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BRAND ALLIANCES AND STOCK REACTIONS

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Structured abstract

Purpose

This paper examines the performance and risk of brand alliances by investigating the market value of brand alliances through the analysis of investors' response, and look into the different reactions of the stock market to brand alliance-type in terms of co-branding and joint-promotion, as well as into the potential different effects in the contexts of B to B versus B to C. Brand alliances, whereby two or more brands are jointly presented to the consumer, have been investigated extensively. The importance of brand alliances is emphasized by two factors: (1) brands are considered critical elements in business-to-business marketing settings (Yieh et al., 2018); and (2) firms use brand alliances due to the trading costs and investment necessary to buy brands, the increasingly higher costs of launching a new brand onto the market, the high failure rates in new brand launches and brand extensions, the competitive pressures around product launches and diffusion, and the limitations imposed on the extension of a brand by its own identity (Cruz and Cerviño, 1996). Consequently, brand alliances have exploded over recent years (Sošić, 2010; Herbst and Merz, 2011; Hora and Dutta, 2013; Fang, Lee and Yang, 2015; Thomaz and Swaminathan, 2015). As indicated later, by accomplishing the purpose of this research we fill a gap in the literature as most of the research on brand alliances revolves around consumers' perspective.

Methodology/Approach

The methodology followed is based on the event study method. First, the event study estimates the excess returns of share prices generated by events that were unanticipated by the market. To this end, we estimate the market model and the subsequent abnormal returns. To examine the impact of the publication of a brand alliance announcement on the share prices of the company, we use the cumulative abnormal returns calculated over *k* days of the event window for 55 announcements. In the second step, we analyse the returns of the different brand alliances. In particular, the abnormal returns are used as dependent variable in a regression analysis, wherein the central explanatory variable is brand alliance type (co-branding vs joint promotion). Finally, the third stage of the methodology analyzes the change in the variance of returns between the periods before and after the brand alliance announcements.

Findings

The results show that brand alliance announcements generate positive abnormal returns, which support the hypothesis that brand alliance announcements are positively related to company stock returns. In particular, we observe that the reactions to brand alliances are spread over the event window. In fact, the window (-5,+5) produces returns that stand at 1.6%, which is the greatest abnormal return over the five days around the publication date. The economic impact of a cumulative return of 1.6% per cent in eleven days is tantamount to annual returns of 69.33%. Considering that the average market value of the sample is €17,494 million, it represents an increase of €279 million for the sample stocks on the period (-5,+5). The regression analysis shows that the coefficients of the variable "co-branding" are positive and significant, which supports the hypothesis that co-branding presents higher abnormal returns than joint promotion. However, no differential effect are found between B to B versus B to C paradigms. The results obtained present an increase in the variance of the share prices after the alliance announcement date, which supports the hypothesis that the variance of the company stock returns is positively associated to announcements of brand alliances.

Research Implications

The key implication of the measurement of the market value of brand alliances is that research should be reoriented towards a better understanding of the role of marketing in the value

creation of a company. Instead of just concentrating on marketing research into consumer behaviour, more emphasis should be given to the core company processes that create shareholder value.

Practical Implications

The managerial implications of the specific results obtained are the following: the result that companies increase their market value when they implement brand alliance strategies, leads to a better ken of the way alliance activities can be managed when dealing with other organizations. In this way, finding a partner to form a brand alliance with could be a useful objective in terms of firm performance. Moreover, the results show that co-branding presents higher abnormal returns than joint promotion, which suggests that co-branding is the most valuable strategic decision (or long-term decision) for companies, as it implies the simultaneous participation of two or more brands in a single product. In this way, deciding on whether a short- or long-term branding strategy is pursued turns to be fundamental.

Originality/Value/Contribution of the paper

The literature has analyzed the consequences of brand alliance, which looks at each partner's brand attitude after the alliance, the brand equity of the constituent brands after the alliance, and the impact of the allied brand on the evaluation of the host brand. These studies have focused on the area of consumer behaviour; that is, by measuring consumers´ attitudes and evaluation. Still, the measurement of dimensions reflecting the other side of the relationship, i.e. the firm, via brand image and equity is critical. Nevertheless, the examination of the impact of brand alliances on the partner company performance and risk has received little attention, despite the fact that "brand perceptions of companies' products spill over to investment decisions in the market for companies' stock".

