

A Model for Business Network Governance: Case Study in the Pharmaceutical Industry

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Abstract—This paper discusses the theory behind the existence of an idealistic model for business network governance and uses a clarifying case-study, containing governance structures and processes within a business network framework. The case study from a German pharmaceutical industry company complements existing literature by providing a comprehensive explanation of the relations between supply chains and business networks, and also between supply chain management and business network governance. Supply chains and supply chain management are only one side of the inter-organizational relationships and ensure short-term performance, while real-world governance structures are needed for ensuring the long-term existence of a supply chain. Within this context, a comprehensive model for business governance is presented. An interesting finding from the case study is that multiple business network governance systems co-exist within the evaluated supply chain.

Keywords—Business network, pharmaceutical industry, supply chain governance, supply chain management.

I. INTRODUCTION

SUPPLY Chain Management (SCM) is probably the mostly used paradigm related to inter-organizational relationships. Evolved from the value chain concept, a supply chain (SC) is a set of firms creating together a product or a service. It can be exemplified as a flow of goods and information from raw materials suppliers to final customers. As in [1], it exists no matter the level of coordination between firms. SCM is the coordination of SC's firms operations, it can exist or not in such SC context.

One less considered concept regarding inter-organizational relationships is the business network. In recent research, the network concept has appeared for replacing the chain terminology. It suggests stronger links between partners than the chain concept has presented before. The development of networks and the strengths of the links were influenced by the development of technology, the increase of collective and global competition. Together, the firms within the network are able to incorporate and share technological advances. In the same time, the firm loses its identity and the boundaries of the firm are not very explicit anymore [2].

At corporate level, governance is a superior system for management [3]. Governance is defined as the rules, the structures and the institutions that guide, regulate and control

social life, which are emanated from power [4]. Related to corporate context, governance is not decision-making, is not management, but is the framework wherever decision-making is made, for any system.

Our research focuses on two aspects related to business network governance:

- 1) According to [5], between SC partners multiple types of relations' governance can exist: market, modular, relational, captive, and hierarchy. Our opinion is that these types of governance are relevant for one-to-one relations' governance. The typology described by [5] does not consider that within the same SC (called value chain or global value chain within their paper) multiple types of relations co-exist in the same time. *Our first question is whether real chain governance exists and whether all members could be included in such a system?* The answer to this question is made considering the business network concept. In practice, the collaboration between SC partners exists or not, as in [1]. High level collaboration between partners exists only within specific areas of the SC, where the one-to-many or many-to-many links exists. This happens within SC's business networks. Only within business networks power relations exist and also governance.
- 2) The second aspect concerns *the content of business network governance*. Business networks can function as extended enterprises, where one network partner coordinates all partners' actions. Though, the idealistic model for business network and for business network governance would be that of shared decision making and shared governance.

This paper answers these two calls, addressing a particular approach to chain governance: the business network. The shared governance is presented as an idealistic model for business network governance.

In the next section we summarize the existing literature concerning chain governance and business networks. Business network governance is presented as an alternative for chain governance. We then present an idealistic model for business network governance – the shared model. We then describe the methodology used, followed by results and discussions. Within the last section, we analyze the key findings relative to the existing literature, review implications for researchers and practitioners, analyze the limitations of our research, and present possible alternatives for further research concerning this topic.

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II. LITERATURE REVIEW

A. Chain Governance

The way chain governance is treated depends on the way chains of firms and governance are observed.

There exist several chain paradigms:

- 1) The foundation of the chain paradigm is the *Value Chain Model*, introduced by Porter in 1985. The main contribution for literature is the focus on value creation, but it also opens the door for collaboration, coordination, and later for outsourcing, alliances and chains. The competitive advantage is created within each activity performed in order to realize a product. All these activities creating value are called value chain [6]. Different alternatives for the value chain have appeared lately: the global value chain (GVC) [5], commodity chains [7], and global production networks [8].
- 2) Related to the value chain is the supply chain perspective: "What were hitherto considered "mere" logistics problems have now emerged as much more significant issues of strategic management... We needed a new perspective and, following from it, a new approach: *Supply Chain Management*" [9]. The main focus was on fixing the suboptimal deployment of inventory and capacity caused by poor coordination between different groups within the company [10]. The supply chain is lately defined as "a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances and/or information from a source to a customer" [1].
- 3) One development from the SCM paradigm is the extended enterprise concept. The extended enterprise is a new way of thinking regarding the relations between supply chain partners. Words as trust, shared vision, alignment and commitment, replace the old supply chain management and supply management terms: coordination, strategic outsourcing, strategic integration. The extended enterprise is defined as "the entire set of collaborating companies, both upstream and downstream, from raw-material to end-use consumption, that work together to bring value to the market place" [11]. What is different in comparison to SCM? The extended enterprise is extreme supply chain coordination.

