Cooperation or Coopetition Strategy: What is the Best Strategy Face to Competition’ Intensity and Strategic Capabilities?

Asma Zgarni*

Management Assistant, El Manar University, FSEG Tunis. *Email: asmazg12@yahoo.fr

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ABSTRACT

This study aims to decide on the question of the supremacy of coopetition’ strategies compared to pure cooperation’ strategies according to two explanatory factors both internally and externally. Through a sample of Tunisian industrial firms, the study confirms the simultaneous effect of competitive intensity and strategic capabilities on the nature of the strategy adopted. However, face to competition’ intensity, we conclude that strategic capabilities hold the highest weight in explaining coopetition and customer cooperation strategies, but the lowest weight when it comes to supplier cooperation. Also, we show the duality of recourse to the customer cooperation as well as the horizontal coopetition in front of the competition’ intensification. Even more, face to excessive competitive intensity, we find, surprisingly, the primacy of recourse to customer cooperation in face to horizontal coopetition. Moreover, our results also show that the strong need for strategic capabilities accentuates the use of coopetition to the detriment of cooperation.

Keywords: Competitive Intensity, Strategic Capabilities, Supplier Cooperation, Customer Cooperation, Horizontal Coopetition, Vertical Coopetition

JEL Classifications: M10

1. INTRODUCTION

Comparative work on explanatory factors for coopetition strategies in relation to cooperation strategies is very rare (Le Roy and Sanou, 2014). Most of the earlier works on these two types of strategies deals separately with the determinants of each of these strategies. Some of this research focuses on the external determinants of co-operative strategies, particularly competitive intensity (Kogut, 1988; Kim, 1999), while others focus on internal determinants, particularly lack of financial resources or need of strategic effort in research and development (Mitchell and Singh, 1996; Miotti and Sachwald, 2003).

Regarding the coopetition strategy, a scan of the literature also teaches us that the determinants are of external and internal order. In particular, we note that some works, in this case Eisenhardt and Schoonhoven (1996) and Chiambaretto and Fernandez (2016) only deal with external determinants including competitive intensity and environment’ uncertainty, while a range of other works, like Bengtsson and Kock (1999), Hillman et al. (2009) and Czakon et al. (2019) address only internal determinants including resource requirements, resource dependence, strategic logic and coopetitive state of mind. Few studies study concomitantly the internal and external determinants of coopetition strategies, particularly through the product life cycle, research and development costs and technological convergence (Gnyawali and Park, 2009), or through industrial concentration, sectoral maturity, international presence and the size of the firm (Sanou, 2012).

In addition, work dealing with the comparative determinants of coopetition strategies in relation to cooperation strategies (Fernandez and Le Roy, 2010; Hamouti et al., 2014, Le Roy et al., 2013; Chiambaretto and Fernandez, 2016) are also shy. These few searches are far from exhausting the subject. Indeed, most of these research’s does not include the various determinants, internal and
external, to develop the disparate conditions of recourse to each of these strategies.

This article aims to fill this gap by attempting to empirically establish the composite determinants, external and internal, of resorting to coopetition versus cooperation strategies.

The question posed is then the following:

Given the competitive intensity and strategic capabilities held, do companies prefer to resort to coopetition strategies or pure cooperation strategies?

To achieve this goal and answer the question posed, we propose to follow the following plan. A first section will be devoted to the theoretical foundations. The second will focus on establishing assumptions and the conceptual model. The third will outline the research methodology. The fourth will present the results of the survey of a sample of Tunisian industrial enterprises. The fifth will be concerned with the discussions of the results. Finally, the sixth section will be reserved for the managerial implications of this research.

2. THEORETICAL FRAMEWORK

2.1. The Determinants of Strategic Choices

2.1.1. Competitive forces approach

Competitive intensity research can be grouped into two broad approaches: The structural approach and the behavioral approach (Le Roy, 1999). In contrast to the behavioral approach that accounts for competitive intensity through conscious actions of competing firms, the structuralist approach relates competitive intensity to structural determinants by considering that firms only have to adapt to the external environment (Le Roy, 2004).

This research is part of the structuralist approach, in particular Porter’s (1980) approach of the “five forces of competition” which, unlike conventional approaches of strategic analysis focusing exclusively on relative market share, offers an analysis widened of the competition’ intensity. Thus, according to Porter (1980, p. 3), “the structure of a sector has a strong influence on the determination of the competitive rules of the game and on the strategies to which the firm has the possibility to resort.” For him (1980), the competition’ intensity within a sector of activity depends on the state of the five structural forces (existing competition, potential competition, indirect competition, the bargaining power of customers and the bargaining power of suppliers).

This so-called “competitive forces” approach (Teece et al., 1997) is seen as complete and enriched by analytical techniques for analyzing the industry and its evolution. It also has the merit of understanding the competitors and the positioning of the company in relation to these competitors, which is reflected in the development of a competitive strategy aimed at maintaining its position. (Galbraith and Galvin, 2008).