Keywords: Brand alliances; co-branding; joint-promotion; stock market response; uncertainty

1. Introduction

Firm alliances have been investigated from different perspectives, such as conflict management (Taek-Yi, Lee and Dubinsky, 2010) or a firm's predisposition toward alliances (Kang, Im and Heungsoo, 2018). A specific type that has been attracted special attention is brand alliances. On the one hand, brand value is considered a critical element in business-to-business (B to B) marketing settings (Yieh et al., 2018), and on the other hand, firms use brand alliances due to the trading costs and investment necessary to buy brands, the increasingly higher costs of launching a new brand onto the market, the high failure rates in new brand launches and brand extensions, the competitive pressures around product/service launches and diffusion, and the limitations imposed on the extension of a brand by its own identity (Cruz and Cerviño, 1996). Consequently, brand alliances have exploded over recent years (Sošić, 2010; Herbst and Merz, 2011; Hora and Dutta, 2013; Fang, Lee and Yang, 2015; Thomaz and Swaminathan, 2015).

The literature has analyzed the consequences of brand alliance, which looks at each partner's brand attitude after the alliance (e.g. Simonin and Ruth, 1998; Voss and Tansuhaj, 1999; Lafferty and Goldsmith, 2005), the brand equity of the constituent brands after the alliance (Yang, Shi and Goldfarb, 2009), and the impact of the allied brand on the evaluation of the host brand (McCarthy and Norris, 1998; Voss and Gammoh, 2004). These studies have focused on the area of consumer behaviour; that is, by measuring consumers´ attitudes and evaluation. Still, the measurement of dimensions reflecting the other side of the relationship, i.e. the firm, via brand image and equity is critical (Ansary et al., 2018; Plumeyer et al., 2019). Nevertheless, in the B to B context, the examination of the impact of brand alliances on the partner company performance and risk has received little attention, despite the fact that "brand perceptions of companies' products spill over to investment decisions in the market for companies' stock" (Frieder and Subrahmanyan, 2005: p.57). We have only found one proxy study, that of Das, Sen and Sengupta (1998), which measures the consequences of marketing alliances through stock market share prices. Specifically, they compare the stock market response to announcements of technological and marketing alliances, bearing in mind that "marketing alliance" is a general concept that includes cooperation in cross-selling, distribution channels, sales forces, advertising, promotion, or sharing brand names. However, they find no significant impact from the announcement of marketing alliances, which could be explained by the aggregation of an inherently heterogeneous sample and a netting out of different effects.

Alternatively, the present study focuses on one type of marketing alliances, brand alliances, and distinguishes co-branding (using two different brands on one single product or service) and joint-promotions (timely and limited cooperation between two independent brands in marketing activities) in order to measure company share price response and its variance, in two different contexts: B to B and business-to-consumer (B to C) paradigms. Specifically, we examine a sample of brand alliances in Spain between 1996 and 2013.

2. Stock market response to brand alliance announcements.

A. Association between brand alliance announcements and companies' stock returns.

Alliances in general seek to improve organizational elements of a firm (Hernández and Pedersen, 2017), thus, when an alliance announcement occurs, investors buy or sell stock on the basis of their expectations of how the alliance will affect the discounted value of future cash flows. Basically, this depends on investors´ expectations about mechanisms that create value. Accordingly, the creation mechanisms of a brand alliance's financial equity come, in the opinion of Brodie, Glym and Van Durme (2002), from the network of external stakeholder relationships.

In the specific case of the distributor stakeholders, the brand alliance strategy reaches its highest leverage with the distribution channel, as these alliances favour access to the distribution channel in the sense that distributors can obtain higher operating profits (through non-price based differentiation), better stock rotation, an additional promotional factor (a second brand for the same product or service) and less uncertainty when placing the new product/service insofar as it will be supported by two companies instead of one (Cruz and Cerviño, 1996).

