The Relationship between Corporate Strategy and Cooperative Agreement Success

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Cooperative agreements have become widespread due to the difficulty firms can compete alone in a highly turbulent environment. Key success factors in cooperative agreements, their benefits and risks and their effect in technology-intensive sectors have been analyzed in multiple studies. In our case, we will analyze the influence of corporate strategy on cooperative agreement success. The main conclusion is that cooperative agreement should be simultaneously coordinated and should respect the corporate strategy if its results are to be improved. Our study will be developed in a mature industry with low technological intensity in order to fill the gap found in research.

Key words: corporate strategy, cooperative agreement, exploration agreement, exploitation agreement

Introduction

Technological change, rapid changes in demand, reducing the life cycle of products and the emergence of new technologically advanced countries are factors which are causing high volatility and uncertainty in the environment (Gulati 1998; Lane and Lubatkin 1998) and increasing the use of cooperation due to a substantial increase in the difficulties of any company competing in isolation within the market (Cravens, Shipp and Cravens 1993; Ariño and De la Torre 1998). Thus, the need arises for companies to establish cooperative agreements if they are to maintain their competitive position and prove flexible in reaction to the changing environment.

Cooperation agreements are relationships between companies which involve both voluntary exchange, compartment or joint development of products, technologies or services (Gulati 1998) and the existence of mutual interdependence, in which each part is vulnerable to the behaviour of the other since they are not under each

other's control (Parkhe 1993). Cooperation enables companies to develop strategies that cannot be developed in isolation, while maintaining control and independence over the assets of which they are sole owner (Nohria and Piskorski 1997). This is therefore a strategic alternative that reduces risks.

In accordance with the cooperative agreement aim, March (1991) and Koza and Lewin (1998) distinguish two types of cooperative strategies, such as, exploration strategy which is characterized by the discovered of new opportunities to create wealth and increase profitability and exploitation strategy where company will focus on a few basic skills and will develop cooperative agreements through which to access their partner's assets and benefit from their complementarities (Rothaermel 2001; Grant and Baden-Fuller 2004).

Our literature review highlights the works that discuss the advantages and risks of cooperation, along with the main key factors for success (Kogut 1988; Hamel 1991; Parkhe 1993; Gulati 1998; Koza and Lewin 1998; Anand and Khanna 2000; Rothaermel and Deeds 2004; Reuer and Ariño 2007; Wiklund and Shepherd 2009).

In this study, we have attempted to emphasize the relevance of the company's strategic component. We thus believe that the strategic objective of the cooperative agreement will influence companies' success. By adhering to the Resources and Capabilities Theory (more specifically the knowledge approach), we shall use the type of agreements which classifies agreements into exploration and exploitation, depending upon the goal of the alliance that has been proposed. Our aim is to discover whether any kind of agreement exists which is associated with a greater amount of success.

Cooperative agreements are also part of the company's strategy, so to obtain maximum efficiency they must be coordinated with this strategy, in order to avoid conflicts and exploit the synergies that may occur with other business strategies used to develop the organization. This will contribute to an increase in the cooperative agreement success. A further objective of this research is to expand the number of sectors in which cooperation is a valid growth strategy, since most empirical studies examine technology-intensive sectors, as their characteristics strengthen their advantages (Hagedoorn 1993). In Spain, the industries with the greatest number of alliances are energy (oil and electricity), chemicals, electronic equipment, transportation, communication and financial services (Reuer and Ariño 2007). However, we believe that, as a result of the high volatility in all sectors, cooperative arrangements could also be effective in mature markets.

We have selected the Spanish agro-alimentary industry as one of the most mature contribution sectors in terms of Gross Domestic Product (GDP) for the Spanish economy (19%), since it has, in recent years, suffered from a restructuring process which has led to modernization within the industry with the renovation of existing technologies and developed strategies, and their relevance in areas such as health and food safety, territorial balance and environmental conservation.