Nevertheless, despite its considerable contributions, this approach shows limitations on its exclusive focus on structural factors to the detriment of behavioral factors and on external factors to the detriment of internal factors. This last criticism takes a big rise when companies subjected to the same industrial structures and pursuing the same strategies achieve different levels of rents. This is the main criticism that gave birth to the resource approach.

2.1.2. The resource approach

2.1.2.1. Emergence and basic ideas

This approach has its origins in the work of Penrose (1959) which states that, just as external factors, the internal world of the firm (physical resources such as factories, equipment, land, materials, etc. and human resources such as the workers, the management team, engineers, etc.) allows it to create unique, subjective and specific productive opportunities that promote its growth.

While drawing inspiration from the SWOT model, which postulates the duality of the explanatory factors for strategic choices (environmental opportunities and threats and the strengths and weaknesses of the company), Wernerfelt (1984) proposes for the 1st time the term Resource Based View (RBV) by referring resources to the strengths and weaknesses of the firm and considering them as the origin of diversification strategies, mergers and acquisitions.

More recently, Barney (1991) has linked the company’s resources to sustainable and durable competitive advantage. For him, the resources correspond to “all the assets, the capacities, the organizational processes, the attributes of the firm, the information, the knowledge, etc. controlled by a firm that allows it to design and implement strategies that improve its efficiency and effectiveness.”

In total, contrary to the neoclassical approach, where the resources are supposed to be mobile and homogeneous, the RBV assumes that the resources are not perfectly mobile between the companies and that they are heterogeneous thus implying the heterogeneity of the firms. This approach breaks with traditional approaches by seeing the company as a collection of unique resources that can influence its evolution and its strategic development choices, as well as its competitive advantage and its rents (Barney, 1991; Dierickx and Cool, 1989).

2.1.2.2. Strategic capabilities

The review of the literature on the RBV allows us to highlight the confusion between the term “resources” and that of “capabilities” throughout the first works on this area. It was not until Amit and Schoemaker (1993) to establish the first distinction between the two terms. If the first run to assets owned and controlled by the firm, the second corresponds to the ability of the firm to exploit and combine these resources through organizational routines to accomplish its journey. These capabilities are based on specific, tangible and intangible information processes, which develop through complex interactions between resources.

In addition, the strategic nature of these capabilities is rooted in the sustainability of the competitive advantage achieved, the increase in production efficiency, the improvement of deliveries and the increase of competitiveness (Day, 1994; Spanos and Lioukas, 2001; Desarbo et al., 2005).
Among the range of strategic capabilities that a firm can have, we focus this research on certain types of strategic capabilities that correspond to the main processes of value creation (Grant, 1991) and that are widely cited in the literature, namely managerial, technological, marketing, market linkage and information technology capabilities.

2.1.3. Complementarity of the Porter's approach and the approach by the resources
Despite the fundamental differences between these two approaches when it comes to explaining strategic choices or competitive advantage, some similarities can be distinguished. This state of affairs implies their complementarity (Amit and Shomaker, 1993; Peteraf, 1993).

According to Spanos and Lioukas (2001), unlike RBV, which explains strategic choices by intrinsic factors, the Porterian approach proposes a justification of strategic choices based on exogenous factors. In the same perspective, Wernerfelt (1984) considers that these two approaches constitute two sides of the same coin. In the same vein, Barney and Griffin (1992) postulate that value creation stems logically from internal capabilities to the strategy adopted and from strategy to the competitive environment (Spanos and Lioukas, 2001).

In this same frame of ideas, Barney et al. (1994) proposed that the examination of the skills needed to implement the strategy should not be done without taking into account the analysis of the competitive environment of the firm and vice versa (Penrose, 1959; Amit and Schoemaker, 1993). This idea goes hand in hand with the assumptions of the SWOT model, which brings together resources to the company’s “strengths and weaknesses” and the analysis of the competitive environment to the “opportunities and threats” of the environment (Johnson et al., 2014, Foss, 1996). By reference to this model, these two approaches are therefore complementary (Spanos and Lioukas, 2001). Indeed, these two approaches are aimed at studying competitive advantage, strategic choices and their determinants.

2.2. The Strategic Choices of Companies

2.2.1. Pure cooperation strategies
From the beginning of the 1980s, the need for collaboration between companies intensified, in particular because of the increasing complexity of products, the acceleration of the pace of innovation and the spread of technology and the expansion of investments and the fields of knowledge necessary for their mastery (Dussauge et al., 2000; Stuart, 2000). On the same subject, Eisenhardt and Schoonhoven (1996), and Stabell and Fjelstead (1998) argue that the use of collective strategies is increasingly recommended in competitive contexts and environmental uncertainties.