In the case of the end customer stakeholders, the brand alliance strategy allows them to attain complementariness of demand. The Theory of Industrial Organization argues that complementariness of demand can be a motive to coordinate activities (Tirole, 1990), such as those derived from brand alliances. Basically, this complementariness of demand can be leveraged to reduce costs. This is argued through the effect of scale economies in marketing as this grouping of activities (brand alliance) avoids the duplication of the fixed costs of marketing, or at least they are reduced on average. Still, there might be exceptions in online environments where the addition of a second brand does not necessarily increase ad recognition (Nguyen et al., 2018).

Marketing also argues brand image complementariness (e.g. Rao and Ruekert, 1994): brand alliances can be used to transmit information on improvements in attributes of certain products or services through the alliance of a brand that wishes to attain a certain type of attribute and another that possesses those attributes. Brand alliances can improve the perception of brand quality, which is a key component in B to B relationships, as it enhances a firm's commitment (Kim et al., 2018). This improvement occurs both in terms of "unobservable" product/service quality before purchasing (e.g. especially in the case of services) and of "observable" quality prior to purchase (e.g. a search product), through an alliance with another brand that has a good reputation. This complementariness facilitates entry into new customer segments and thus increases the demand for the product or service (Das et al, 1998).

The arguments above suggest that brand alliances can enhance earnings, and thereby positively influence financial returns and stock market price (Cao, Chordia and Lin, 2016). Indeed, when stock market financial analysts form their expectations of the impact of a brand alliance on firm performance they incorporate how target markets are likely to think about and respond to the brand's products/services. Because distribution and consumer behaviour in any market depends on distribution and consumer perceptions of the brands, brand alliance equity components (e.g. leverage with the distribution channel and complementariness of demand), should influence investor expectations of future cash flows and therefore stock price. In virtue of the above, we propose the following hypothesis:

H_{1a}: *Brand alliance announcements are positively related to company stock returns.*

A.1. Co-branding versus joint-promotions.

According to the literature (Cooke and Ryan, 2000; Blakson and Kalafatis, 2007; Lebar et al., 2005; Helmig, Huber and Leeflang, 2008; Shen et al., 2017), co-branding is "a long-term brand alliance strategy in which one product or service is branded and identified simultaneously by two brands" (e.g., AT&T and MasterCard financial services cards), while joint-promotions are related to the "timely, limited appearance of two independent brands in promotional activities" (e.g., joint television advertising and other promotional events between Pepsi and Manchester United football club to boost the sales of the former and enhance the knowledge of the latter in South East Asia). Co-brand strategies try to reinforce the parent brand and improve customer value perception of a new product or service. Similarly, joint-promotion strategies seek to ameliorate the interdependent image linked to a complementary partner (Rao, Qu and Ruekert, 1999). However, the only brand alliance wherein a single product or service contains two or more brands at the same time is the co-branding strategy.

These different strategic objectives should have different impacts on company results. Following Helmig et al. (2008), joint promotion strategies lead to immediate gains because the relatively low implementation costs, given the short term structure of this strategy. Conversely, co-branding strategies can provide long term benefits and require transaction and coordination costs, which imply higher implementation costs. In brief, co-branding is a long-term or strategic decision and we expect that it will usually offer the greatest benefits. Insofar as these benefits influence the market value of a company, we propose the hypothesis:

H_{1b}: *Company stock returns attributable to co-branding announcements are greater than company stock returns attributable to joint promotions announcements.*

A2. Business to business vs Business to consumer

B to C branding strategies are not directly transferable to B to B and numerous differences has been reported (Steenkamp et al., 2020). Chief among them is "relationships", both interpersonal relationships and partnerships. In this context, and as indicated earlier, brand alliances can ameliorate the perception of brand quality; brand quality that, in turn, leads to greater firm commitment in B to B relationships (Kim et al., 2018). However, while an adequate branding strategy helps position the firm in the market, the general perceptions of the market itself do not necessarily have to be different. For example, Robertson et al. (2019) find that "a strong social media presence does not equate to a strong employer brand personality perception". In the review of stockholders presented previously, the end result of brand alliances and the brand image complementariness for that matter, is that brand alliances can enhance firm performance, regardless of the stockholders involved. Consequently, the following hypotheses are stated:

H_{1c}: *B to B and B to C do not moderate the association of brand alliance announcements with a company's stock returns.*

H_{1d}: *B to B and B to C do not moderate the association of co-branding announcements and joint promotions announcements with a company's stock returns.*

B. Association between brand alliance announcements and company stock returns variance.

Economics and Classical Financial theories defend the hypothesis of a positive association between returns and risk, where risk is considered as the variability of returns. With support from the utility theory, rational individuals (investors, managers, etc.) are risk averse, which implies that they always require more compensation to assume more risk. However, Bowman (1980; 1982) finds negative relationships between returns and risk. From this finding there have been different lines of research that defend that the returns-risk relationship is conditioned by the characteristics of the environment and by the strategy of the company. In fact, Tsai and Luan (2016) suggest that in the context of general strategic alliances, firms can share the inherent risk and even transfer to the competent partner that can handle uncertainty optimally. From the point of view of market characteristics, marketing alliances are normally made in the mature stage of the life cycle of a product/service (Hagedoorn, 1993; Das et al., 1998), meaning that they could be associated with more uncertain prospects around income and growth following the announcement of the marketing alliance. Bearing this market characteristic in mind, we can expect that investor uncertainty following a brand alliance would rise. In summary, we propose the following hypothesis:

H2: *Variance of the company stock returns is positively associated to announcements of brand alliances.*

3. Research Design

3.1. Methodology

The methodology followed has several steps: First, the event study is applied to the daily returns of company shares in the stock market. Essentially, the event study estimates the excess returns of share prices generated by events that were unanticipated by the market. However, for some types of common events in management, for example brand alliances, it is also possible that some information is leaked before the event, which should be analysed by using a greater event window (see next section) (McWilliams and Siegel, 1997).

To this end, we estimate the market model and the subsequent abnormal returns. The price returns of the shares of company *i* on day *t* (R_{it}) are expressed as $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$ (1) with R_{mt} being returns of the market portfolio; α_i the returns of firm *i*,; β_i the sensitivity of firm to the market; and ε_{it} a random term.

Equation (1) permits estimation of abnormal returns (*AR*) for firm *i*, so that: $AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$ (2) where $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the OLS parameter estimates of the regressions (1) for a period T of 150 days before the event.

To examine the impact of the publication of a brand alliance announcement on the share prices of the company, we use the cumulative abnormal returns calculated over *k* days of the event window for a number of announcements *N*: $ACAR_t = (1/N)*1/[(T-2)/(T-4)]^{1/2}\sum_{i=1}^{N} CAR_{it}$ (3), where $CAR_i = (1/k^{1/2})\sum_{t=1}^{k} SAR_{it}$ (4) and

$SAR_{it}=AR_{it}/S_{it}$ (5), being $S_{it} = S_i \sqrt{1+\frac{1}{T}+\frac{(R_{mt}-R_m)^2}{\sum_{i=1}^{T}(R_{mt}-R_m)^2}}$ (6), where S_i is the standard deviation of the residuals before the announcement. To test the significance of $ACAR_t$ we rely on the conventional cross-section test.

In the second step, we analyse the returns of the different brand alliances. The abnormal returns are used as dependent variable in a regression analysis. The explanatory variable is brand alliance type, which is defined by a dummy variable equal to 1 if the co-branding is of the ingredient branding or service co-brand type (looking for the presence of words such as "ingredient", "ingredient branding", "core competence or resource", "product", "service" and "product co-brand", "service co-brand"), and 0 for joint promotion. The measurement of this variable is based on the analysis of the content of the announcements and in order to minimize subjectivity, two judges separately consider each announcement and make independent decisions on the codification. The level of agreement between the two judges for the different variables is around 92%, which is very favourable for a reliable content analysis. The disputed announcements are reviewed by a third judge, who reclassifies them into either of the disputed codifications. As control variables we use the size of the company (assets during the event year); and the industry the firm is included (Standard Industrial Classification (SIC) code). As the sample of alliances is spread over two decades, we attempt to control for changes in inflation by deflating the firm assets. The SABI database was used to get this information.