Therefore, our main objective will be to verify the strategic importance of consistency of the strategic orientation of the agreement and the company´s strategy in industries of low technological intensity. To do this, we must first verify the direct influence of the strategic agreement on companies' success. In addition, we must seek the moderating effect of the company's strategy on the aforementioned relationship. If this is significant, then firms must condition cooperative arrangements to the generic strategy pursued.

In order to attain our objectives, we shall analyze the main differences between exploration and exploitation cooperative agreements in the following paragraph. We shall then attempt to show the relevance of the strategic component in the development of cooperative agreements. The following two sections will explain the hypotheses, which will later be contrasted. The paper will close with a discussion of our results and conclusions.

A Strategic Analysis of Cooperative Agreements

The choice between an exploration or exploitation agreement will be based on: (a) the expected profitability in each type of agreement; (b) the directors' knowledge of the environment; and (c) the strategic intentions of the managers (March 1991; Koza and Lewin 1998).

Exploration agreements regard the alliance as a vehicle for learning, since each partner will aim to transfer and absorb its partner's base knowledge. For each entity, exploitation agreements are based on access to the partner's stock of knowledge in order to exploit complementarities, but with the intention of maintaining its essential specialized knowledge (Grant and Baden-Fuller 2004). Thus, the first type of agreement will have higher associated risks, since it seeks a convergence of knowledge after a learning process. Exploitation partnerships therefore have a major impact on the development of new products due to lower associated risk (Rothaermel 2001). Therefore, when the uncertainty associated with the future necessitates high knowledge, and if the acquisition and integration of this knowledge is complex, then it would be preferable to develop

exploitation agreements with which to reduce investment and to disperse the risk (Grant and Baden-Fuller 2004)

However, despite the higher risks associated with them, exploration agreements have great relevance in turbulent environments since, in order to confront these environments with a higher level of guarantees, companies attempt to access their partners' critical inputs, thus learning from their technologies, products, skills and knowledge (Koza and Lewin, 1998) and to internalize their complementary capabilities, while protecting their core competencies (Kale, Singh and Perlmutter 2000).

Levinthal and March (1993) argue that the survival of a company depends on its ability to exploit the knowledge and skills it has in the agreement in order to ensure current viability, whilst simultaneously developing an appropriate exploratory activity with which to maintain viability in the future (Lundan and Hagedoorn 2001). We therefore appreciate the need for a cooperative agreement with which to develop factor explorers and operators in order to ensure their survival. Rothaermel and Deeds (2004) likewise establish that cooperation agreements follow a string sequentially. According to these authors, the first stage of an alliance is characterized by the exploration of the environment to discover new opportunities, through which it begins to exploit the knowledge gained, allowing the development of new projects that will be obtained from the innovative products to be offered in the market.

Wiklund and Shepherd (2009) point out that alliance success depends on the efforts done to the companies to combine their resources and explore new alternatives. On this way, Mesquita, Anand and Brush (2008) considered that cooperative agreements have to obtain specific profits, which cannot be obtained out of them. Therefore, the more explorative factors has a cooperative agreement to develop efficient knowledge transfer and learning processes, the more profit has the alliance. The absorption capacity developed by partners in an exploration alliance exceeds that produced by exploitation because of its relation to learning, since this will determine the effectiveness of internalization of technology, skills and knowledge achieved (Koza and Lewin 1998).

One of the objectives of this work is to contrast the impact of the strategic alliance on success, and to detect whether any kind of agreement is linked with success. We shall then attempt to analyze this influence with regard to the company's overall strategy. We thus propose the example in figure 1, which shows three scenarios that will be justified during the course of this work.