Unlike a market transaction, the partnership is created “when a customer and providers agree to share risks and responsibilities in designing and implementing a function or subset of a complex product, coordinating their skills and resources. It is a true strategic collaboration based on sharing, trust and mutual dependence. Partners work together to increase their earnings and increase their competitive advantages” (Donada, 1996, p. 5). Pure cooperation can be carried out in the different activities of the company whether with suppliers or customers (Le Roy et al., 2013). The providers play an important role as they are most able to provide critical information about technologies. On the other hand, customers allow the company to gain access to the market, among others, for its innovation (Le Roy et al., 2012) and they are best able to provide reliable information regarding the needs of users and markets. For Miotti and Sachwald (2003), it is the nature of the resources’ need (complementary or/and similar) that dictates to companies the most appropriate partner to achieve the desired objectives (innovation, lower costs). According to Le Roy et al. (2012), pure cooperation brings together all the partners’ resources and skills in order to carry out their project and innovate. Because they are not competitors, trust is established, thus intensifying cooperation, sharing of information, resources and skills. However, cooperation presents a potential risk of opportunism of partners seeking to acquire the skills of their partners to become strong future competitors (Le Roy and Sanou, 2014).

2.2.2. Coopetition strategies
Until the early 1990’s, cooperation and competition were seen as the two opposite extremes of a broad continuum. No prospect of bringing them together has yet been planned. However, since the end of the 1990s, and with the unprecedented intensification of competition, the shortening of product life cycles and the increase in research and development costs, a new strategic standard has invaded many sectors consisting in the simultaneous combination of cooperative and competitive strategies (Luo, 2004). According to Sanou and Le Roy (2012), the idea of cooperating while remaining in competition constitutes a break with the classical conception, where the increase of competition implies necessarily a decrease in cooperation and vice versa. Indeed, these two strategies are based on two opposing paradigms (the theory of industrial organizations and socio-economic theory) that are even incompatible (Fernandez et al., 2010). Coopetition is thus a new field of singular research (Dagnino et al., 2007). Indeed, it is not an extension nor of the theories of cooperation nor the theories of competition. Nalebuff and Brandenburger (1996) refer to game theory to propose a first theory of coopetition from the “value network.” Based on game theory, resource-based theory, and social network theory, Lado et al. (1997) state, in turn, that firms increasingly combine aggressive and cooperative strategies (in Le Roy and Yami, 2007).

Several definitions have gradually emerged. Bengtsson and Kock (2000, p. 412) define coopetition as the “dyadic and paradoxical relationship that emerges when two companies cooperate in a few activities and at the same time compete with each other on other activities.” For Le Roy and Yami (2007) coopetition is understood as: “A system of actors that interact on the basis of a partial congruence of interests and objectives” (Le Roy and Yami, 2007, p. 95).
From these definitions, we can remember that coopetition is a two-dimensional phenomenon revealing a high level of both competitive aggressiveness and cooperativity that justifies its paradoxical nature (Sanou, 2012). Competitive aggression is dependent on the number of actions and competitive responses, their complexity and speed (Gnyawali et al., 2006; Sanou and Le Roy, 2012; Ferrier, 2001; Smith et al., 1992). As for the cooperative dimension, it refers to the propensity of the firm to initiate cooperative actions and to get involved in cooperative actions within its sector of activity (Sanou, 2012).

The review of the literature, although weak, allows to admit some explanatory factors of coopetition. In this respect, we refer to Bengtson and Kock’s (1999) founding works which explain the use of coopetition by the need for excess resources and the relative position on the sector. Both authors make reference to network theory and resource-based theory (Table 1).

In this same perspective and referring to the RBV, Fernandez and Le Roy (2010) argue that the insufficiency and heterogeneity of the internal resources required for production, which has become more complex than ever, is pushing competing companies to pool their resources possibly complementary and interdependent. In a similar perspective, Gnyawali and Park (2009) mention the lack of financial resources (research and development costs) and technological convergence as internal factors explaining the use of coopetition. These authors add other industry-related factors, including the product life cycle. In the same frame of ideas, Sanou (2012) goes back the strategy of coopetition to internal factors, in particular the size of the firm and its international presence and to sectorial variables, in particular the industrial concentration, the sectoral maturity of the domestic market of the firm. For their part, Chiambaretto and Fernandez (2016), based on the theory of resource dependence, link the use of coopetition to environmental uncertainty that increases the need for similar resources. In the same vein, Czakon et al. (2019) address only internal determinants including behavioral factors, namely strategic logic and coopetitive state of mind.

Several types of coopetition have been developed in the literature, including the typology of Dagnino and Padula (2002) which, based on the number of cooperating enterprises and the number of cooperative activities, develop four forms of coopetition, namely dyadic coopetition, complex, simple dyadic coopetition, simple network coopetition, and complex network coopetition. Gnyawali et al. (2008) distinguish between vertical coopetition and horizontal coopetition. The first is the cooperation between companies in a customer-supplier relationship and which remain in competition upstream or downstream of this cooperation (Pellegrin-Boucher and Le Roy, 2009). However, the second is the cooperation between two direct competitors in one activity of the value chain while remaining in competition with the other activities (Hamouti et al., 2014; Bengtsson and Kock, 2000; Fernandez and Le Roy, 2010).

In fact, coopetition has a twofold advantage when it combines the benefits of cooperation as well as those of competition. Indeed, this strategy allows the various coopetitors to access the scarce and complementary resources of the competitors (Pellegrin-Boucher and Le Roy, 2009). In addition, since coopetitors remain in competition, coopetition stimulates the search for new productive combinations that generate income. Nevertheless, this strategy may hide the real motive that differs from the stated one, including the imitation of the coop’s resources and key competencies (Fernandez and Le Roy, 2010).