The third stage of the methodology analyses the change in the variance of returns between the periods before and after the brand alliance announcements. This implies the application of the Olshon and Penman test (1985), which tests the probability $P(R_2^2 < R_1^2)$, where R_1 and R_2 are the returns before and after the announcement, respectively. For the construction of the test, the returns of both periods are compared day by day, with the peculiarity that the pairings are controlled for the days of the week in order to avoid the "day of the week" effect found in stock market prices. Thus, assuming independence among the observations, we construct the statistic: $z = \frac{p-\theta}{\sqrt{\frac{\theta(1-\theta)}{T}}}$ which follows a normal distribution of parameters (0,1). Supposing that $\theta=0.5$ we test the hypothesis that $p=0.5$.

3.2. Data collection

The majority of the previous research analyses brand alliances in the US (e.g. Simonin and Ruth, 1998; McCarthy and Norris, 1998; Voss and Tansuhaj, 1999; Voss and Gammoh, 2004; Lafferty and Goldsmith, 2005; Yang et al., 2009). Although national particularities have not been examined in the field of brand alliances, the country of origin of the corporation of the alliances can play an important role. For example, in other alliances, such as strategic technology alliances, US firms are on average larger and are not more inclined to cooperative strategies than European firms (Hagedoorn and Schakenraad, 1994). Specifically, our research focuses on a European country, Spain, in order to understand the phenomenon of brand alliances and their influence on firm performance and risk.

The data collection process is as follows. In the first stage we identify the first announcement (event day) of brand alliances of companies listed on the Madrid stock market (Spain) by using the *Factiva* database. We find 58 announcements of brand alliances.

In the second stage an event window (-5;+5) is used as the information on brand alliances can be anticipated or leaked before its formal publication. In the third stage, we check for other news being published during the event windows so that no confounding effects are included.

This procedure eliminates any extraneous information released in any interval within the (-5,+5) interval. We searched for any type of event that could potentially affect the firm, from financial news such as dividend announcements to other strategic movements such as new product or service launches. After considering these effects, the new sample size is 55. There are 36 news items on co-branding and another 19 on joint promotion. Table 1 shows the composition of the announcements by year and by industry, with the industry defined by the SIC code. We assign the industries "construction", "industrial goods manufacturers", "transportation", "communication", "wholesalers and retailers" to the B to B sample, and "finance and insurance" and "services" to B to C. We also present the descriptive statistics of the variable size, measured by the firm's assets at the event year.

In the fourth stage we collect information on the different variables relating to the 55 brand alliance announcements. In the fifth stage, daily returns data of the companies implicated in the 55 brand alliance announcements are obtained. The IBEX 35 index is used for the market returns.

4. Results

4.1. Association between brand alliance announcements and company share prices.

Table 2 shows that the averages of the accumulated abnormal returns (ACAR) in the pre-event window (-5,-2) are significant. These abnormal returns prior to an announcement of a brand alliance can be attributed to leakage of information regarding the impending brand alliance announcement or to a prediction of this information by some traders; which is anticipated because brand alliances usually result from a strategic planning process. However, there seems to be no reaction at all on the event days (-2,0), (-1,0), (-1,1), (0,1) and (0,2), as if the market keeps a neutral position on these days. Finally, a significant excess in returns appears in the post-event windows (3,5) and (4,5), meaning that some shareholders postpone their reactions. This delay can be explained by some potential uncertainty regarding the effect of the announcement and the scepticism thereof. Accordingly, the "news" might have been released in pieces as the negotiations evolve. And because most of the uncertainty regarding brand alliance negotiations can be resolved after the announcement date of intent to engage in a brand alliance, the results in the post-event windows (3,5) and (4,5) measure the effect of the successful completion of brand alliance negotiations. Considering all these effects (pre and post-event), we observe that the reactions to brand alliances are spread over the event window. In fact, the longer period shows a greater effect. In particular, the window (-5,+5) produces returns that stand at 1.6%, which is the greatest abnormal return over the five days around the publication date. The economic impact of an ACAR of 1.6% per cent in eleven days is tantamount to annual returns of 69.33%. Considering that the average market value of the sample is €17,494 million, it represents an increase of €279 million for the sample stocks on the period (-5,+5).

