Business-to-business branding: a review and assessment of the impact of non-attribute-based brand beliefs on buyer's attitudinal loyalty

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Abstract

Business-to-business branding has received increasing attention from researchers in the last few years. Nonetheless, there is no agreement on the relative contribution of a brand vs. an offering's functional attributes to the industrial buyer's preferences.

Drawing on models from the business-to-consumer context, this paper demonstrates that non-attribute–based brand beliefs are predictors of hedonic outcomes as measured by industrial buyers' attitudinal loyalty, while attribute-based brand beliefs are not. Moreover, the moderating role of the buyer's level of knowledge for the value-generating process is identified, suggesting that the impact of non-attribute–based brand beliefs on attitudinal loyalty is greater for buyers with a low level of knowledge.

Keywords: brand beliefs, business-to-business, attitudinal loyalty, branding, experience.

Introduction

The importance of business-to-business (B2B) branding has clearly increased in many industrial markets due to the rising level of competition and product commoditization (Van Riel, de Mortanges & Streukens, 2005). Given the awareness that even industrial products are increasingly becoming undifferentiated, several studies have demonstrated that brands can be effective in generating new and sustainable competitive advantages for companies (Mudambi, Doyle & Wong, 1997; Low & Blois, 2002; Van Riel et al., 2005).

At the same time, studies on the actual impact of brands, as compared to functional purchasing factors, on the industrial buyer's attitude (and choice) have shown mixed results. In some cases, brand attitude was seen as the most important factor driving purchase decisions (e.g., Alexander, Bick, Abratt & Bendixen, 2009), while in other cases, attributes such as technology and delivery influenced the buyers' preference more heavily (e.g., Bendixen, Bukasa & Abratt, 2004). Thus, the relative contribution of emotional/hedonic antecedents (such as brand image) vs. rational/functional antecedents (such as technology) to buyer's preferences has not been empirically assessed (e.g., Lynch & de Chernatony, 2004; Bennet, Härtel & McColl-Kennedy, 2005).

This issue is a fundamental one because a seller's brand equity is the result of marketing efforts and spending (Kim, Reid, Plank & Dahlstrom, 1998), and whether these investments should be directed primarily to reinforce the emotional or the rational benefits of the business-to-business offering should be clarified. There is thus a strong need to reconcile findings on this issue from past B2B work.

In business-to-consumer markets, Homer (2008) has demonstrated that brand beliefs are connected to brand attitudes and that attribute-based brand beliefs (i.e., brand-related functional aspects, such as quality, features and performance) are more strongly connected to utilitarian attitudes, while non-attribute-based beliefs (i.e., abstract, imagery-related considerations, such as those related to brand image) are more connected to hedonic attitudes.

Extending this theoretical framework to B2B markets, this study explores the relationship between attribute-based/non-attribute-based brand beliefs and attitudinal loyalty, i.e., the buyer's attitude (Y. Odin, N. Odin and Valette-Florence, 2001) "regarding the service [or product] provider as a first choice or preferable over other providers" (Rauyruen, Miller & Groth, 2009, p. 181). In particular, we considered the specific role of brand attitude as a non-attribute-based belief, and we define it as the buyer's feeling that a brand is good or bad (Bergkvist and Rossiter, 2009). Although B2B buyers have usually been thought to be more rational than consumers (Mudambi, 2002), the application of this model could help to capture the relative importance of non-attribute-based brand beliefs in the B2B context and help to reconcile previous findings.

Moreover, this paper intends to provide two other contributions to existing knowledge. First, this paper considers the distinct role of attribute-based/non-attribute-based brand beliefs in a multiple-supplier B2B context (Heide, 2003), i.e., when an industrial organization buys goods or services in a specific category from multiple suppliers simultaneously. Previous branding studies that consider only multiple suppliers are scarce and do not include brand beliefs as antecedents of brand loyalty (Rauyruen et al., 2009). In addition, this paper advances knowledge about the risk-reducing role of industrial brands (e.g., Mudambi, 2002) by evaluating the interaction between a buyer's skill and knowledge level and the impact of brand beliefs on attitudinal loyalty. The interaction between experience and brands has been studied in business-to-consumer markets, demonstrating that customers with little experience rely more on brands to develop their attitudes (Smith & Park, 1992). In this paper, we test whether such a relationship also works in industrial markets. Therefore, drawing on Homer's framework, this paper aims to provide a contribution to reconcile contradictory findings in past B2B work by verifying whether the relative importance of attribute-based brand beliefs vs. non-attribute-based beliefs in the B2B world is dependent, at least in part, on the buyer's expertise.