An evolution of the chain paradigms is observed. While the value chain focuses on the identification of all activities performed in order to obtain one product, supply chain and supply chain management advance on the optimization of inter-organizational activities. Operations are replaced within the extended enterprise with common vision, alignment and commitment. The evolution from operations optimization to alignment and strategic integration has been performed within the last years, together with the development of inter-organizational communication and IT development.

Governance is a newer concept related to chain of firms and even to business. Within business the dominant concept is Corporate Governance (CG). The concept refers to

organizations as single entities, being defined as the structures, rules and processes which govern the relation between shareholders and managers [12], called the principal – agent problem or the shareholders' perspective [13]. A more advanced view on CG refers to the relation between organizations and stakeholders, called the stakeholders perspective [13]. The development of CG is influenced by the need of shareholders to receive information regarding the way their money is used. CG has mostly focused on the role of boards of directors in representing the interests of shareholders within companies, but also within nonprofit organizations.

Governance also exists in political contexts, when we discuss about national governance, regional governance etc. As it can be observed, governance is about establishing limits (rules) between economic or other types of activities are performed and about ensuring (processes and structures) that these limits are considered by the interested parties.

In comparison to SCM, chain governance is a recent topic related to inter-organizational relationships. The GVC by [5] is the first multi-organizational paradigm which receives a governance perspective. Though they found that the international trade is organized by stable networks of firms [14], our opinion is that the *GVC governance framework* proposed by [5] refers to pair-to-pair governance and not network or chain governance. The classical chain, in their view, is one with a leading partner (buyer or producer driven) and several small partners. Governance appears between a leading firm and a partner (bilateral relation in our understanding) and is defined as the coordination of the "authority and power relationships that determine how financial, material, and human resources are allocated within and flow within a chain" [15]. They establish a set of alternatives for value chain governance: market, modular, relational, captive and hierarchy. The GVC is dominated by transaction cost economics. In this sense, the passing from one state of governance to another is determined by the costs of transaction. The most efficient form shall be selected. Our opinion is that this taxonomy refers only to a leading-firm – partner relation. There exist chains which concurrently contain market governance (for new entrants), firms - modules for the chain (modular governance), mutual dependence between partners (relational governance), but also captive firms (captive governance) and in-house or vertical integrated firms (hierarchical governance). Another argument is that there are many similarities with the vertical coordination continuum, a model proposed for explaining the steps a firm shall develop strategic partnerships. The relation within the continuum starts from spot/cash market, the next strategic option is that of contract with specifications, then relation-based alliance, equity based alliance and the last is vertical integration [16]. The truth is that both models reflect the steps from market relations to vertical integration. The cases presented by [5] are macro-economic tendencies regarding one industry. One example they give is that vegetables' market has evolved from market governance to relational governance. The reality is more complex; those chains are composed from several partners. A chain can have thousands of suppliers from

different industries, and while one industry is dominated by relational governance, the other is still in a hierarchical or market paradigm. Within the same industry, one can be a supplier for a great chain with an important brand (hierarchy), while others are at the phase of providing specific services for which they are considered important partners (relational or modular governance). The conclusions of the article provided by [5] recognize that the GVC framework is relevant for “inter-firm linkages” and for the linkages “between buyers and the first few tiers of suppliers.” It is a way of recognizing that this paradigm is limited when it comes to a use within real chains with multiple linkages between firms.

[17] have performed one of the few studies concerning the Supply Chain Governance (SCG) paradigm. Though they don't define SCG, there are some elements in their research which should be considered. Supply chains will not work properly as long as there is no king of the chain – this main factor demonstrates the fact that SCG is needed. The lack of coordinated actions is leading to myopic and self-interested decisions. An infrastructure for enhancing “coordination and communication among supply chain partners” shall replace the king of the chain. They also identify some elements such an infrastructure should contain: executive councils (formed by senior executives), partner advisory councils, senior-level supply chain executive. One of the main conclusions [17] have found is that “real SCM cannot deliver exceptional value without the highest levels of managerial commitment both within their companies as well as up and down the supply chain.” Unfortunately, few chains have such commitment. Managers have opposite opinions when it comes to supply chains and networks in general: one can consider a supply chain only a phase within the evolution of the company, although one can view the chain as if it will last and it should be critical to maintain it. Some managers within firms don't even know what a supply chain is - less commitment shall be found in this case.

B. Business Networks

Given the models of the previous researches, we have observed that there are problems when it comes to the understanding of a chain and its governance.