In summary, the positive and significant ACAR for the eleven days (-5,+5), shows a positive reaction to brand alliance announcements, and it does not allow us to reject hypothesis H_{1a}. This suggests the presence of value creation mechanisms around brand alliances that may come from relationships with external stakeholders, in the sense that the brand alliance allows leverage with the distributors and brings complementariness of demand at the end customer level that can be leveraged to reduce costs and increase the demand for the product or service, and thus enhance earnings.

The significant market reaction obtained for brand alliances announcements in our paper differs from the not significant market reaction detected by Das et al. (1998) to marketing alliance announcements, which can be explained by their aggregation of an inherently heterogeneous sample and a netting out of different effects. Therefore, it is not only necessary to distinguish the specific impact of the different marketing alliances but also the different brand alliance types (co-branding and joint promotion).

Co-branding versus joint promotions, and B to B versus B to C. To test whether stock returns to brand alliances are different according to these types, we regress the above abnormal returns with the brand alliance type (co-branding vs. joint-promotion) and the market type (B to B vs. B to C). This regression analysis also controls for firm size. The adjusted R^2 in equation 1 is 21.6%, which is an acceptable proportion for event study applications (see Roll, 1988) and is globally significant at 5%.

The individual parameters show that the coefficients of the variable "co-branding" are positive and significant, which does not allow us to reject hypothesis H_{1b} that co-branding presents higher abnormal returns than joint promotion. This would reflect fast, short-term gains from joint promotions strategies as opposed to the larger, long term gains from co-branding strategies, and suggests that co-branding is the most strategic decision.

The parameter of the B to B variable and well as its interaction with co-branding are not significant, so we cannot reject hypotheses H_{1c} that B to B and B to C do not moderate the association of brand alliance announcements with a company's stock returns, and H_{1d} that B to B and B to C do not moderate the association of co-branding announcements and joint promotions announcements with a company's stock returns. This means that brand alliances enhance firm performance regardless of the stockholders involved.

With regard to the control variables, in order to detect the potential existence of a moderator effect of the brand alliance in the relation between the size and firm performance, the equation 1 is carried out. The results evidence an interaction effect between size and brand alliance-type in the sense that investors perceive the smaller firm in a co-branding to be the major beneficiary. Firstly, by extending the resource dependence theory (Pfeffer and Salancik, 1978; Das et al., 1989), companies use co-branding in an attempt to gain valuable resources that they lack, but this is independent of the existing asymmetries between the firms. A company that seeks an ingredient branding or of the service co-branding type wishes to get a collaboration so that the brand attributes that are functional become the firm's core competencies (Cooke and Ryan, 2000), which means that it will have fewer potential partners. In these cases, the non-host company provides core competence to the host company, making it less dependent on the co-branding alliance and its negotiating strength will be much higher than that of the host company. This condition of asymmetric dependence makes the host company more vulnerable to opportunism and more dependent on the co-branding alliance than the non-host company. Conversely, joint-promotions are based on reputation endorsement derived from built symbolic attributes and image associations. In the joint promotion strategy, each brand expects to benefit from the image strengthening derived from the consumer's mental connection with the other brand (Cooke and Ryan, 2000); with the concomitant economies of scale attained and the "wasteful" duplication avoided, thus leading to an greater efficiency (Murray and Kotabe, 2005). In this sense, both brands are equally dependent on the joint-promotion alliance and their negotiation strengths will be similar. Secondly, larger companies—in our sample, firms with assets greater than €67,074,070—usually seek smaller, innovative companies by their know-how (Das et al., 1989). In brief, by combining size and brand alliance-type, small firms bargaining power in co-branding is greater than large firms'. This asymmetric dependence makes large firms more vulnerable to opportunism in co-branding than joint-promotion. In any case, our results (i.e., investors perceive that the smaller firm in a co-branding to be the major beneficiary) differ from Das et al. (1989) findings, which show no differences between small and large companies in the context of marketing alliances. To control for potential outliers in the values of assets, we have winsorized the series and re-estimated the model (see Equation 2). The same results in terms of sign and significance are obtained.