Second, this study adopts a long-term perspective based on service-dominant logic (Vargo & Lusch, 2004) and the service logic perspective (Grönroos, 2008), i.e., that "the value of the experience derived from goods is determined at time of use by customers as value in use" (Ballantyne & Aitken, 2007, p. 364). Therefore, the aim of this paper is not to study the importance of attribute-based and non-attribute-based brand beliefs in the purchasing choice itself but rather to examine their value in the industrial customer's value-generating process (Grönroos, 2008, p. 299).

This paper is organized as follows. In the next section, the available literature on business-to-business branding is reviewed, and research hypotheses are established. After this, we explain our methodological choices and present our results. Finally, we discuss the findings, implications and limitations of the present study.

Literature review and hypotheses

Business-to-business branding is commonly defined as "brand building and communications involving inter-business buying and selling" (Interbrand, 2007, p. 20). Saunders & Watt published the first scientific article on this topic more than 30 years ago in 1979. Since then, several studies have been conducted. In our literature review, we found 57 academic articles dealing explicitly with industrial branding. A total of 33 of them were published during the 2007-2010 period (see Appendix A), demonstrating the high level of interest in B2B branding.

Almost all of the studies agree on two main points:

- Brands in B2B markets generally have a real impact on risk reduction, negotiation and purchasing (Mudambi, 2002) and can become a source of sustainable competitive advantage for the seller (e.g., Michell, King & Reast, 2001; Van Riel et al., 2005);

- In most cases, industrial branding occurs more at the corporate level than at the product level (e.g., Michell et al., 2001; Bendixen et al., 2004).

Several issues related to industrial branding have been studied, such as the antecedents and consequences of brand equity (e.g., Gordon, Calantone & Di Benedetto, 1993; McQuiston, 2004; Jensen & Klastrup, 2008), the relative importance of brands as compared to other purchasing factors (e.g., Mudambi et al., 1997; Bendixen et al., 2004; Alexander et al., 2009), the most effective means of communicating about industrial brands (e.g., Yoon & Kijewski, 1995; Van Riel et al, 2005; Baumgarth, 2010), industrial services brands (e.g., Roberts & Merrilees, 2007; Davis, Golicic & Marquardt, 2008) and ingredient branding (e.g., Erevelles, Stevenson, Srinivasan & Fukawa, 2008; Gosh & John, 2009). Despite the difficulty of summarizing the available findings using a comprehensive model of business-to-business branding (Cretu & Brodie, 2007, Han & Sung, 2008), it is possible to classify available studies into two main streams of research:

- Studies adopting industrial customers' point of view and comparing the relative impact of brands on their buying processes (e.g., Walley, Custance, Taylor, Lindgreen & Hingley, 2007; Alexander et al., 2009). In this stream, the roles of both emotional and rational drivers on business-to-business customers' choices are emphasized (e.g., Lynch & de Chernatony, 2004; Bennet et al., 2005) with the buyer's conditions (such as the degree of perceived risk) that increase or decrease the effects of industrial branding (e.g., Hutton, 1997; Kim et al., 1998, Mudambi, 2002);
- Studies adopting the branded B2B company point of view, investigating the process of implementing branding, such as the most effective choice among available B2B communication media (e.g., Yoon & Kijewski, 1995; Van Riel et al., 2005; Andersen, 2005; Ballantyne & Aitken, 2007; Lynch & de Chernatony, 2007; Virtsonis & Harridge-March, 2009). The ingredient branding strategy is particularly emphasized as a viable opportunity for business-to-business companies (e.g., Norris, 1993; Erevelles et al., 2008). Among others,

Baumgarth (2010) underlines the link between the company's internal branding orientation behavior and brand performance in the market.

This paper provides a theoretical and managerial contribution to the first stream of research (i.e., the study of brand impact on the buyer's buying process) by analyzing the relative impact of emotional/hedonic brand beliefs against rational/functional brand beliefs on buyers' attitudinal loyalty in a multiple-supplier situation (Heide, 2003), i.e., when an industrial organization purchases a specific category of goods or services from multiple suppliers simultaneously, suggesting the existence of multiple ongoing relationships. In this case, attitudinal loyalty indicates a preferred supplier for one particular good.