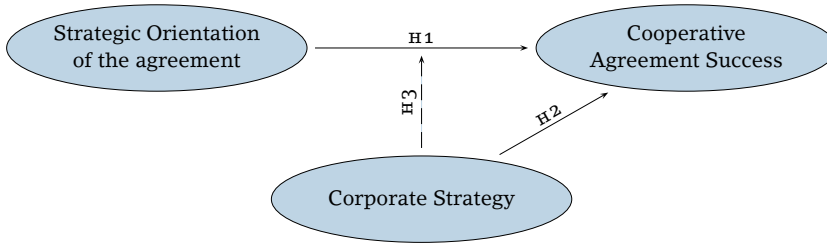

FIGURE 1 Research Model

As noted above, the expected profitability of an exploitation strategy is more imminent in time (March 1991) and safer than exploration one, since the latter depends on discovering new opportunities, so its value will be determined by the goodness of the opportunities found. According Rothaermel (2001) companies that are developing a strategy with which to exploit their partner's complementary assets outperform those who seek to explore new opportunities, and this leads them to develop new products, which improve their results. However, for both strategies, this author allows for an increase in the development of new products, the building of new skills from exploration, or an attempt to maximize benefits from the exploitation of existing skills.

It is, therefore, possible to appreciate two different positions. The first states that exploitation agreements are more effective in the short term (March 1991), but the other indicates the need for a balance between the two components to ensure survival in the environment (Levinthal and March 1993; Lundan and Hagedoorn 2001; Rothaermel and Deeds 2004) and to increase the cooperative agreement's success (Saxton 1997). Globalization and high competition signify that companies must be continuously developing new products, new business techniques and new production processes so, in addition to the exploitation factor, the nature of exploration also plays an important role in companies' success. We thus propose the following scenario:

H1 *Cooperative agreements with a high importance given to exploration and exploitation factors obtain more success than those in which a single factor stands out.*

The Relationship between Cooperative Agreement and Corporate Strategy

The corporate strategy may influence the number and type of cooperative agreements that the organization operates. Thus, an orga-

nization with little international experience, which chooses globalization, has more incentives to develop cooperative agreements with companies in its destination markets, since those companies know the factors that determine the functioning of the environment in which business is conducted and can even share their customer base and distribution (Hennart and Reddy 1997).

Different types of generic business strategies are used to characterize the strategic competitive behaviour of companies (Mintzberg 1973; Miles and Snow 1978; Porter 1980). The classification of Miles and Snow (1978) has been selected to analyse the strategic orientation of the firms due to the importance of changing in the current environment. Moreover, we can analyse the relation between the cooperative agreement and the company´s strategy as a result of theoretical studies and empirical analysis in the belief that business cooperation strategy is generally used to ensure the competitiveness of businesses in spite of the changes, which have taken place in recent years as a result of the globalization process.

Miles and Snow (1978) believe that all organizations adapt to the environment to a greater or lesser extent, and that this adaptation will be analyzed in the organization's 'adaptive cycle.' The changes occur as a reaction to business problems (product-market relationship), engineering problems (the organization's technical system) and administrative problems (structure and processes). Depending on the pace of change, four strategic directions can be defined (Miles and Snow 1978): (a) *prospectors* are companies, which are seeking new opportunities in market and product development, experimenting on a regular basis with actions to exploit emerging trends in the environment; (b) *defenders* are companies, which are trying to control the safe niches in their industries. They tend to concentrate on their product-market strategy, so do not require excessive adjustments to their structures, processes or technology; (c) *analysis* companies fall between the two aforementioned directions: they are not pioneers in responding to market change but neither are they reluctant to change; and (d) *reactor* companies' behaviour cannot be identified with any of the previous patterns, since they do not respond to changes in the environment.

When developing cooperative agreements, companies discuss alternatives means to traditional methods in order to develop their strategies, thus, in principle, seeking change. Clearly, given the enormous competition in the sector, companies need to adapt to any change occurring in the environment, and they must develop their dynamic capabilities (Eisenhardt and Martin 2000). In a similar way,

after having taken into account the dynamic nature of cooperation, Prahalad and Hamel (1990) considered that the long-term success of a cooperative agreement is derived from the organization's ability to renew its skills at a low cost, and to do well in less time than its competitors.