4.2. Association between brand alliance announcements and company share prices variance.

This section analyses the change in the variance of the returns derived from the announcements of brand alliances between the periods before and after the announcements. The results obtained (see Table 4) show an increase in the variance of the share prices after the alliance announcement date, which does not allow us to reject hypothesis H_2 that the variance of the company stock returns is positively associated to announcements of brand alliances. Concretely, we obtain a statistic equal to z=-2.599 (p-value= 0.01) for the Olshon and Penman test. In the application we find that $P(\overline{R}_2^2 > \overline{R}_1^2) = 0.519$. In this sense, assuming that $\overline{R}_1 \sim N(0, \sigma_1^2)$ and $\overline{R}_2 \sim N(0, \sigma_2^2)$, and with $Cov(\overline{R}_1^2, \overline{R}_2^2) = 0$, then $S = \dfrac{\overline{R}_2^2 / \sigma_2^2}{\overline{R}_1^2 / \sigma_1^2} \sim F_{1,1}$ through which the increase in the deviations can be easily obtained with the expression $P(\overline{R}_2^2 > \overline{R}_1^2) = P(S > \sigma_1^2 / \sigma_2^2)$, as $P(S < \sigma_1^2 / \sigma_2^2) = 1 - 0.519 = 0.481$. Thus, the value of $\sqrt{E(\overline{R}_2^2) / E(\overline{R}_1^2)}$ can approximate the value found in the tables for the inverse of σ_1^2 / σ_2^2, which in this case is 1.1308. In other words, the average increase of variance is 13.08%. This result suggests that brand alliances are usually made in the mature stage of the life cycle of a product or service, meaning that they could be associated with more uncertain prospects around future income and growth after the alliance announcement.

A result of an increase in return variance is also evidenced by Das et al. (1998) in marketing alliance announcements, but their magnitude is much greater (a percentage change of 34%). Their high level of increase in risk could be explained by the non-significance of negative returns obtained for marketing alliances and, therefore, by the natural risk-return trade-off (Markowitz, 1952), according to which all investments must earn the same risk-adjusted return after accounting for the market price of risk. Thus, ceteris paribus, an increase in risk (i.e., 34%) would lead to a lower return (i.e., non-significance returns).

5. Conclusions

This paper examines the performance and risk of two types of brand alliances, co-branding and joint promotion, by looking at the market value, and analyses whether differential effects exist between B to B and B to C paradigms. The empirical analysis conducted on a sample of 55 news items on brand alliances by companies trading on the stock exchange, shows that brand alliance announcements generate positive abnormal returns, with the highest being stock returns for announcements of co-branding as opposed to joint promotion, and with no different effects regarding B to B vs B to C. Furthermore, these announcements produce an increase in risk during the period pre and post publication of the news-release.

The following management implications can be highlighted. The key implication of the measurement of the market value of brand alliances is that research should be reoriented towards a better understanding of the role of marketing in the value creation of a company. Instead of just concentrating on marketing research into consumer behaviour, more emphasis should be given to the core company processes that create shareholder value. The implications of the specific results obtained are the following: the result that companies increase their market value when they implement brand alliance strategies, leads to a better ken of the way alliance activities can be managed when dealing with other organizations. In this way, finding a partner to form a brand alliance could be a useful objective in terms of firm performance. Moreover, the results show that co-branding presents higher abnormal returns than joint promotion, which suggests that co-branding is the most valuable strategic decision (or long-term decision) for companies, as it implies the simultaneous participation of two or more brands in a single product or service. In this way, as joint promotions are associated with fast, short-term gains and co-branding strategies with larger, long term gains, deciding on whether a short or long term branding strategy is pursued turns to be fundamental (Helmig et al., 2008).