Several studies on B2B branding make a distinction between tangible/rational and intangible/emotional attributes of an industrial offering (e.g., Han & Sung, 2008; Alexander et al., 2009) and state that two groups of factors have a distinct impact on the buyer's evaluation of available competing offerings (Mudambi et al. 1997). Price and other rational attributes cannot always explain purchasing decisions (Mudambi et al. 1997; Han & Sung, 2008), and even in systematic decision-making, intangible/emotional factors incorporated into the brand do matter (Mudambi, 2002). Nonetheless, available studies do not agree on the relative importance of branding as an emotional attribute in explaining buyers' attitudes and choices. For example, according to Alexander et al., (2009), brand image is the most important factor leading to a purchase decision. On the contrary, Bendixen et al. (2004) found that rational attributes, such as technology and delivery, have a stronger influence on buyers than brand.

In the B2C context, several studies have analyzed the impact of affective/hedonic and instrumental/utilitarian components of consumer attitudes toward brands (e.g. Batra & Ahtola, 1990, Batra & Homer, 2004). More specifically, Homer (2008) has found that attribute-based brand beliefs (i.e., utilitarian, attribute and performance-oriented beliefs, such as quality, features and performance) are more strongly connected to utilitarian attitudes, while non-attribute-based beliefs (i.e. abstract, imagery-related considerations, such as those related to brand image) are more connected to hedonic attitudes. In particular, “non-attribute-based brand beliefs such as those related to brand image make an incremental contribution to predicting brand preferences above those associated with attribute-based evaluation” (Homer, 2008. p.717).

In this paper, we draw on this theory to better understand the role of brand beliefs in the business-to-business buying process and, in particular, their impact on attitudinal loyalty in a multiple-supplier context (Heide, 2003), i.e., “regarding the service [or product] provider as a first choice or preferable over other providers” (Rauyruen et al., 2009, p. 181). We therefore regard attitudinal loyalty as a relative attitude (i.e., a brand’s superiority over competing brands), which is likely to provide a stronger indication than one’s attitude toward a brand determined in isolation (Dick & Basu, 1994). This attitude indicates an affective commitment, which is different from a simple purchase or repeated purchase, as in the case of behavioral loyalty (Gordon et al., 1993). In particular, under the multiple-supplier condition, a buyer shows behavioral loyalty toward more than one supplier because he buys repeatedly from a number of suppliers at the same time. In contrast, the presence of attitudinal loyalty indicates a strong internal disposition, one that is affective and emotional (Dick & Basu, 1994), which configures a hedonic attitude (Homer, 2008), which in turn is able to convey social, personality and image benefits to the buyers (Batra and Homer, 2004). Additionally, using a branded input may improve the level of performance of the buyer’s product/service and hence also improve his image and reputation among his customers (Gosh and John, 2009).

Previous studies within the business-to-business domain (Rauyruen et al., 2009) have demonstrated that the presence of high attitudinal loyalty is linked to the buyer’s willingness to pay a premium price. Moreover, buyers will be less likely to switch away from their preferred brand, leading to longer relationships (Rauyruen et al., 2009). Similarly, the B2C context provides strong evidence that attitudes based on affect (such as attitudinal loyalty) are more resistant to persuasion than attitudes based on cognition (Homer, 2008).

Particular attention must be paid to how, as noted in a few previous B2B studies (Bennet et al., 2005; Russell-Bennet, McColl-Kennedy & Coote, 2007), “attitudinal brand loyalty consists of brand attitudes, attitudes toward intention to repurchase and brand commitment” (Bennet et al., 2005, p. 98). Based on this conceptualization, attitudinal loyalty is an antecedent of behavioral loyalty.

In this study, we use the definition of relative attitudinal loyalty (Dick & Basu, 1994) provided by Rauyruen et al. (2009), which suggests that a buyer regards a service/product provider as the first choice in his current basket of sellers. Following Homer’s (2008) conceptualization, we clearly isolate the brand attitude construct as a non-attribute antecedent of attitudinal loyalty.

In his study, Homer (2008) tests two models to evaluate the impact of attribute-based and non-attribute-based brand beliefs on hedonic attitudes. In the first model, only attribute-based brand beliefs are included as predictors of hedonic attitude, and a significant relationship is found. In the second model, both attribute-based and non-attribute–based brand beliefs are modeled as antecedents of hedonic attitude. The results show that adding the non-attribute belief terms render attribute-based beliefs insignificant. Therefore, a favorable evaluation of the offering’s functional components is not necessarily required for a high hedonic attitude.