### 3. DEVELOPMENT OF THE MODEL AND HYPOTHESES

This research proposes a composite conceptual model that integrates both external factors defended by the porterian approach (competitive intensity) and internal factors proposed by the RBV (strategic capabilities) in the explanation of the conditions of recourse to coopetition or cooperation (Figure 1).

#### 3.1. The Impact of Competition Intensity on Strategic Choices: Coopetition or Cooperation

Researches aimed at cooperation, as in the case of Kogut (1988) suggests that joint action allows retailers to better cope with competitive pressures. As a result, it is in the interest of a distributor to work more closely with its supplier to overcome the challenges of competition and achieve its objectives. In the same perspective and referring to Kim (1999), intense competition is supposed to be an environmental condition that encourages a distributor to work jointly with a supplier. This joint action is guided by the search for a competitive advantage over other distributors. However, its empirical study of three industries in the United States failed to confirm the significant effect of the intensity of competition on vertical cooperation with a supplier or a customer. In contrast, Miotti and Sachwald (2003) show, through their empirical study on a sample of French manufacturing firms during the period 1994-1996, that low technology intensity sectors increase the propensity to the (vertical) cooperation of firms. According to these authors, vertical cooperation involves companies that consider that the lack of market information is an obstacle to innovation and that they could use cooperation with customers, in particular to mitigate these problems.

Thus, with reference to previous developments, we can state the following hypotheses:

- **Hypothesis 1**: The competition’s intensity favors pure cooperation
  - **Hypothesis 1-1**: The competition’s intensity favors supplier cooperation
  - **Hypothesis 1-2**: The competition’s intensity favors customer cooperation.

As for works on coopetition, in distinguishing between horizontal coopetition and vertical coopetition, Hamouti et al. (2014)
demonstrate that in order to succeed in innovating in a highly competitive environment, companies must make greater use of both vertical and horizontal coopetition. All other things being equal, these coopetition strategies help to improve innovation capabilities, which is a way for companies to stand out from the competition and better cope with environmental pressures. In the same perspective, Stabell and Fjelstead (1998) argue in favor of the choice of collective strategies to cope with the intensification of competition. In this regard, in an empirical study of a sample of US firms, Eisenhardt and Schoonhoven (1996) examined the relationship between the intensity of competition and the use of alliance strategies with a competitor. By conducting some empirical tests along the way, the authors find that when the number of competitors is high in an industry, companies increasingly resort to alliance strategies. Similarly, Shan (1990) proves from a sample of entrepreneurial biotechnology firms that the high intensity of competition favors the formation of alliances. In a close perspective, Mitchell and Singh (1996) confirm, in an empirical study, that lated new entrants into the medical diagnostic industry were likely to enter into alliances.

However, comparative works between coopetition and cooperation unanimously agree on the primacy of coopetition in the face of increasing competition intensity. In this direction, in a longitudinal empirical study with Air France over the period from 2000 to 2011, Chiambarretto and Fernandez (2016), found that when the uncertainty of the environment is extremely strong, companies no longer recourse to pure cooperation strategies, but rather to coopetition strategies.

With reference to the preceding developments, we make the following hypothesis:
Hypothesis 2: The competition’s intensity favors coopetition

From this hypothesis derive the following sub-hypotheses:
Hypothesis 2-1: The competition’s intensity favors horizontal coopetition
Hypothesis 2-2: The competition’s intensity favors vertical coopetition.

To compare the effect of competitive intensity on the choice between cooperation and coopetition, we propose the following hypothesis:
Hypothesis 3: Competitive intensity favors the use of coopetition to the detriment of cooperation

3.2. The Impact of Strategic Capabilities on Strategic Choices: Coopetition or Cooperation
As for pure cooperation, the RBV postulates that the use of the partnership is justified by the need for resources. Thus, when the projects to be carried out involve high R&D costs, or when they are risky or complex, companies tend to adopt R&D cooperations and to move towards the high-tech sectors. Cooperation is also targeted when it comes to accessing new markets and technology
markets (Mitchell and Singh, 1996). According to Harrison et al. (2001), cooperation strategies are an attractive way to dispose of resources when the firm’s capabilities are not sufficient to achieve the desired outcome (Hoskisson and Busenitz, 2001). Similarly, according to Gulati et al. (2000), companies are always looking for partners with whom they can pool resources that they lack. At the same time, Dyer and Singh (1998) justify the use of vertical cooperation strategies by the lack of resources and skills available to the firm. Likewise, Pfeffer and Salancik (2003) establish that in order to access to the resources that are necessary for their projects or products, companies have to put in place cooperation strategies. In a near sense, Calvi et al. (2000) state that, in their quest for accumulation of complementary resources, companies seek to work jointly with other firms, including their suppliers or their customers. Miotti and Sachwald (2003), found in an empirical study among a sample of 4215 companies of French manufacturing firms during the period 1994-1996, that the strategic need for effort in research and development increases the trend of firms to cooperate. This cooperation with universities aims at complementary resources to work at the technological frontier. In the same vein, Doh (2000) shows that firms with no specific resources are looking for partners who have it.

