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Coopetition and Cooperation Theories

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Abstract— This paper aims at providing information about a hybrid Companies' strategy named "Coopetition". Based on the literature review, this paper discusses the cooperative orientations through different theories and presents the main contributions that shaped Coopetition. At the end, we will distinguish three main theories that contributed the most at building the concept of coopetition which are: Resource Based View, Game and Network theories.

Keywords— Cooperation, Coopetition, Companies' Strategy

I. INTRODUCTION

Companies seeking their development focus on different strategies in order to achieve their goals. Strategy can reflect a medium and long-term policy, which explains the relationship between a company and its environment by involving choices of skills and resources allocation, and types of activities to be conducted, in order to achieve better outcomes [1].

According to historical economy facts, companies have known different changes in their strategic orientations. In fact, adapting companies' strategy became a must in order to survive and ensure their development. Through our readings on the subject, we have noticed that at first, the main idea was that competition is the only issue of ensuring survivability. Furthermore, companies' development can only be ensured by high predation practices such as introduced by the *hypercompetition* orientation [2].

However, considering the potential of mutual exchanges between companies in a market that can benefit for a group of firms rather than only one leader, cooperation was a solution to many issues that companies can't solve alone [3]. Many theories and approaches were developed in order to explain and translate the reality of inter-firms strategies which led to cross the line between cooperation and competition.

In fact, cooperation among competitors which refers to the concept of *Coopetition* [4] represent a new strategy that need to be tackled due to the paradoxical situation that represents, leading us to ask the following question:

What are the main theories that explained Cooperation and built Coopetition?

In order to provide an answer to this question, we will focus mainly on literature review. At first, we will present theories that tackle cooperation strategy. Secondly, we will present the main contributions that built coopetition concept. Finally, we will try to link between coopetition contributions and the cooperative theories in order to draw conclusions.

II. COOPERATION THROUGH THEORY

Given the breadth of the subject of cooperation, many theories could be deployed. Nevertheless, we will mainly focus on the most relevant ones that could summarize the essential points of our research.

A. Game theory:

Game theory is a branch of applied mathematics used for situations' analyzing including "players" as parties. The primary rule in this theory is that decisions are interdependent which causes each player to consider other players decision [5] in formulating his own strategy. The aim here is to study different maneuvers that make players win the game through achieving the optimal outcome. Prisoner's dilemma translates situation where two players seeking their own self-interest don't achieve the optimal outcome. Nash Equilibrium is represented as a situation where no benefit for any player to switch strategies [6]. Therefore, considering other players strategy and their equilibrium situation is part of solution to achieve the optimum outcome. For Axelor, the fact that individuals dealing with each other now can meet in the future, makes their actions determine not only the current outcome, but also future action choices. In addition, reciprocity among players

will lead to protect cooperation from other non-cooperative actions because no one can do better [7].

B. *The Resource-Based View:*

The Resource-Based View has its origins in Penros's works, which considered the company as a set of resources [8] under a relevant idea which leads to analyze firms through resources. The aim here is to study how firms' resources can lead to a competitive advantage. The RBV argues that to be successful, a business must fulfill its resources needs [9]. In this process, companies can use different strategies in order to have the necessary resources, such as manufacturing. But in a context where nobody owns all resources, the need to adopt other maneuvers is justified. According to Barney [10] in order to be successful, a company needs to build a competitive advantage through a set number of resources criteria as shown with the VRIN model [10]. Therefore, cooperation occurs to fulfill companies' needs but also to strengthen its competitive advantage.

C. *Transaction Cost Economics:*

The economics of transaction costs was originally born from Coase's questions about the existence of a company in a context where the economy is supposed to be regulated only by the market [11]. The relevant idea here is to reconsider firm's role as a probable alternative to market. This postulate stress the existence of transactions between economic agents where the efficiency is to reduce costs. For Williamson, there are two main governance modes Market and Hierarchy where between its, a hybrid one exists [12] which can reflect cooperation. In fact, transaction as a transfer of goods or services between two technologically separate entities, should leads to choose the best governance to reduce transaction costs [12]. Therefore, we can say that cooperation can be adopted, when it represents a more advantageous situation than using the market or doing it internally.

D. *Network theory:*

The use of the network concept in organizations goes back Polany's [13] on the structure of network in order to offer a description of the social structure of modern markets. Before being adopted in organizational studies, the notion of networks was first mobilized by cultural anthropology. Subsequently, the concept of network was enriched by the theory of graphs, before appearing in works dealing with organization. Here, the Embeddedness perspective [14] have led to questioning a vision in which the company is isolated. firms are anchored in a network in which they maintain social relations which are at the center of their economic

activity [15]. The structural Holes concept, was mobilized by Burt to describe the absence of direct contact between actors who operate within networks [16]. Thus, the more a firm has a rich network in actors where it is at its center, the more efficient it will be [16]. Following this reading, the cooperation here, becomes an essential tool for the firm in order to enrich its network and have more choice to satisfy its needs.

III. COOPETITION BUILD

Despite that cooperative and competitive orientations have been classified for long according to a bipolar model. More recent studies, consider situations where cooperation and competition can coexist. The concept that could explain such situation is "coopetition" which refers to simultaneous cooperation and competition between different individuals or organizations [17]. This definition can be illustrated through the Koing model [18] by which he used three basic strategies to position coopetition between cooperation and confrontation.