Based on this stream of study, we test whether Homer’s theoretical model can be successfully applied to explain the impact of brand attitude in the business-to-business context on attitudinal loyalty, which is treated as a hedonic attitude.

Therefore, following Homer (2008), we state the following hypothesis:

Hp1: Non-attribute-based brand beliefs predict industrial buyers’ attitudinal loyalty in a multiple-supplier context, while attribute-based brand beliefs do not.

Moreover, uncertainty and risk are strong concerns in industrial buying processes (Vyas & Woodside, 1984; Hutton, 1997; Brown et al., 2007). Therefore, uncertainty reduction is strongly encouraged in industrial buying (Shipley & Howard, 1993). As a result, “brands add to customer value by giving signals about the offer [which are] often interpreted in terms of risk reduction and enhanced satisfaction" (Mudambi et al., 1997, p. 434). When the level of perceived risk is high, relying on brands with strong images can reduce this uncertainty (Kim et al., 1998; Brown, Bellenger & Johnston, 2007). According to the service-dominant logic (Vargo & Lusch, 2004) and the service logic perspective (Grönroos, 2008), customers can judge the value of the use of a product or service only when "using the resources [i.e., the product or a service] together with other resources and applying skills held by them, [they] create value for themselves in their everyday practices" (Grönroos, 2008, p. 299). This is particularly important when a buyer purchases process inputs, defined as products consumed during the manufacturing process (Mudambi et al., 1997, p. 435). The buyer has to combine these process inputs with other resources that he holds to generate a final output, and the input brand can reduce the risk of failure (Hutton, 1997). Therefore, process inputs are particularly significant because these inputs lose their identity in the final output, i.e., the buyer's customer will not recognize them as separate ingredients, and the buyer will be responsible for the final output performance.

Following this reasoning, we argue that the branded product (or service) integrates buyers' current resources and skills during the value-generating process. Therefore, when these resources and skills are scarce and the contribution of the branded input is more relevant, a buyer may rely more heavily on the brand to make his decision, especially when the input incorporates credence attributes that are difficult to evaluate, even after purchase or consumption (Davis et al., 2008).

Similarly, in the business-to-consumer context, the interactions between consumers' knowledge of the product category and brands have been well-studied, demonstrating that consumers rely more heavily on brands when they have little knowledge of the product category (e.g., Smith and Park, 1992; Jamal & Al-Marri, 2007).

In the business-to-business context, previous studies have underlined a similar role for experience gained through repurchasing a product in a category. Bennet et al. (2005) found that a high level of experience increases habitual purchasing and reduces the impact of the buyer's emotional involvement. In contrast, Heide & Weiss (1995) state that buyers with more experience may be more likely to choose a known brand. Despite some similarities, the perspective adopted in this study is different because, following the service perspective (Grönroos, 2008), we do not focus on single purchasing decisions. Instead, we consider the contribution that branded input will make to successful performance during the value-generating process. In other words, while previous studies emphasize the static stock of experience with repeated purchase decisions in a product/service category (Bennet et al., 2005), this study considers the dynamic interactions between cognitive resources and skills and the branded input from the perspective of value creation. According to this perspective, the branded input is only a facilitator (Grönroos, 2008) for the buyer's self-service value-creation process. Therefore, we consider not the buyer's experience with the bought product (category) but the buyer's experience in performing the value-generating activities for his customers. It is during these day-by-day value-generating activities that the buyer may feel the need for a risk-reducing branded input to fulfill his experience gaps in performing a part of these activities.

Following this reasoning, we state the following hypothesis:

Hp2: The level of skills and knowledge that the buyer holds, as needed for the value-generating process, negatively moderates the impact of non-attribute-based brand beliefs on attitudinal loyalty in a multiple-supplier context.

Methodology

To test the hypotheses and obtain generalizable results, we conducted cross-sectional research based on clear assumptions. First, to avoid the frequent overlapping of B2C and B2B brands

(Bendixen et al., 2004), we define industrial products as products used in industrial value-generating processes “that are not marketed to the general consuming public” (Mudambi et al., 1997, p. 435). Industrial products can be both process inputs (defined as products consumed in the manufacturing process) and product inputs (ingredients of the final product) (Mudambi et al., 1997). In our study, a process input is selected to test the hypotheses.