Thus, with reference to these authors, we formulate the following hypotheses:

Hypothesis 4: Insufficient strategic capabilities favor pure cooperation

From this hypothesis derive the following sub-hypotheses:

Hypothesis 4-1: Insufficient Strategic capabilities favor supplier cooperation
Hypothesis 4-2: Insufficient Strategic capabilities favor customer cooperation.

As for coopetition, since the work of Bengtsson and Kock (1999), corporate reliance on coopetition strategies has been justified by the high need for excess resources. In the same logical sequence, several empirical studies have shown that the diversity and complementarity of resources is the main justification for the use of coopetition, which is the most performing (Sampson, 2007). According to Eisenhardt and Schoonhoven (1996), even attractive additional resources may explain, in some cases, the use of alliances, thus enabling the rich to be richer. In an empirical study of the European space industry, Le Roy and Fernandez (2010) prove that when a company has insufficient internal resources to obtain a competitive advantage alone, it tends to engage in a coopetition relationship. In the same perspective, Miotti and Sachwald (2003) empirically prove the main reason for cooperation with competitors which is none other than the sharing of similar resources and high costs of research and development. Seabright et al., (1992. p. 124) state that the criteria for partner selection is “the match between an organization’s resource needs and another resource source, relative to a set of opportunities.” According to Miotti and Sachwald (2003), it is according to the nature of the needs of the partners that the nature of resources to be pooled is decided and by sequela the appropriate partner in terms of the necessary resources. Thus, the pursuit of cost and risk reduction through economies of scale and the streamlining of innovation processes, pushes partners to pool similar resources. While, the search for managing technological convergence (interdependence between innovation processes) pushes partners to pool complementary resources. According to Hamouti et al. (2014), vertical cooperation with customers or suppliers is a strategic way for the company to benefit from the complementarity of its partner’s resources and skills, with a reduced risk of knowledge transfer and imitation strategic resources and an increased trust between partners. However, the required resources may only be available at the strongest competitor, which requires the use of coopetition, despite the high risk of imitation of resources and key skills by the partners.

Based on the above considerations, we suggest the following hypotheses

Hypothesis 5: Insufficient strategic capabilities favor coopetition

This assumption can be broken down as follows:

Hypothesis 5-1: Insufficient strategic capabilities favor horizontal coopetition
Hypothesis 5-2: Insufficient strategic capabilities favor vertical coopetition.

To compare the effect of the lack of strategic capabilities on the choice between cooperation and coopetition, we propose the following hypothesis:

Hypothesis 6: Insufficient strategic capacity promotes the use of coopetition at the expense of cooperation.

In addition, to compare the effect of the two factors studied on the adoption of cooperation and coopetition strategies, we propose the following hypotheses:

Hypothesis 7: Insufficient strategic capacity holds the strongest weight that competitive intensity in explaining cooperation strategies.
Hypothesis 8: Insufficient strategic capacity holds the strongest weight that competitive intensity in explaining coopetition strategies.

4. RESEARCH METHODOLOGY

4.1. Measurement of Variables

With the scale adapted of Al-Rfou (2012), we measured the dimension “intensity of existing competition.” The other dimensions of competition intensity were measured by the scales of Weerawardena et al. (2006). For the different strategic capabilities, we adopted the scales of Desarbo et al. (2005). Concerning cooperation, we chose the Sañchez and Pérez (2003) scale both for customer and supplier cooperation. Regarding coopetition, although the measures used to date, integrate the two dimensions of cooperation (competition and cooperation), they offer only an indirect measure (Fernandez et al., 2010) which revolves around the measurement of competition in the competition (network) or vice versa. In order to fill this gap and take into account the bi-dimensionality of the coopetition, and while trying to provide a direct measure, we have tried to measure coopetition (horizontal and vertical) through a competitive and
a cooperative dimensions. Thus, we measured the dimension “propensity for cooperation” through Luo et al.’s scale (2007) and the dimension “propensity for aggression” with the Le Roy’s scale (2001). However, we did a principal component analysis for the coooperation variable with both its aggressive and cooperative dimensions. We then obtained a synthetic variable of coopetition (Fernandez et al., 2010). Subsequently, the internal consistency of the latent variable obtained was tested and validated by confirmatory analysis.

Likert scales ranging from 1 “very low” to 7 “very high” their attitudes towards the different variables.

4.2. Sampling, Administration and Data Collection
The sample is chosen from a mother population composed of all the manufacturing industrial enterprises (textile and clothing, electrical, electronic and household appliances, chemical and the food industry) through the method of reasoned choice. No size or regime activity restrictions have been implemented. Subsequently, the validity of content both consensual1 and facial2 was examined. At this point, we administered the questionnaire in its latest version obtained, face to face with business leaders. Of the 400 questionnaires distributed, we obtained only 236 with a return rate of 59%, but only 203 were exploitable or 85.5%.