Therefore, we believe that if a company has greater adaptability to the changing environment then its profitability will increase, since these firms compete better than those that offer other products which do not have the latest requirements that have appeared on the market. Therefore, the firms´ response to environmental changes, that is, the organization's adaptive cycle, has influence on cooperative agreements´ success too.

Based on the aforementioned comments, we can state that the company's adaptability to new environmental circumstances will influence the efficiency of its cooperation strategy. We thus put forward the second scenario:

H2 *The degree of change in the company strategy is positively linked with successful cooperation.*

Koza and Lewin (2000) indicate that the main cause of cooperation failure is that of not evaluating the role of cooperation in the company´s strategy. Therefore, it is believed that cooperative agreement is an integral part of the company's strategy and must be coordinated with it, and that its basic principles must be respected to enable greater business efficiency. Medcof (1997) adds that if cooperative agreement evolves in the opposite direction to the company's strategy, this may influence its competitiveness. That is, if a company chooses an exploration agreement clearly, but its strategy is 'defender,' it will experience great difficulties in achieving its objectives, as it is not consistent for a company to attempt to seek new opportunities through a cooperative agreement if the company policy does not alter the product portfolio-market.

Reuer and Ariño (2007) suggest that the more important the alliance is in the company strategy, the more complex the agreement will be (Hagedoorn 1993), and the more it will affect organizational units of the company and will expose greater competitive risks.

The initial conditions of negotiation between partners show the purpose of the agreement, but this will change, along with the strategy, the company and its partner, and also the organizational, institutional and competitive environment since business cooperation is part of the organization's strategy and must evolve with it. After a partnership is formed, the partner firm may experience various

changes in its overall strategy or market competition, which may modify the value of partnership resources and, therefore, the potential profits of cooperative agreements. It is therefore justifiable to put forward a hypothesis with which to analyze the effect of the interaction between the strategic direction of the cooperative agreement and the corporate strategy on the cooperative agreement´s success.

H3 *The business strategy exerts a moderating effect on the relationship between the strategic orientation of cooperation and the success of the alliance.*

Methodological Framework

DATA COLLECTION METHOD

The companies of our population were identified through a review of national economic newspapers ('Cinco Dias' and 'Expansion'), along with their respective websites, for the period January 2001–December 2005. This process identified food businesses which planned to make some kind of cooperation agreement or which had just done so.

After conducting a pre-test with five companies in the sample, we prepared the final questionnaire, and the first mailing took place in April 2006 to 281 identified companies in the industry. After carrying out a second mailing, 52 valid questionnaires were collected in late November 2006, representing an 18.5% rate of response. To ensure that our sample of 52 companies was representative of the population and to evaluate any bias in the responses, we compared the results of those companies which initially responded with those that responded later, since it is estimated that the responses of the latter are more similar to those companies that do not respond (Armstrong and Overton 1977), and no significant differences were found.

VARIABLE MEASURES

The measure of the cooperative agreement success is complicated because there are various factors that hinder such a measure. Hoang and Rothaermel (2005) indicate that, although the result of an agreement is that of common benefit to all partners, it need not be equally distributed among the companies involved, due to their different characteristics. We could say that a cooperative agreement has been positive insofar as it attains the goals that have been proposed, so its success depends on the reasons that led individual firms to formalise it. Therefore, if the companies are different, then their evaluation of success when given the same result may also be differ-

ent. Therefore, we consider that cooperative agreement success is a subjective concept. This is why success is analysed by each partner. Therefore, following Ariño's (2003) example, we selected two operational measures: degree of satisfaction and degree of compliance with the goals that originated cooperation. Finally, the factorial loading of both variables present unidimensionality. For this reason, we used the average value of these variables

Satisfaction is a subjective concept that depends on many factors which can be applied to various fields. Therefore, we used a scale of 7 items in which we attempted to collect all those aspects relevant to our investigation and which would provide a suitable reliability. All of them used a Likert scale of 7 points (1 – totally disagree, 7 – totally agree).