Second, we needed to isolate a research setting where relying on multiple suppliers is a common practice and where at least a certain degree of perceived risk exists. Legal, advertising, accounting and auditing services satisfy these conditions (Firth, 1993; Bennet et al., 2005). We selected the Italian market for professional magazines that support accounting and auditing value-generating processes (e.g., interpreting fiscal legislation). Approximately ten magazines account for 90% of sales to roughly 100,000 Italian accounting and auditing firms and a small number of ordinary firms that perform part of their accounting activities internally. These magazines are sold only to subscribers (who are contacted yearly by editors’ sales representatives), and these magazines cannot be found via other distribution channels. On average, a firm spends €1,200 to €1,500 every year to buy these products.

The editor of one of these magazines (‘Magazine X’) gave us partial access to its subscriber database, providing customer lists and the name of the key contact person according to the procedure followed by Keh & Xie (2009). In the case of the accounting and auditing firms, the key contact person was a certified accountant or auditor who, in most cases, was also the unique owner of the firm, as firms in this industry are usually small. In Italy, people who wish to become an accountant or auditor must have a master’s degree and complete a three-year apprenticeship. Following this, they have to pass a national exam to be a certified accountant or auditor. A registry of all Italian certified accountants and auditors is available to the public. On average, the accountants/auditors who took part in the study have been certified for an average of 13.8 years. In the case of ordinary firms, the key contact was the one responsible for the company’s tax and accounting office.

According to a geographical and customer category (i.e., accounting firms vs. ordinary firms) sampling, we selected 900 customers (802 accounting firms and 98 ordinary firms) and sent them each a questionnaire with a cover letter promising their anonymity to reduce the risk of common method bias (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). A total of 181 questionnaires were returned, but 10 of them were deleted due to missing data or because they did not fulfill the multiple-supplier condition (i.e., the respondent had subscribed to only one professional magazine), giving us a final sample of 171 usable answers and a total response rate of 19%, which is acceptable (Davis et al., 2008). Some of the non-respondents were also randomly contacted by phone to understand why they did not take part in the survey. Lack of time was the most common answer. The final sample comprised 149 accounting and auditing companies and 22 ordinary firms. A total of 111 of the accounting and auditing companies had a number of employees less than or equal to 5; 33 had between 6 and 10 employees; and 5 had more than 10 employees. For the 22 remaining ordinary firms, the average number of employees was 47.

A multiple t-test for key variables for accounting companies' and other companies' respondents was conducted and showed no significant differences (e.g., values for brand attitude were respectively x=8.83 and x=8.82, p=0.97).

Operationalization

Concept operationalization was conducted to keep the questions simple, specific and concise (Podsakoff et al., 2003, p. 888) to avoid the misunderstandings reported in previous literature. More specifically, the C-OAR-SE procedure for scale development in marketing suggested by Rossiter (2002) was followed as summarized in table 1.

Table 1 – about here

In this approach, every construct should be conceptually defined in terms of the "object," the "attribute," and the "rater entity."

To develop the questionnaire, we conducted extensive interviews with a convenience sample of four accounting firm owners to identify the most relevant utilitarian attributes they use to evaluate and compare professional accounting magazines. The authors coded and analyzed each interview to identify recurring utilitarian attributes. The lists of attributes identified by each of the coders were compared and discussed, culminating in an agreed-upon list; this result is shown in table 2.

Table 2 – about here

Three attributes mentioned by more than 50% of the interviewed people were identified and included in the questionnaire. Using the C-OAR-SE procedure (Rossiter, 2002), we defined these attributes in the following way:

- Completeness of contents; the industrial buyer judges Magazine X to cover all relevant topics;
- Ease of finding the desired contents; the industrial buyer judges it to be easy overall to find the desired contents within Magazine X;
- Clarity of presentation of each issue; the industrial buyer finds that each issue covered within Magazine X is presented clearly.

The other independent variable, brand attitude (measuring the non-attribute-based brand beliefs) was defined as the industrial buyers' overall perception of the Magazine X brand as good or bad. Therefore, the brand included in this study was at the product level and not at the corporate level. One must consider that in this industry, the customer interacts more with the product brand than with the company's sales force.

After the constructs are conceptually defined, objects, attributes and raters must be evaluated and classified. To perform these activities, expert judges (the authors along with three other marketing professors) analyzed the results of the interviews using a convenience sample of 11 target raters (10 accounting and auditing firms and 1 ordinary firm).

All constructs introduced so far are concrete and singular; “virtually all raters know what the object is and that, for them, there is only one object” (Rossiter, 2002, p.311). This is particularly clear because respondents were asked to rate Magazine X and not business magazines in general.