5. RESULTS

The prerequisites for testing the hypotheses were fulfilled by verifying the reliability and dimensionality of all the measurement scales used by carrying out a first purification by means of PCA and Cronbach’s alpha, then a second purification via the AFC. That said, the field was ready to launch the method of structural equations, which by showing a good fit of the overall model, enabled us to validate the research hypotheses and obtain the results below (Table 2).

Concerning cooperation, the competitive intensity presents a negative and significant effect on the supplier cooperation but positive and significant on the customers cooperation. Hence the reversal of hypotheses H1-1, but the acceptance of H1-2 and the acceptance partially of H1.

1 appreciation of peers and experts
2 pre-test with 12 companies

| Table 2: Tests’ results of research hypotheses |
|-----------------------------------------------|
|                  | Estimated beta | CR |
|-------------------|----------------|----|
|                  | NS     | S    |
| SCOPF<--IC        | −1,076 | −0,780*** | −13,928 |
| SCPC<--IC         | 0,093  | 0,164*** | 2,264   |
| SCOPTH<--IC       | 0,013  | 0,013*** | 0,179   |
| SCPTV--IC         | −0,503 | −0,503*** | −8,261  |
| SCOPF<--CS        | −0,315 | −0,234**  | −3,247  |
| SCOPC<--CS        | −0,132 | −0,232**  | −3,206  |
| SCOPTH<--CS       | −0,607 | −0,607*** | −10,856 |
| SCPTV--CS         | −0,618 | −0,618*** | −11,172 |

***, ***, *: significant at 1%, 5%, 10%, IC: Competitive Intensity, CS: Strategic Capabilities, SCOPF: Suppliers cooperation, SCPC: Customers cooperation, Horizontal Coopetition (SCOPH), Vertical Coopetition (SCPTV)

Moreover, the competition’s intensity shows a positive and significant impact on horizontal coopetition but a negative and significant impact on vertical coopetition. This allows us to confirm our hypotheses H2-1 but to reject H2-2, and consequently to accept partially H2.

Comparing the use of coopetition face to cooperation, we find that customer cooperation is more adopted then horizontal coopetition face to intensity’ competition. Thus we reject H3.

Concerning the second explanatory variable of our model, the results allowed us to affirm that the combining strategic capabilities have negative on both upstream and downstream cooperation. Therefore, we confirm H4, H4-1 and H4-2. Finally, the combining strategic capabilities have also a negative and significant effect both on vertical and horizontal coopetition. Where the confirmation of hypothesis H5, H5-1 and H5-2.

Comparing the use of coopetition with cooperation, we find that coopetition is more adopted face to the insufficiency of strategic capabilities. Thus, we accept H6.

By comparing the coefficient of competitive intensity with that of the insufficiency of strategic capabilities in the four types of strategies studied, we find, with the exception of the case of supplier cooperation, the superiority of the factor “strategic capabilities” by opposition to the factor “competitive intensity.” Therefore, we reject partially H7, but we confirm H8.

6. DISCUSSIONS

6.1. Effect of Competitive Intensity on Strategic Choices: Cooperation or Coopetition

The global model test confirms that competitive intensity favors downstream cooperation but does not push for upstream cooperation. Indeed, because the cooperation with the customer, is most often formed, in the context of our sample, in the marketing, logistics and distribution, these companies are concerned with marketing and sales of their products that constitute a major challenge in a highly competitive environment like ours. This explains the privileged use of this cooperation. These results go hand in hand with those of Hamouti et al. (2014), which prove that companies today are called to cooperate more and more with their customers to succeed in a highly competitive environment. Our results also resemble to those of Miotti and Sachwald (2003), which empirically prove that companies have an interest in adopting customer cooperation in particular to alleviate the problem of the information market’ lack, which is an obstacle to innovation.

Regarding cooperation with the supplier, if this strategy is sought in the context of a moderate intensity of competition, it is probably due to the fact that in this context the need for resources and the innovation sought is not so intense. In fact, cooperation with a supplier that consists of working together on suppliers’ products can provide the company with inputs that better correspond to it, but do not allow an innovation of its own products (Le Roy et al., 2013).
These two results contradict those of Kim (1999), who empirically denies the effect of the intensity of competition on vertical cooperation with suppliers or with customers.

In addition to these results, the empirical investigation has confirmed that the intensity of competition favors horizontal coopetition strategies but does not encourage the choice of vertical coopetition. Indeed, since the horizontal coopetition strategies are mainly formed, within our sample, in R&D activities, new product development, and improvement of existing technology, we can then affirm like Hamouti et al. (2014) that face to competitive intensity, horizontal coopetition eventually proves to be the major source of radical innovation. This type of coopetition provides access to the resources most needed to compete in the market (Hamouti et al., 2014). Indeed, a context marked by a strong competitive intensity is likely to require radical innovation that requires resources, which are found only in the strongest competitor (Chiambaretto and Fernandez, 2016). Our results are also in line with those of Eisenhardt and Schoonhoven (1996) and Shan (1990) who empirically prove that the high intensity of competition favors the formation of alliances between competitors.