With regard to the degree of compliance objectives, a scale of five items (transfer or knowledge and learning, access to resources and complementary capabilities, increase in competitive power, cost reduction/efficiency increased and customer satisfaction), has been developed, which seeks to collect the reasons that companies have for undertaking cooperative agreements (Kogut 1988; Hamel 1991; Saxton 1997; Gulati 1998; Duyster and Hagedoorn 2000; Pan 2004). Our aim is to discover the extent of compliance with these reasons in a Likert scale of 7 points (1 – degree of compliance achieved very low, 7 – very high degree of compliance).

In order to evaluate the exploration or exploitation factors of a cooperative agreement we have used six items which include theirs main characteristics. The respondent should evaluate the degree of importance in developing his/her partnership in each of the characteristics, according to a Likert scale of 7 points (1 – not significant, 7 – very important). The first two items are related to the concept of exploration agreements, and attempting to detect new opportunities through the processing of unknown information significantly increases the activity's risk. The same happens if we introduce new markets and businesses. The remaining items represent exploitation agreements, to the extent that the aim is to enhance or supplement the assets that the company already owns, while we also try to improve the firm's efficiency. This grouping must be confirmed in the data process.

The means used to assess the strategy was the paragraph method, which presented the respondent with an item with a Likert scale of 7 points (1 – very low level of change; 7 – high exchange level), which should reflect the level of changes in products and markets for the company. In order to facilitate the response, definitions of the four

TABLE 1 Analysis of Correlations between the Variables Used in the Model

Variables	1	2	3	4	5
1. Alliance success	1				
2. Exploration orientation	0.112	1			
3. Exploitation orientation	0.325*	0.032	1		
4. Company strategy	0.333*	0.105	−0.065	1	
5. Duration of the agreement	0.286*	0.236	0.023	0.017	1

NOTES * The correlation is significant with $p < 0.05$. Values are Pearson coefficients.

Miles and Snow strategies appeared in the questionnaire, with strategy A (defender) under score 1 of the Likert scale, strategy B (discussed) under score 4, strategy C (Prospector) under score 7, and finally an eighth box was provided for strategy D (reactors). Scores 2, 3, 5 and 6 represent intermediate situations chosen by those companies, which did not completely identify with any of the previous definitions. This method of attaching the definitions of strategies facilitated the companies' self-rating process, thus improving the study's content validity and reducing the amount of lost data.

HYPOTHESIS CONTRAST

Before contrasting the hypothesis in the model, we evaluated the properties of variables that it includes. The first step was to apply a principal components analysis with orthogonal rotation, depending on the varimax method, to the six items that made up the strategic orientation scale (table 5). This confirmed expectations outlined earlier, and there were two factors: the exploration factor (2 items) and the exploitation factor (4 items). Both factors have an acceptable reliability, to obtain a Cronbach α of 0.715 guidance for exploratory and exploitative guidance for 0.833. The Cronbach α of the scale of alliance success was 0.921.

With regard to the convergent validity, an analysis of bivariate correlations between variables of the model and other items included in the questionnaire that sought to assess the same concepts was carried out. The Pearson coefficients obtained show a significant relationship between the variables studied, so the model presented convergent validity.

In order to assess the discriminating validity we conducted an analysis of correlations among the different variables of the model. The data showed us that we had no colinearity, as the company's strategy did not maintain a significant correlation with any of the dimensions of the agreement's strategic orientation.

Once the reliability and validity of our variables had been proved,

TABLE 2 Cluster Analysis (ANOVA) to Cooperative Agreement Success

Variables	Cluster			Levene stat.	F	Post hoc (Scheffé)
	1 ($n = 4$)	2 ($n = 25$)	3 ($n = 22$)			
Cooperative Agreement Success	4.0607 (0.70531)	4.6724 (1.08996)	5.3930 (0.75991)	0.934	5.353**	1, 2 < 3*

NOTES Standard deviation in brackets. * Significant at $p < 0.05$. ** Significant at $p < 0.01$.