An attribute’s being concrete and singular requires “virtually unanimous agreement by raters as to what it is” (Rossiter, 2002, p.313). This is related to the type of judgments raters are likely to make. Experts agree that the attributes included in the study were concrete and singular.

Finally, group raters—i.e., industrial buyers—were selected for this study.

Because both the objects of measurement and the attributes are concrete and singular, constructs are “doubly concrete” (Bergkvist & Rossiter 2007; 2009). In this case, a single-item score is the most appropriate solution (Rossiter, 2002), considering that “theoretical tests and empirical findings would be unchanged if single-item measures were substituted for these constructs in place of commonly used multiple-item measures” (Bergkvist & Rossiter, 2007, p. 183). As a matter of fact, in the case of a doubly concrete construct, increasing the number of items in its measure will decrease its validity relative to a measure with one good item (or at most two) (Bergkvist & Rossiter, 2009). Tailor-made single-item measures are as valid for prediction as traditional multiple-item measures of doubly concrete constructs (Bergkvist & Rossiter, 2009). In particular, brand attitude has already been conceptualized as double concrete in previous studies (Bergkvist & Rossiter 2007; 2009). This construct has been measured both with a bipolar seven-point measure (Bergkvist & Rossiter 2009) and with a seven-point semantic differential scale (Bergkvist & Rossiter 2007), with the attribute descriptor being “good-bad” in both cases.

The single-item measure of brand attitude was found to perform as well as the multiple-item measure irrespective of which operationalization of the dependent variable is used (Bergkvist & Rossiter 2007; 2009).

Replicating previous studies, we decided to measure brand attitude using an eleven-point semantic differential scale with a “good-bad” attribute descriptor. The same operationalization was selected for the three tangible attributes: completeness, easiness and clarity.

For the dependent variable, attitudinal loyalty, a dichotomous measure (yes/no) was chosen, with ”yes” indicating that Magazine X was the buyers’ first choice from among all of the accounting magazines to which the respondent was subscribed at that time. Our decision to use different response formats for the independent and the dependent variables was motivated by our desire to reduce the common method bias that might occur because we obtained measures of the predictor and the criterion variable from the same rater (Podsakoff et al., 2003). As a matter of fact, using the same scale formats for all the variables “may also increase the possibility that some of the covariation observed among the constructs examined may be the result of the consistency in the scale properties rather than the content of the items” (Podsakoff et al., 2003, p. 884). Even if Bergkvist and Rossiter (2007) did not find that common method bias occurred because they used the same descriptor adjective for the independent and the dependent variable single-item measures (i.e., the correlation between constructs is not spuriously inflated), we preferred to avoid using the same single-item response format.

The following reasoning was used to operationalize the moderating variable—i.e., the level of skills and knowledge held by the buyer. In the accounting and auditing industry, buyers will rely on professional magazines when (as sometimes only occurs a few times per year) they need help interpreting fiscal legislation. The reliability and “technical expertise” of the magazine’s content is signaled by the brand (Bengtsson & Servais, 2005), and the user will have to trust the brand more deeply if he has a low level of exposure to the issues under analysis. Ordinary firms perform only part of their accounting and auditing processes internally, and their experience is limited to their specific situation. Therefore, they were classified as having a low level of accounting and auditing skill and knowledge. In contrast, accounting companies are supposed to deal with a wide variety of cases daily (e.g., they deal with customers from a wide range of industries) and to be highly specialized. Therefore, they were found to have high accounting and auditing skill and knowledge.

As will be shown later, further analyses were conducted on the 149 accounting and auditing companies. In this case, we used the number of years since the interviewed accountant/auditor was certified as a proxy for his experience. In cases where more than one accountant/auditor was in the same company, we used the date of the accountant/auditor who was certified first.

Results

Before the hypothesis testing, some data were collected about respondents' characteristics. In particular, the average number of suppliers (i.e., ongoing subscriptions to professional accounting magazines) was calculated, yielding a result of 3.40. Moreover, on average, respondents had been subscribing to Magazine X for approximately 7.2 years.

Following Homer (2008), two alternative models were computed to test hypotheses 1 and 2. In the first model, non-attribute-based brand beliefs, attribute-based brand beliefs and the interaction term for the moderating role of knowledge were included as antecedents of attitudinal loyalty. In the second "reduced" model, the non-attribute beliefs and the interaction term were excluded, and only attribute-based beliefs were considered.

