequent communication helps to build relationships through the familiarity that grows from repeated interaction. Indeed, in network theory, strong ties are defined primarily and sometimes solely in terms of frequency (Gitelle, 2011).

Hence, in this study, we focused on social interaction as a manifestation of informal relations and the frequency of direct contacts as a dimension to explain this type of IR. These contributions lead to the following proposition:

P6. Informal relations are associated with increased IFC in a HSC context.

3. Research Methodology

3.1 Data Collection

Our research focuses on services involved in the medicament flow and the associated information within the UH. Our target sample is consisted of the employees who are mainly head units and deputies. These actors can be regarded as the essential source of information about the phenomenon of IFC.

The choice of the hospital sector is not neutral. Indeed, a significant proportion of hospital costs are devoted to logistics activities. They represent up to 46% of the total budget of a hospital Chow and heaver (1994). The mastery of these costs is thus a challenge for researchers and managers. Also, the choice of the hospital sector was made due the fact that research on hospital logistics is rare in Morocco. We find, mostly, the works that concerns sector of automotive …(eg., Mamad & Ouazani, 2013).

Besides, choosing a UH such as a field of study is justified from the fact that it is characterized by the large size which explains its big consumption of medicaments. Moreover, UH is known of its autonomy in the purchase of medicaments and its complexity compared to other types of existing hospitals in Morocco (local, provincial and regional hospitals).

In addition, the choice of medicament flow as a level of study was done because it arises three major issues: it is characterized by insecurity; it is ranked the third leading cause of graves adverse events and the second post hospital expenses (General Inspectorate of Social Affairs of France, 2011).

As indicated above, our research methodology revolves around an exploratory qualitative study. Therefore, to provide some empirical light on the research question, two sources of information are exploited: primary data and secondary data. The so-called secondary data have many forms: reports, journals, internal documents, etc, where the so-called primary data corresponds to the information obtained during the exchange face-to-face with the interviewees who are healthcare professionals (doctor's professors, doctor's pharmacists, pharmacists, nursing, administrators). The interviews are conducted in the form of semi-structured in which the guide was organized around topics related to this problem.

The empirical approach has led us to conduct twenty interviews through which we reached the saturation. Proximately, the average of conducted interviews lasted one hour and fifteen minutes.

To refine the propositions and verify the adaptation of concepts from the literature with the scope of our problem, interviews were transcribed and coded in a deep analysis which follows the principles of thematic content analysis.

3.2 Data Analysis

To treat the data collected during the exploratory talks we used content analysis. The purpose of this content analysis is to simplify the representation of the raw data obtained during the qualitative research interview. In this methodology, we start from the premise that the redundancy of discourse analysis units (words, phrases, sentences, paragraphs) is indicative of the concerns of the authors of speech (Thiétart et al., 2007). Thus, the analysis aims to cut and organize speeches collected in themes. These themes include the following topics: (cultural, organizational and interactional factors).

Concerning the process and the embodiment of the content analysis, the Nvivo software is used. The interviews were recorded and transcribed in the prospect of being coded. This software allows excluding the themes that had no interest in the analysis while the concerned themes and sub-themes are drawn in the analysis grid that facilitates the crossing of data.

The thematic content analysis is very helpful to identify several interesting results. These results will be presented and discussed in the following section based on themes and sub-themes of the analysis grid.

4. Results and Discussion

Generally speaking, we can state that the same factors were found in the discourse of the HSC staff.

4.1 Organizational Culture

4.1.1 Core Values

The presence of core values allows staff to coordinate in a better way and to form a common objective. Thus, respondents mention the importance of values in facilitating the IFC. In this way, a doctor explains "*we have the mentality that we must focus on patient satisfaction*". Another nurse added, "*If one takes into account the satisfaction of the patient, coordination will be easy*". These commentaries illustrate the role of values, in terms of

satisfaction of patient, in facilitation of the coordination.

4.1.2 Agreement

Respondents mention the importance of the agreement in coordination. A doctor suggests "*Everyone has their own opinion, and it is normal to find disagreements in the work. But in general we must take into account the interest of the patient. Ultimately the patient has the right to take his medicaments. We must find a solution by any means even in the most difficult cases*". In addition, respondents do not take into account the satisfaction of the parties who are in situations of disagreement. In this way, a pharmacist says "*You can never find a complete satisfaction of the actors in the supply chain in their work, even in our daily lives we cannot be fully satisfied, but we must work and we must make a compromise*".