we began to compare our scenarios. By drawing on factors derived from the factor analysis applied to the strategic orientation scale of the agreement, we created an analysis of hierarchical conglomerates to attempt to bring the various companies together depending on the value of both factorials. After analyzing the scatter diagram and dendogram, we observed that there were four groups: (a) high ratings in the exploitation factor and low ratings in that of exploration; (b) average scores in the exploitation factor and medium-high in that of exploration; (c) high scores in the exploitation factor and medium-high in that of exploration; (d) low ratings in both factorials. However, we discovered that in the case of a conglomerate only (d) brought a company together, so we decided to delete it in order to implement certain post Anova analysis methods at a later stage. We thus decided to remove that value and to create a hierarchical cluster analysis of three conglomerates, taking the factor scores obtained as a variable.

We analyzed the characteristics of each group in a scatter diagram. So, the value 1 was awarded to firms developing agreements which were clearly exploiters, the value 2 was given to those that prevailed in explorer characteristics (despite having average scores in the factor operator) and the value 3 was awarded to businesses developing joint arrangements, in order to include the high ratings exploitation component and the medium-high exploration factor.

In order to discover whether there were any significant differences in the degree of success of the agreement on its own merits, we proceeded to perform an analysis to detect whether there was any ANOVA homogeneity of variance among companies for the different variables.

The data collected in table 2 show that the Levene statistical is not significant, thus showing that there is homogeneity of variances between different groups for the variable studied. Once this condition was fulfilled, we were able to obtain statistical F, which, through its degree of significance, showed that there were differences in the means of success data among different groups. In order to verify be-

tween which groups said differences had appeared, we carried out the post hoc Scheffé test, which discovered significant differences between groups 1 and 2 with regard to Group 3. In other words, companies that develop cooperative agreements and obtain high scores for the exploitation factor and medium-high exploration factor attain greater success than the rest. Thus, we can say that the agroalimentary firms in our sample obtained greater success when they formed cooperative agreements in which exploration and exploitation components played an important role.

To discover whether there was causation between the variables analyzed in the aforementioned ANOVA analysis, and knowing the direction of this relationship, we applied a multiple linear regression analysis in stages. The dependent variable is the alliance success. First, a variable control (duration of the agreement) was introduced as the only independent variable, which measured whether the duration of the agreement was accurately known. Subsequently, in Model 2, we incorporated dummies which converted the variables obtained from the previous hierarchical cluster analysis into categorical metrics. We therefore took two dummies, leaving that cluster which presented a minor success (the group which represented the exploitation agreements) as a variable reference.

By incorporating these dummies we noted, as has previously been explained, a 13.3% additional variability success of the alliance (table 4). In addition, increased F is significant for a confidence level of 95%. We thus verified that the strategic orientation of the agreement has a significant influence on its success. If we interpret the non-standardized coefficients, we perceive that the greatest success lies with joint agreements (positive factors) as we pointed out in the ANOVA analysis. We therefore obtain empirical support for hypothesis 1.

Having demonstrated the direct relationship, we shall now attempt to consider whether it is constrained by the generic strategy that the company undertakes as according to the Miles and Snow typology. However, it is first necessary to analyse the relationship strategy of the company-alliance success, by identifying whether there are any significant differences in the success of the agreements between companies which are developing different types of strategies. Depending on the item which assesses the company's strategy, we find three groups. 3 companies have opted for score 1, so we believe they are developing a 'defender' strategy. The 27 entities which selected scores 2, 3 and 4 are classified into one group and are developing an 'analyse' strategy. Finally, the 22 companies that chose values 6 and

TABLE 3 Cluster Analysis (ANOVA) to Cooperative Agreement Success

Variables	Cluster			Levene stat.	F	Post hoc (Scheffé)
	1 ($n = 27$)	2 ($n = 22$)	3 ($n = 3$)			
Cooperative Agreement Success	4.4722 (1.10587)	5.3564 (0.73400)	5.1633 (0.71162)	1.300	5.398**	1 < 2**

NOTES Standard deviation in brackets. * Significant at $p < 0.05$. ** Significant at $p < 0.01$.