On the other hand, in the case of vertical coopetition strategies, cooperation is established on the activities of the cooperating or co-operating client, in this case in the activities of developing new products, improving existing technology, developing sales and segmentation of the market, and do not allow access to resources needed for production, which explains the low recourse to this strategy when competition intensifies. Indeed, when the intensity of competition is moderate or decreasing, the need to innovate becomes more modest (incremental innovation) hence the use of vertical coopetitions, where cooperation is conducted on the products of suppliers (which are at the same time competitors’ time) or the customers’ distribution activities or channels (which are concurrently competitors) but do not allow an innovation of the company’s products (Le Roy et al., 2013). In this regard, Miotti and Sachwald (2003) prove, in an empirical study, that the high and medium technological intensity sectors increase the propensity for cooperation (with competitors).

Comparing the recourse to coopetition face to cooperation, we can conclude that in relation to competitive intensity, Tunisian firms tend to opt for cooperation strategies (especially downstream) rather than coopetition (particularly horizontal). In addition, the empirical study shows that vertical coopetition is most recommended when the intensity of competition is average, while upstream cooperation seems to be the most recommended when the intensity of competition is low. All of these results seem to contradict those of Chiambaretto and Fernandez (2016) who empirically prove that when the uncertainty of the environment is extremely strong, companies denounce the use of pure cooperation strategies and prefer rather the use of coopetition strategies.

This surprising result may possibly find explanations in the effect of the firm size, the sector or the activity regime. Indeed, our sample is heterogeneous associating companies belonging to different sectors of activity in particular the sector of textile and clothing, the sector electrical, electronics and household appliances, the chemical sector and, the sector Agroalimentaire. Similarly, the companies in our sample are disparate in term of schemes of activity (totally exporting and non-fully exporting). In these two cases, companies are exposed to different competitive intensity. In addition, the companies solicited are of different sizes (small, medium or large) and consequently their resource and strategic capability arrangements are uneven.

6.2. Effect of Strategic Capabilities on Strategic Choices: Cooperation or Coopetition

The results of the empirical investigation show that the lack of strategic capabilities leads to cooperative strategies with both suppliers and customers, with a slight tendency towards upstream cooperation strategies. This result, which certifies the premises of the resource approach, goes hand in hand with that of Miotti and Sachwald (2003) who find, in their empirical study, that the strategic need for effort in research and development increases the tendency of companies to cooperate. This cooperation with universities aims at complementary resources to work at the technological frontier. This result also seems consistent with those of Doh (2000), Harrisson et al. (2001), Dyer and Singh (1998) and Pfeffer and Salancik (2003).

In addition, the results of our empirical investigation show that the firm’s lack of a sufficient portfolio of strategic capabilities is also a strong handicap that forces them to opt for vertical coopetition in the first place and horizontal coopetition in second place. This result corroborates that found by Fernandez and Le Roy (2010), witch show that face to insufficient resources, companies tend to pursue strategies of coopetition. In this context, Le Roy et al. (2013) argue that R&D costs are becoming higher, forcing companies to pool their research. We also agree with Robert and Le Roy (2014) who argue that when firms do not have enough resources and skills, they tend to cooperate in order to cover this gap (Sakakibara, 1997). According to these authors, horizontal and vertical coopetition are adopted in response to the need for resources and skills (technological and financial).

As for the privileged recourse to vertical coopetition compared to horizontal coopetition in the face of the insufficiency of strategic capacities, in our sample, this result turns out to be different from that of Hamouti et al. (2014), which prove that companies prefer the adoption of horizontal coopetition because it is the most efficient for coopetitors since it makes it possible to boost the sales of the two coopetitors and to increase their respective market shares. However, in the context of vertical coopetition, the customer or the supplier (who is at the same time a competitor) often engages in exclusive contracts with the coopetitor which limits his potential gains.

Comparing cooperation with coopetition, we find that the need for strategic capabilities primarily favors coopetition (with its two forms) to the detriment of cooperation (with both forms). This implies that, when the need for skills is very strong, coopetition is preferred. Indeed, in accordance with the assumptions of the theory of based resources, the strategic alliances with competitors constitute the winning alternative to recover this lack and confront the competition. This result comes in support of Chiambaretto and...
Fernandez (2016) supporting the idea that the resources sought are most often found in the strongest competitor to which the firm is primarily looking for to cooperate. We also join Miotti and Sachwald (2003), who prove, in an empirical study, that the propensity for cooperation (with competitors) is being undermined in order to reduce the costs of R&D. This tends to confirm that rivals join forces to exploit economies of scale and reduce the individual costs of innovation.

6.3. Comparison of the Weight of the Determining Factors of Coopetition and Cooperation

6.3.1. The Case of cooperation

With regard to the strategic choices of cooperation, the comparison of the determinants of the two cooperation strategies, shows us that given the same level of need for strategic capabilities, the intensity of competition is the decisive factor. Indeed, in a similar situation of lack of capabilities, the high intensity of competition pushes to adopt the customer cooperation strategy, whereas the weak competition intensity pushes to choose the cooperation supplier.