According to the elements presented by [5], there is no real chain governance, no inter-organizational governance exists. The governance is a bilateral process. The other alternative, presented by [17] is not robust enough, in order to be recognized by all researchers and practitioners. The hesitation found within their research is related to the relativity of the SC concept. Coordination within the chain can exist or not, while the flow of goods from raw materials suppliers to the final customers exists without any restriction. The SC exists as entity if SC partners recognize it and have common action, but it still exists whether they don't recognize it.

The obvious conclusion is that not any SC is managed or governed. More than that, there could be parts of the SC which needs to be managed, where coordination and collaboration has a higher level, but also areas within the same SC where the level of collaboration and coordination could be lower.

We are at crossroads. On one side, coordination and collaboration is needed between partners for ensuring “exceptional value” [17] creation, on the other side, they are not needed all over the chain. Within this context, we have introduced the concept business network, as that part of the SC and sometimes beyond one SC, formed between multiple partners, with common goals, sharing their resources, characterized by a high level of collaboration and coordination. Networks are found in different fields and have multiple facets. In business, networks are considered structures strategic tools for optimizing the added value and increasing the competitive advantage [18]. They are formed because value is actually created in a greater proportion outside the firm than it was before [19]. In order to obtain and sustain competitive competence, companies have to specialize. The specialization is that which creates opportunities for the competitive advantage creation. In order to preserve flexibility and adapt to always changing customer demand, one firm should collaborate with other specialized firms [20]. The network as multiple-dependent links, defined as within this paper, is presented by [21] for the Danke MNC. They show that the partners of a network, by their resources and processes, influence the decisions of other partners. The network is presented as a structure for gathering several resources together. In a way, if we refer to the competencies and processes, it is an extent of the resource based theory (see [22]) from firm's level. In the same time, Danke's partnership (internal and external) is a way for incorporating new assets into the network (see the transaction costs theory [23]).

Our opinion is that these networks as multiple-dependent links exist within practice. They need to have managed operations, as they need real structures, rules and processes to govern the relation between partners. The last phrase is an extrapolation from [12], the original describing CG as the structures, rules and processes which govern the relation between shareholders and managers.

III. A MODEL FOR BUSINESS NETWORK GOVERNANCE – THE SHARED MODEL

In our view, within one business network, the actions of one partner could influence the actions of others. That's why Business Network Governance (BNG) is needed. The adoption of sustainable practices aimed at managing and anticipating potential legitimacy and reputation threats due to misconduct along the supply chain is now a common practice for most chains. These criticisms have led to a specific type of governance, called sustainable supply chain governance [24]. It refers only to avoiding non-sustainable practices.

The only goal of a BNG system should be to ensure that business networks interests are followed in advance of individual interests, by all BN partners. This means that all the actions within the BN should be performed in accordance to specific guidelines and rules built by specific structures representing the BN.

The idealistic model for BNG is in our view the shared model, where all partners are involved in BN governance. An idealistic model for BNG is further described:

- 1) *The structures* responsible for the governance of the business network should reflect the structure of the BN. All partners should be represented within BN council; the chief of the council should be selected by the majority of council members. The structure should also reflect BN evolution. New entrants and partners leaving the BN should be considered [20]. BNs are in a constant evolution, governance structures should reflect it and to be not a barrier to BN's progress.
- 2) *The rules* emanated by BNG structures should ensure trust and commitment by all BN partners. BN development is related to both BN strategy and BN governance. However, decisions have to be made within the BN, affecting all members.
- 3) *The processes* of the BNG should contain all the activities needed for creating rules for the chain, following the rules by all partners, developing structures and mechanisms which increase BN collaboration, coordination, communication between partners etc.

This is only an ideal form, while in reality non-equilibrated BN exists, coordinated and run as a hierarchical system.

IV. METHODOLOGY

The objective of the research was to identify whether within one SC the closeness of multiple partners can be defined as a business network and whether such structures need specific governance mechanisms. Qualitative research and in particular case studies are used for understanding collaboration, and also business network governance [25]. The unit of analysis was a pharmaceuticals distribution company, based in Essen, Germany.

The case study was selected for two reasons. The first one is the cooperation and coordination environment existing between the distribution company and the final retailers. The retailers themselves own the distribution company, the distribution company coordinating further the actions of all BN members. The second is that this case study offers the opportunity to analyze a shared BNG, the distribution company itself representing the interests of all small retailers and in a way the governance structure of the BN.

Two major sources were used for gathering data: documents related to the company and a semi-structured interview with one company representative. The meeting lasted about 90 minutes. The interview has three parts:

- 1) General details about the chain and the business network, the goal being to identify whether within the SC specific BN exist. It also contains questions related to chain structure and position within the chain of the company.
- 2) Business coordination is the second part, where details regarding the coordination of different partners are given and coordination evolution is explained.
- 3) The last part is about BNG, the goal of this section is to identify whether structures, rules and processes exist at BN level.