7 are developing a 'prospector' strategy. Thus, the alternative option in the questionnaire (the strategy representing 'reactor') was not selected by any entity. After classifying the enterprises into these three groups, we then needed to assess whether there were any significant differences between them as regards their degree of success, and an ANOVA analysis was carried out to contrast them, followed by a subsequent post-hoc Scheffé to identify between groups in which the same situation occurs.

The Levene statistical is not significant and we therefore believe that the three groups presented homocedasticity with regard to the success of the alliance. This allows us to calculate the statistical F that is significant ($p < 0.01$). By applying the post hoc Scheffé test, we attain that differences occur between analyse and prospects companies, with a higher success rate in the latter, i. e. companies which commit to change and continuous innovation attain greater success in their cooperation strategy than those which, in spite of making changes to their product ranges and/or services, are more conservative. However, there are no differences between the remaining groups.

Once the differences in the means between companies with different types of strategy had been detected, it was necessary to analyze whether the strategy had a significant influence on determining the success of the alliance, and any moderating influence on the relationship between the strategic direction of agreement and success. To that end, and using model 2 (table 4) as a base, we introduced two dummies, through reference to cluster 1 which represented the firms in question, and obtained the lowest average value of success. This showed that increasing the statistical F is significant, thus helping to explain a further 13.2% of the variability of the company's strategy. If we observe the non-standardized coefficient, we will note that it is the highest value corresponding to prospective companies, followed by defenders, as we pointed out in the ANOVA analysis. It was thus perceived that the more the company seeks to innovate and adapt to new environmental conditions the more successful its business co-

operation strategy will be. We therefore obtain empirical support for hypothesis 2.

Finally, effective interaction between the dummies representing the company's strategy and the strategic orientation of the agreement are introduced in Model 4. In this case, increasing the statistical *F* to incorporate these interactions is not significant, so the interaction between these two variables does not help to explain the success of the agreements. Model 4 features a large multicolinearity, IVF with values exceeding 16 and several near auto values of 0, which means that the value of the corrected variability previously explained is even worse.

This may be due to the characteristics of the variables used, since dummies were used to measure both concepts, making the large interpretation of data difficult owing to the introduction of the interaction effect. However, when the correlation between variables was tested during this model's first stages there were no significant relationships between the company's strategy and the two dimensions of the strategic orientation of the agreement.

If we change the reference variables used to build the dummies, i. e. both the strategic direction of the agreement as the company's strategy and carry out the potential addition of 5 models, we obtain the same conclusions as the previous model. Therefore, due to the characteristics of our variables, empirical support for hypothesis 3 is not obtained.

After analyzing this model, we can conclude that empirical support is obtained for hypotheses 1 and 2, but not for hypothesis 3.

Conclusion and Discussions

By linking different types of agreements, according to their strategic direction, with their success we obtain that joints agreements (with a considerable presence of exploration and exploitation features) lead to a higher rate of success. This finding has implications for corporate governance. Thus, if company managers decide to initiate cooperative agreements we should seek to provide them with both types of factors in order to generate new opportunities with which to exploit them, and they and their partners will, therefore, later obtain more satisfaction and achievement of objectives. Of course, this depends on the reasons why the companies are cooperating, since if it is only to obtain access to their partners' resources and complementary capabilities then the company will only provide the exploitative features agreement.