Moreover, the results show that the coefficient of strategic capability in supplier cooperation strategies is less important in absolute value than that of the intensity of competition, which confirms the primacy of the intensity of competition on the strategic capabilities in explaining this choice. Indeed, since cooperation with the supplier takes place in training activities, new product development, process development, quality and environmental protection and in technology transfer, this promotes innovation incremental that is highly recommended when the degree of competition is limited and requires less strategic capabilities. This result has just contradicted the predictions of the RBV, but confirms the postulates of the proponents of the porterian approach.

However, the resource ratio of customer cooperation is stronger in absolute value than the intensity of competition, thus confirming the primacy of strategic capabilities over the intensity of competition in the explanation of this choice. This result can be explained by the fact that it is the high competitive intensity which in turn dictates a high level of missing strategic capabilities leading consequently to the adoption of this type of cooperation. This result comes in pair with the postulates of the RBV.

6.3.2. The Case of coopetition

With regard to coopetition, the results show that, in both types of coopetitions (horizontal and vertical), it is the factor “strategic capabilities” that dominates the “competitive intensity in the explanation of this choice, and this despite its negative sign in two cases. Nevertheless, vertical coopetition depends more heavily on both strategic resources and competitive intensity.

The supremacy of the “strategic capabilities” factor in explaining coopetition strategies goes hand in hand with the predictions of the resource based approach, which argues that cooperation with competitors finds its main justification in the lack of strategic resources. This result seems in full compliance with the works of Chiambaretto and Fernandez (2016) confirming that the need for resources sought can often only be satisfied by cooperating with the competitor.

For conclusion, we can propose the matrix in Table 3, which synthesize the conditions of recourse to each of these strategies.

### Table 3: Matrix of strategic choices

| Competition intensity | Low   | High  |
|-----------------------|-------|-------|
| Strategic capabilities |       |       |
| Low                   | Vertical coopetition | Customers cooperation |
|                       | Supplier cooperation | Horizontal coopetition |

7. MANAGERIAL IMPLICATIONS

Coupling an internal and an external factor, this research results in a rigorous classification of the strategic choices of cooperation and coopetition according to these two factors simultaneously. More precisely, the consideration of competitive intensity in the choice between coopetition and cooperation is necessary but insufficient, since that strategic capabilities hold have the greatest weight in the explanation of these two strategies, except for cooperation supplier, where the competition intensity seems to be the most decisive. This classification can be useful for managers by helping them to better diagnose their situations and follow the right path towards the different strategies proposed. Indeed, faced to the lack of strategic capabilities, companies are not obliged to enter a market without arms or to leave it. The choice of pure cooperation seems to be an adequate and fruitful alternative. Better yet, when the need for strategic capabilities is intensifies, a new alternative is needed today, notably coopetition.

These results send a second message to companies in the manufacturing industry that sometimes face fictitious threats from companies that are poor in strategic capabilities but who seek to harm and disrupt their competitors.

Similarly, we came to an important conclusion that companies that do not have strategic capacity gaps are not the right partners for a coopetition strategy and this because they hide the real intent of this coopetition, that is to access to key resources and skills of their competitors. Finally, our results can also be useful for public decision-makers, since certain coopetitions can impede the smooth running of competition in manufacturing industry and the well-being of the consumer, in particular by monopolizing the market and this call for a greater control.

8. CONCLUSION

Firstly, this study contributes to enriching the debate on the possible primacy of coopetition’ strategies in face to cooperation and vice versa. Secondly, this study supports the debate on the determinants of strategic choices of cooperation and coopetition. This debate, which has rarely supposed them as complementary, often focuses solely on extrinsic factors and ignores intrinsic factors or vice versa. Our study has the merit of showing that these two factors have considerable and simultaneous weight in the determination of strategic choices. Four strategic situations were identified according to the intensity of these two factors,
namely upstream cooperation, downstream cooperation, horizontal coopetition and vertical coopetition. In addition, our study explains among the level of insufficiency of strategic capabilities, why, companies are sometimes content with cooperation strategies and sometimes others seek to coopetitive.

However, it should be noted that the results of this study are subject to several limitations, which suggests the need for new researchs in the future. First, the main limitation concerns the heterogeneity of the sample composed of companies with different sizes and therefore having disparate level strategic capabilities, belonging to various sectors of activity and different business regimes. A homogeneous sample of companies with equal size, operating in a single sector or according to a single business regime and thus exposed to the same competitive intensity, can broaden the scope of our results.

In addition, the question of the supremacy of the strategies of coopetition compared to the strategies of cooperation in this new context can be solved by integrating other explanatory factors, in particular the nature of the started project (Fernandez and Le Roy, 2010) or the behavioral factors (Czakon et al., 2019). In addition, the study of a broader range of strategic capabilities or dynamic capabilities (Teece et al., 1997) can enrich our research and increase the interest and validity of our results. Still, other structural, cognitive or behavioral factors can provide valuable information. New research could integrate them.

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