The two models were evaluated using two logistic regressions. This method is suitable for classifying a dichotomous dependent variable (the presence or absence of attitudinal loyalty toward Magazine X) based on a set of criterion variables and "appears to be a very useful technique for the modeling and discrimination problems in marketing" (Akinci, Kaynak, Atilgan & Aksoy, 2005, p. 538). Before running the regression, the interaction term was centered (Menard, 2002).

We tested for the presence of multicollinearity by evaluating the correlation matrix and the variance inflation factors, and we obtained satisfactory results (Menard, 2002). As shown in table 3, the highest correlation among the independent variables was .561, and all the VIFs were well below 10 (maximum value=1.687).

Table 3 – about here

Table 4 – about here

The models' estimations (table 4) confirm hypothesis 1, showing that non-attribute-based brand beliefs predict industrial buyers' attitudinal loyalty in a multiple-supplier context, while attribute-based brand beliefs do not.

As a matter of fact, in the full model (model I), none of the attribute-based beliefs is a significant direct predictor of industrial buyer attitudinal loyalty in the multiple-supplier context. Moreover, even in the "reduced" model (model II), where only attribute-based beliefs are retained as predictors, none of them is significant. On the contrary, as predicted by hypothesis 1, brand attitude is a strong antecedent of attitudinal loyalty (β=.976; Exp(b)=2.653; p<.000). Moreover, the moderating role of buyer skills and knowledge as necessary for the value-generating process (hypothesis 2) is confirmed as shown in model I. In particular, the results highlight a negative relation (β=.-135; Exp(b)=.874; p <.05), meaning that when a buyer has a large amount of knowledge, the role of branding in determining attitudinal loyalty will diminish. Therefore, branding demonstrates different levels of importance, depending on a buyer's knowledge and skills.

In general, the complete model (model I) fits the data reasonably well (Dahlstrom, Haugland, Nygaard, & Rokkan, 2009); NagelKerke R^2 =.203; overall hit ratio=69.0% and hit ratio for attitudinal loyalty(yes)=73.3%. The plot of the observed and predicted probabilities for model I (n=171) is provided in fig. 1.

Fig. 1 – about here

To reinforce the model, estimations were repeated on the more homogeneous sample of the 149 accounting and auditing companies, using the number of years since the accountant/auditor was certified as a proxy for experience. The results of the multicollinearity test are shown in table 5.

Table 5 – about here

The estimations for the two models are summarized in table 6, while fig. 2 provides the plot of the observed and predicted probabilities for model I (n=149).

In this case, hypothesis 1 is also supported, indicating that brand attitude is a strong antecedent of attitudinal loyalty (β=1.015; Exp(b)=2.760; p <.000), while attribute-based brand beliefs are not. Similarly, the negative moderating role of buyer skills and knowledge (hp. 2) is confirmed, even if the magnitude of the effect in this case is smaller but has a higher significance level (β=.-025; Exp(b)=.976; p <.000). This may be related both to the new operationalization of the knowledge variable and to the higher homogeneity of the sample of account and auditing firms, which are all likely to have a high level of knowledge.

Table 6 – about here

Fig. 2 – about here

Discussion

Summary

The main purpose of this paper is to evaluate the relationship between attribute/non-attribute-based brand beliefs and buyers' attitudinal loyalties in business-to-business markets, particularly in a context characterized by behavioral loyalty toward multiple suppliers, i.e., respondents had subscribed to more than one professional accounting magazine simultaneously. The findings demonstrate that only non-attribute-based brand beliefs (measured through a bad-good semantic scale of brand attitude) have a significant impact on the criterion variable, while attribute-based beliefs do not.

Moreover, the findings show that the level of the buyer's knowledge needed for his value-generating process negatively moderates the relationship between non-attribute–based brand beliefs and attitudinal loyalty. Therefore, when a buyer has a large amount of knowledge, the role of brand attitude (non-attribute–based beliefs) in determining attitudinal loyalty will diminish, and vice versa.

Contribution to scholarship

This study sheds new light on the relative contribution of utilitarian and emotional components of the offerings to industrial buyers' attitudes, helping to reconcile previous B2B studies about the relative importance of emotional/hedonic antecedents vs. rational/functional antecedents of buyer's preference. In particular, by extending Homer's models from B2C to B2B contexts, this study demonstrates that non-attribute-based-brand beliefs determine the buyer's affective link to the brand, while attribute-based beliefs do not.

The results do not suggest that attribute-based beliefs are not relevant in explaining a buyer's behavior. The findings suggest that attitudinal loyalty is a result of an affective relationship between the buyer and the brand, which results from an overall evaluation strategy (Mantel & Kardes, 1999).