Concerning the limitations, note that only traded firms are analysed in an event study, so generalization is precluded to these firms. Accordingly, a future research direction would be the examination of the effect of this strategy on firm performance with a larger number of explanatory factors in a greater variety of firms. Our analysis is "associative" in assuming that the announcements are driving the price changes when really there is no mechanism for assessing causality. Although we have tried to isolate the effects of brand alliance announcements, causal experiments would confirm the results obtained. Also, as several announcements relate to the same company, a caveat to consider is the fact that some potential dependence across observations could exist. Finally, beyond the distinction between co-branding and joint promotion, other classifications (e.g. same-company co-branding, national to local co-branding, or multiple sponsor co-branding) could add further insights to this literature. Further research with a larger sample could be undertaken to assess the different effects of other types of brand alliances.

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Table 1. Distribution of alliance announcements and descriptive statistics on sample alliances

Industry composition of sample alliances			Sample alliances per year		Descriptive statistics on sample alliances		
Sector	SIC code	Alliance announcements	Year	Alliance announcements	Variable	Median	St. deviation
Construction	15 to 17	4 (7.3%)	1996	4 (7.3%)	Assets (thousands of €)	67,074,070	560,000,000
Consumer goods manufacturers	20 to 29	7 (12.7%)	1997	4 (7.3%)			
Industrial goods manufacturers	30 to 39	3 (5.4%)	1998	3 (5.5%)			
Transportation and Communications	40 to 49	10 (18.2%)	1999	-			
Wholesalers and retailers	50 to 59	3 (5.4%)	2000	2 (3.6%)			
Finance and insurance	60 to 67	19 (34.6%)	2001	5 (9.1%)			
Services	70 to 89	9 (16.4%)	2002	8 (14.6%)			
			2003	2 (3.6%)			
			2004	1 (1.8%)			
			2005	5 (9.1%)			
			2006	2 (3.6%)			
			2007	2 (3.6%)			
			2008	2 (3.6%)			
			2009	4 (7.3%)			
			2010	2 (3.6%)			
			2011	8 (14.6%)			
			2012	-			
			2013	1 (1.8%)			
Total		55 (100%)		55 (100%)			

Table 2. Accumulative Abnormal Returns

Time interval	ACAR	Conventional Cross-section Test
(-5,+5)	0.016	2.210[a]
(-5,-4)	0.003	0.821
(-5,-3)	0.006	1.558
(-5,-2)	0.008	1.971[a]
(-5,-1)	0.008	1.698
(-2,0)	0.003	0.979
(-1,0)	0.001	0.417
(-1,+1)	0.0001	0.041
(0,+1)	0.0005	0.143
(0,+2)	-0.001	-0.415
(+1,+5)	0.007	1.365
(+2,+5)	0.008	1.888
(+3,+5)	0.010	2.554[a]
(+4,+5)	0.005	2.278[a]

a=Prob<0.05

Table 3. Effect of type of brand alliance on cumulative abnormal returns (standard error in brackets)

Dimension	Variable	Equation 1	Equation 2 (winsorization)
	Constant	-0.030a (0.011)	-0.030a (0.011)
Type of brand alliance	“Co-branding”	0.057a (0.018)	0.056a (0.019)
B to B vs B to C	B to B	0.008 (0.007)	0.008 (0.008)
	“Co- branding” x “B to B”	0.017 (0.016)	0.019 (0.016)
Control variables:			
Size	Assets	9.67E-11a (2.72E-11)	9.93E-11a (2.78E-11)
Interaction effect	Assets x co-branding	-2.45E-10a (6.00E-11)	-2.69E-10a (1.07E-10)
R^2		0.311	0.280
Adjusted R^2		0.216	0.180
F-statistics		3.260	2.806
Prob (F-statistic)		0.015	0.030

a=Prob<0.01

Table 4. Variance in returns around brand alliance announcements

Variance before announcement	Variance after announcement	Percentage change in variance
0.00043[b]	0.00049[b]	13%[b]

a=Prob<0.001; b=Prob<0.01; c=Prob<0.05; d=Prob<0.1.