4.1.3 Coordination and Integration

Interviewees discussed the importance of eliminating barriers between services of SC. Each service of the SC has different missions and contains actors who have different statues. But these barriers should not occur negatively in achieving the common goal. An administrator stipule, "*The supply chain has multiple services (clinical services, pharmacy, purchasing service…) and multiple interveners who have different status (nurse, doctor, administrator, pharmacist...). Thus, it is normal to have different visions of work. The doctor needs to have the maximum medicaments under his/her order; the administrator must comply with the rule and budgetary constraints.... Even these differences all actors must work together for the interest of the patient*".

4.2 Formalization

The existence of formalization facilitates and maintains the IFC. It is sufficient that each actor follows the rules and procedures so that the work can be done. A doctor confirms "*even if you ask someone who is crazy in this field work and we show him/her the rules and the procedures, he will do the work perfectly*". The fact that the work is formal, allows the coordination to exist.

The formalization is necessary for the coordination in terms of medicament product. A doctor attests "*I cannot get the medicament without the enforcement of the rules. The medicament is not like a hygiene product that I can receive without applying the rule*". To formalize the work between SC actors, they use including rules, procedures and nomenclatures. An administrator evokes "*in our work we are obliged to apply the existing rules in the procurement code*". In the same vein, another administrator says "*to standardize the types of medicaments we resort to the nomenclatures that are elaborated by the Unit of Coordination of Pharmacies*".

However, the interviewees mention the existence of certain rigid regulatory provisions. As explained by a pharmacist "*Sometimes if you apply the law the patient will not receive the medicament*". An administrator added, "*The public procurement procedures are very sophisticated*". In the same frame a pharmacist says "*the public procurement code does not fit well to the case of medicaments, it concerns much the case of investment in constructions… the legislators should think of a procurement code which is suitable to the case of health service*".

4.3 Commitment

All respondents discussed the importance of commitment in coordination. The commitment is considered the main factor that influences the coordination. However, the degree of commitment differs according to the status of the actors.

4.3.1 Affective Commitment

Doctors suggest they have an affective commitment to career but not to the hospital. In this sense, a doctor says "*I will be very happy to spend the rest of my life in my career; but not necessarily in that hospital… I can change my home but I cannot change my life*". However, the pharmacists, the administrators and the nurses do not have the affective commitment. The multiple propos suggests this. A pharmacist explains "*I have a specialty that does not go with my profile and I am thinking seriously to change the hospital ... I will not be happy to spend the rest of my life in this hospital*." A nurse added "*I have a sense of belonging only to 50% ... I am thinking to leave this hospital because there is no respect*".

4.3.2 Continuance Commitment

The doctors reclaim that they do not have a continuance commitment. A doctor proves "*There will be no problem in my life if I leave this hospital; it is not the financial side that will push me to stay in this hospital...*". In the opposite, for others, we find that they have a continuance commitment. An administrator explained, "*The man always seeks the best. Financial and social side influence on the choice of the man in his life ... I am thinking to leave this city and go to another city to be close to my home and my children*".

4.3.3 Normative Commitment

All actors state that they do not have a normative commitment. This idea is explained by a pharmacist "*It's normal that man seeks what is best for his career and his life, so of course I have to change the hospital if I find a better job*". A doctor added *"the staff should not necessarily be faithful to his hospital"*. In the same way, an administrator attests "*leaving the hospital is not a behavior against ethics*".

4.4 Trust

The interviews support the idea that trust facilitates coordination. Indeed, the three dimensions of trust are discussed in the dialogues with respondents.

4.4.1 Ability

The number of years of experience and skills build trust between the members of the SC and facilitate the coordination. A nurse explains, "*A competent person with a long experience of working coordinates more easily than a novice person because you trust him*". An administrator added "*we must be the good man at the right place*". However, the respondents confirm that competence is gained by training; as a doctor says "*from the recruitment of a new member of staff I consider him competent. But he/she must be trained at least once every six months".*

4.4.2 Benevolence

Respondents confirmed that benevolence is a factor that facilitates coordination between the members of the SC. A nurse explains "*it's clear that the lack of benevolence will hinder coordination between us, otherwise everyone will pay attention to the other*".

The Actors of SC confirm that benevolence is not strong between them. In fact, a nurse prove "*Everyone look for his welfare and meet his needs. We have not yet reached that level in which every member of staff seeks the welfare of his colleague in the work*". Similarly, a pharmacist insisted that "*in the work the staff does not search my well being and this is normal be because it is the work that unifies us, no more. If we consider that A + B = C we must achieved C without giving attention to the welfare of anyone*".