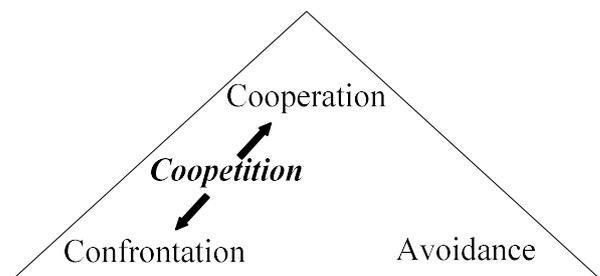


Fig. 1. Coopetition between Cooperation and Confrontation

A. *Coopetition foundations:*

Apart from the various research and studies carried out on the subject, we can distinguish three major contributions that have led to build the first foundations of coopétition:

A.1 *Brandenburger & Nalebuff's Contribution :*

Two authors have mobilized the *value net model* in order to study certain forms of rapprochement between firms. Their view is mainly based on game theory where they consider *Complementors* as players in a game. For these authors, the concept of complementors is defined as any player whose actions gives greater value the product of your company than doing it alone [19].

Their researches resulted in a work called "co-opetition" which is the first effective contribution treating coopetition as a hybrid strategic orientation. Through their work, coopetition is translated as interest rapprochement between "complementors" which manifests when cooperation and

competition interact simultaneously [19]. The bulk of this perception is guided by the existence of a duality within the relationships between actors which include cooperation and competition.

A.2 Lado, Boyd & Hanlon's Contribution :

These authors have mobilized the *syncretic model* to study companies' relations. This model is based on a mixture of Resource Based View, Game theory and Network theory in order to distinguish different strategic directions that firms can adopt. According to the syncretic model, the authors propose to consider cooperation and competition as interdependent on each other, where firms can increase or decrease their competitive/cooperative actions.

Their research based on cooperative and competitive degree stressed four strategic orientations for firms namely competitive, cooperative, monopolistic and syncretic behavior [20] which represents the hybrid strategy "coopetition". It is reported that coopetition may occur when firms' relations are at the same time on a high competitive and high cooperative degree. The bulk of this model is to identify coopetition using cooperation and competition's level in a relation among actors.

A.3 Bengtsson & Kock Contribution :

This contribution has mobilized the Resource Based View and the Network theory with the aim of understanding and presenting one of the firms hybrid behavior. According to Bengtsson & Kock the sector positioning of firms and their need of resources could lead to different strategic actions. Therefore , the more a firm has a strong position in the market, the more it will be led to adopt a competitive behavior and the more a firm needs external resources, the more it will be tempted to choose a cooperative behavior [21].

Through this model and according to the couple "positioning on a sector and the need for external resources", Bengtsson and Kock, distinguish four different strategic orientations for a firm. Apart from competition, cooperation and coexistence, the adoption of a coopetition strategy for an actor is illustrated by a strong need for external resources with a strong positioning in its sector of activity [21]. The bulk of this contribution is to consider *the need* and its impact on cooperation among competitors.

B. Theories and Coopetition:

The game theory was mobilized to express more than an usual cooperation among players of a game. In fact considering that players in a game are seeking to win a game where competition excites among them and "lose or win" guides actions, Brandenburger & Nalebuff's Contribution, stressed that in game theory, win-win situation among competitors could be explained and justified.

Network theory has shown that business relationships can exist at different levels, which can lead to different strategies, as explained in Lado's research. This situation leads us to admit that even in a high level of competition, cooperative behavior could exist in order to lead to better results for the participants.

The Resource Based View impacted cooperation research As explained with Bengtsson and Kock contribution, the intensity of the resources need, impacts the orientation towards a hybrid strategy "coopetition" which is mainly due to the inability of possessing all the needed resources. Thus, in order to strengthen their resources endowment, companies have to consider their relations with other organizations eventually their competitors as potential suppliers and collaborators who can provide various needed resources.

This lecture that involves to highlighted the cooperation behavior through a number of main theories and in the other side, the elementary contributions that built and put the foundations for the coopetition's conceptualization, can be summarized with the following figure:

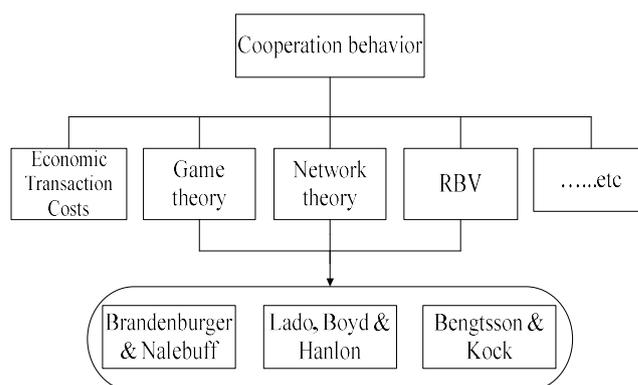


Fig. 2. Coopetition withing cooperation theories

IV. CONCLUSIONS

Through this paper, we can see that various theories have been mobilized to understand companies' strategies. Cooperation as a strategy, finds justifications in several theories as expressed through the most important ones: the Ressources Based View, the Transaction Coste Economics,

Game theory and the Network theory. Following classical thought, cooperation was widely presented in a polarity where it stands out as contrary to competition. However, with the first major contributions from Brandenburger & Nalebuff; Lado, Boyd & Hanlon; Bengtsson & Kock, a different consideration has been put forward which allow to present coopération/competition differently. Their works are considered as the first foundations of a new hybrid strategy called "Coopetition" which explain cooperation among competitors. Based on what has been presented in this article, it should be noted that various theories can justify cooperative behavior. However, the main theories that helped build this new trend are: Game theory, Network theory and the Resource-Based View.

Therefore, it is to notice that market players are used to see the business world as a battleground, where cooperation is a positive action and competition has a negative impact on their activity. Whereas with opponents, complementarity relations can excite allowing an interaction which benefits everyone. Considering these arguments, firms must go beyond their classical strategic relations and take advantage of the coexistence of both competitive and cooperative relations such as allowed by coopetition under the RBV, Game and Network theories' justifications.

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