The company's adaptability to the environment also influences the

TABLE 4 Analysis of Multiple Linear Regression in Stages

Variables	Model 1		Model 2		Model 3		Model 4	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Constant	4.663	25.213***	3.957	8.479***	3.769	8.577***	3.944	7.622***
Agreem. duration	0.603	2.191**	0.415	1.546	0.433	1.731*	0.440	1.668
Explorers (2)			0.566	1.136	0.421	0.902	0.178	0.316
Joint (3)			1.191	2.333**	0.964	2.003*	0.826	1.416
Prospective (2)					0.732	2.924**	0.027	0.027
Defender (3)					0.829	1.309	0.676	0.723
Explorers × prospective							0.853	0.786
Explorers × Defender							0.638	0.581
Joint × Prospective							0.330	0.250
Joint × Defender							0.016	0.092
F	4.802**		4.468**		4.921***		3.007**	
R^2	0.089		0.222		0.353		0.364	
Adjusted R^2	0.071		0.172		0.282		0.243	
Increased R			0.133		0.132		0.011	
Increased F			4.007**		4.578**		0.235	

NOTES (1) non-standardized coefficient, (2) t-value.
* Significant at $p < 0.1$. ** Significant at $p < 0.05$. *** Significant at $p < 0.001$.

effectiveness of cooperation. Therefore, it has been discovered that as the pace of change in the company to adapt to the changes produced in the environment increases, the success of cooperation also increases. Thus, the company's flexibility becomes one of the most important factors in successful cooperation. However, despite the fact that the company's strategy has a direct bearing on the significant success of the agreement, we do not obtain any empirical support for its moderating effect on the relationship between the strategic orientation of the agreement and that agreement's success because the model has a high 'multicolinearity.' We can, therefore, only conclude that the necessary changes to accommodate the continuous changes of environment will be introduced into the undertaking as quickly as possible to ensure the cooperative agreement success.

One of the possible causes of this 'multicolinearity' may be measurement errors in the scales or the use of excessive dummies. However, the correlation between dimensions of these two variables shows no significance. Another reason could be that, owing to the flexibility accorded to the company, cooperative arrangements are sometimes developed to suit the changing environment, so in this case the strategic orientation of the agreement would coincide with the method used to assess the company strategy. In addition, the

average size of companies in our sample is small (63.3% have fewer than 50 employees) so they usually have cooperative arrangements and the company's strategy is developed from senior management, and it does therefore not contain different notions of the agreement between strategic direction and the company's overall strategy. This study would acquire more relevance in large companies in which the agreement is handled from a strategic business unit and generic strategy is developed centrally. In this case, it would be possible for disputes to be submitted. Despite this, the importance of adapting the conditions of the cooperative agreement to the evolution of both the company's strategy and also to that of its partner seems clear, so it is essential to provide a flexible agreement.

We believe that the major contributions made by this work are: (a) it analyzes business cooperation in an area which is ripe for low technological intensity; (b) it integrates the company's strategy in the study of successful business cooperation; and (c) it detects that cooperation agreements must seek a balance between their exploration and exploitation components if they are to become more efficient.

This work represents a first approach towards exploring business cooperation in the Spanish agro-food industry. We are now broadening this analysis in order to avoid the various limitations cited below: (a) cooperation is not a widely used strategy among agro enterprises so the first drawback is the small research population, which hampers the use of more sophisticated statistical techniques such as structural equation; (b) the results are only applied to the Spanish agro-food industry because the companies studied belong solely to this industry; and (c) the study may present a slight bias towards large companies owing to the method selected for choosing the population (financial press).

Based on the aforementioned limitations, one of our goals is to increase the sample size to more sectors in order to generalize the results. We therefore consider it appropriate to study the cooperative behaviour in other non-technologically-intensive sectors. At a later stage, we intend to repeat the study in highly technological sectors in order to make comparisons between the 'means behaviour' of cooperation between different sectors and to obtain the importance of the technological component in the relationship described in the model. In addition, in order to complete the vision of the importance of the company's strategy in the success of the business co-operation we believe it appropriate to analyse the strategic adjustment that occurs between partners of an agreement, since the partner's strategy may also influence the efficiency agreement. On this way, coopera-

tion agreements will have a better chance of success, insofar as there is a high level of alignment between the partners, in the following dimensions: strategic, organizational, operational and cultural development. Therefore, partners must make adjustments if at least a comparable basic knowledge is to exist between them, and opportunistic behaviour must be avoided (Colombo 2003).

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