All three parts contain both open questions and closed questions using a five-level Likert scale.

The interview was taped, transcribed and analysed. The

interview was conducted by the lead author in English. The interview results and the existing documents were analyzed in order to identify whether the previous mentioned theories exist in real life.

V. RESULTS AND DISCUSSIONS

The company has over 80 years of existence; it was originated by German pharmacists as a cooperative company. The only SC it takes part is the pharmaceutical SC. The raw materials suppliers (medicines) are provided by large pharmaceuticals producers.

Considering the level of cooperation between partners, the SC related to delivering medicines to the final customers is fragmented into two parts: one is the pharmaceutical producers and the other is the company and the final retailers (pharmacies) of the medicines to the final customers. In comparison to pharmacies, the distributor is the biggest company within the SC, while in comparison to large pharmaceuticals producers the distributing company addressed is an average sized company. Considering the relations based on orders between pharmaceuticals suppliers and the distribution company (DC), there is a market governance mechanism between these two parties, according to the taxonomy proposed by [5]. Taking this into consideration, we have further discussed only about the relation between the DC and final retailers.

The BN formed by the distribution company and the final retailers is coordinated by DC, DC being owned by final sellers. In order for one new pharmacy to be part of the BN, they sign a contract with the DC, and buy shares. All pharmacies, new or old, are treated in the same manner. As a distribution channel, logistics operations are very important, DC being the main organizer of new logistics systems for the whole BN. The actions of each pharmacy is governed by the contract signed with the DC, there also exist a code of conduct at BN level. BN partners all consider environmental and ethical restrictions related to medicines distribution, the industry being a very controlled one by the state. The BN operates in a way in a "lawful niche", as in Germany pharmacies are by law restricted to having maximum three retail shops and have to be owned by one specially educated person (pharmacist) – which restricts the market as well as the market power considerably and prevents retail giants and chains with considerably more market power interested in backward SC integration.

The retailers from the BN, even if they are DC's shareholders, are also part of other SCs, having usually 2-3 other suppliers for medicine – and not just for cases where the DC cannot deliver, but also in large quantities of orders. Only about 20-60% of the orders are provided by the DC.

The governance of the BN is discussed within annual meetings of DC shareholders – in this case also partners of the BN. Decisions and rules are established within these annual meetings or how many times is needed. One of the major threats for the whole BN is the appearance of internet-based pharmacies.

VI. RECOMMENDATION AND CONCLUSION

Interestingly the presented case provides two significant insights: First even old SC organizations are able to evolve and change with the requirements of their customers and shareholders – competitive advantages may lie in market knowledge and adaption as well as logistics and wholesale competence and process efficiency. Second in existing business environments different SC types and BNG models may run “in parallel”, not only for different markets and products, but actually for the same product as e.g. in the presented case the retailers have a significant power interest not to concentrate on one supplier (risky single sourcing strategy) but to keep a balance between several different wholesalers, even as they “own” one of them.

The DC, as coordinator of the chain, represents an idealistic *governance structure*, as described within the model. All small retailers have the opportunity to sustain their point of view concerning DC development within general meetings. Given the cooperative way the pharmacies act and the existence of this structure, the BN formed by the DC and retailers is able to face competition as the internet pharmacies. The ultimate level of integration described by [17] is attained through this structure. Alignment, coordination and collaboration are all possible due to the existence of the DC.

Concerning the rules and the processes existing within the BNG, the DC does not provide a comprehensive framework for retailers' actions due to at least two reasons: The first one is the state has a high interest in ensuring that the pharmaceutical industry considers the legislation and that customers' receive risk free medicines. Partially, the state legislation replaces BN's rules and processes. The second is that the BN is in this case a very progressive structure, in opposition to the static structures described by [20]. The BN is open for any new entrant; it also allows small retailers to be part of other BNs. The old buddies described by [20] are replaced with a sustainable BN.

This paper is a new milestone for inter-organizational governance research. The main contribution of this article is the focus on smaller parts of the SC. The BN is a reliable structure which can be identified in numerous SCs. Our approach demonstrates that the previous frameworks, namely GVC governance and SCG are not sustainable due to theoretical and practical reasons. The BN and the BNG are useful concept in approaching inter-organizational governance.

This research has its limitations. It could be considered only another idealistic and theoretical research into inter-organizational governance as long as only one case has been used to demonstrate the existence of the model. New researches should be performed in the same area regarding several elements: BN's evolution, BNG models, BN integration and collaboration practices.

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