4.4.3 Integrity

Respondents confirmed that integrity is a factor that facilitates coordination between the interveners of the SC. An administrator confirms "*when I find myself facing a serious and sincere staff, coordination becomes better*".

Though, the actors confirm the need to integrity. A nurse proves "*we need the sincerity in our work"* a doctor added *"everyone respects the principles. However, sometimes these principles are different among the same staff members in the UH. That is why I strongly emphasized the importance of rules".*

4.5 Information Exchange

The exchange of information is an important part in all actions carried out by members of the SC. Consequently, our results showed the importance of the three main dimensions of the information exchanged. Specifically, we identified the timeliness, accuracy and ITC. The importance of these dimensions differs according to the levels of the SC (upstream and downstream).

4.5.1 The Temporal Dimension

Interviewees discussed the importance of the temporal dimension of information exchange when it comes to the medicament, particularly in terms of timeliness. At the upstream level (pharmacy/care service), we find that information sharing is done in a timely manner. An administrator stated that "*If there is a new piece of information about medicaments, I will receive this information from the weekly meetings*". The problem of the temporal dimension of information exchange exists particular between the pharmacy, clinical services and technical platforms. A nurse explained this situation: "*I do not always get the information in a timely manner*", while other said that "*in order to get the necessary information on time, we must look for it by myself*" (doctor, nurse, pharmacist). A nurse added that "*if I complained about the retard of information, I will get the excuse that I didn't ask for it*".

4.5.2 Content

Interviewees discussed the importance of the content of the exchanged information particularly in terms of accuracy. An administrator elaborates this idea through saying that "*Information that is not accurate may contribute to poor coordination. For example, if a clinical service did not demand their needs in an accurate way, it cannot receive an amount of medicaments that exactly meets the needs of the service*".

At upstream level we find that information sharing is characterized by accuracy. An administrator demonstrates that

"*The information exchanged is usually accurate*". While at downstream level we find that information sharing is not characterized by this dimension. A nurse clarifies that "*an accurate information exchange to 100% is impossible because it's impossible to say exactly how many medicaments stock that exists*".

4.5.3 Form

Interviewees discussed the importance of the exchanged information form, particularly in terms of support. A doctor clarified this point of view through the following verbatim "*to improve the coordination between us we must improve the support of information exchange*".

To exchange the information, actors use in general, the phone, the computer, the internet, the intranet, an application of pharmacy management and writings (records, orders, ordinances, listings). However, the hospital is marked by the absence of an integrated information system (such as ERP) as an administrator affirmed "*Unfortunately we do not have an integrated information system that can integrate all units of the hospital and facilities the coordination between us*".

The tools for information exchange are mainly concentrated in the downstream level. However, at upstream level, we find that there is a significant lack of tools of information exchange. A pharmacist argues that "*there is need to improve the tools for information exchange to 50% at the level of clinical services*". This is also demonstrated by a doctor through saying "*to exchange information I have only the personal phone where the two computers that exist in the hospital are broken down*". Also the certain interviewees confirm the problem of non-use of ITC. A pharmacist affirms that "*we must educate staff to use ITC in the sense that the staffs who are involved in the intranet and the Application of Pharmacy Management software are not willing to use such technology*". In more details, a doctor explains this phenomenon by saying "*That the non-use of ITC is traced back to mentality staff*".

4.6 Informal Relations

Prior acquaintance between colleagues allows for more personalized relationships between the actors. It results from prior socialization anterior visits, trainings, meetings.... This anterior socialization contributes to a better understanding of each other and favors finally the IFC. However, the importance of interpersonal relationships differs according to the Staff Regulations. Indeed, nurses, administrators and pharmacists are unanimous on the importance of interpersonal relationships in coordination. In this sense, a nurse said "*when you are in Morocco, personal relationships are exists vastly ... I use the face to face contact in working when I think it is necessary*". A pharmacist added "*thanks to God, I 'm cool with my colleagues; I have many friends in this hospital which facilitates my work*". In the same vein, a nurse says "*I have a contact with staff at least once a day; at least we say "**hello**"*".

For doctors, they do not give a great importance to interpersonal relationships which explains a doctor saying "*we are here to work and not to talk. The only thing that relates us is "the work" no more no less*". Another doctor says "*the work does not make friends*".

5. Conclusion

This paper aims to present the main results of our empirical research on the factors of the IFC in the context of SCH in Morocco. It allowed us, after an analysis of the literature and presentation of our research proposals, to produce the identification of antecedents of IFC thanks to an exploratory qualitative study. This study confirms that culture, formalization, commitment, trust, information sharing and informal relationships remain the determinants factors that influence the IFC in the HSC context.

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