Moreover, the study contributes to the business-to-business branding field of study by demonstrating that a buyer's knowledge and experience play a similar role in brand impacts, similar to what occurs in the business-to-consumer context (Smith and Park, 1992; Laroche, Cleveland, Bergeron, & Goutaland, 2003). From a broader perspective, the results confirm that "branding is not equally important to all companies, all customers, or in all purchase situations" (Mudambi, 2002, p. 531). In particular, this article demonstrates that the importance of branding can be different for targets characterized by different levels of specific knowledge needed for the value-generating process.

Applied implications

Business-to-business companies are often unsure whether marketing investments directed towards building and reinforcing brands is effective in influencing buyers' preferences. The results of the paper should encourage industrial companies to invest in branding to create an affective loyalty with their customers and not merely to focus on the utilitarian attributes of their offerings.

Moreover, the findings suggest that business-to-business companies should differentiate their branding activities depending on their target groups. In particular, high investments in branding activities toward customers with a low level of knowledge and expertise would generate higher returns because these customers are looking for reassuring branded products or services. In particular, branding communications directed to the target should act as the creator of an emotional-affective bond between the seller's offering and the buyer.

Limitations and Future Research Directions

Obviously, this study has several limitations. First, it should be noted that research on business-to-business branding is highly related to the specific research setting (Homburg, Klarmann, & Schmitt, 2010). Therefore, despite attention to making the results generalizable, caution is required when extending findings to other industries and business-to-business settings. In particular, the level of intangibility and risk characterizing the accounting and auditing industry may not be at play in other settings. Moreover, the possibility of a ceiling effect in this specific industry may be mentioned. In this case, if all the top magazines considered in the study had performed high on brand-related functional aspects (such as quality, features and performance), then there would have been little variation in these measures, indicating that utilitarian attitudes did not predict the overall attitudinal loyalty. Future studies could include one or more attribute-based outcome measures to further strengthen the results.

At the same time, the methodological choice of relying on single item measures presents both advantages, i.e., high response rates, clear findings, less risk of common method bias, and disadvantages, i.e., less robust findings. As a matter of fact, despite careful methodological choices, it is possible that the relationships among the independent and dependent variables were inflated due to common method variance.

To replicate this research, applying different methodologies may help increase external validity. Moreover, the operationalization of the moderating variable for the analysis of the entire sample (accounting and auditing firms: high knowledge; ordinary firms: low knowledge) presents limitations because the differences between the two identified sub-samples may be partly due to reasons other than the level of knowledge.

Moreover the operationalization of attitudinal loyalty is very restrictive since asking respondents to identify the one magazine most important to them forces the others into a non-attitudinally loyal category, even if respondents like them.

At the same time, several opportunities for further research emerge from this study. For example, an analysis of the role of non-brand-based beliefs under different marketing conditions could be interesting. In this article, the number of customers was quite high (about 100,000), making it difficult for the suppliers to interact frequently and personally with each of them. In similar situations, the brand can work as a partial substitute for other relational contents. In markets where the number of customers is limited, the brand would probably be less relevant than other factors (e.g., actor bonds, power-dependence relations, and purchasing power) for relationship development and management. Similarly, the importance of branding during different stages of the relationship could be investigated.

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Appendix A

Study	Focus of study	Main results	Empirical setting
Saunders & Watt (1979)	Using brands at the customer level to differentiate products by pulling them through the intermediate levels of the supply chain.	Brand names alone are not able to differentiate identical industrial products (ingredients) from the final customer point of view. Corporate image advertising is more effective than promoting many product brands.	Man-made fibers marketed in the U.K. (e.g., Lycra). A large number of both branded and unbranded fibers available on the market.
Sinclair & Seward (1988)	Effectiveness of branding in an industrial commodity product class.	Manufacturers' branding strategies generally display low effectiveness, but some benefits exist in terms of differentiation.	Wood commodity products for residential construction in North America.19 producers yield the entire productive capacity.
Gordon, Calantone & Di Benedetto (1993)	Existence of brand equity in the B2B and possibility of extending it to new products and product versions.	There is a potential for B2B marketers to capitalize on brands to gain improved competitive advantage. Strong brand loyalty exists. Brand extension works.	Electrical products and components industry. Mature stage of the product lifecycle. Six manufacturers hold most of the market share.
Shipley & Howard (1993)	Branding benefits for industrial companies.	B2B branding is a common practice and generates several benefits. Large firms are more likely to make use of branding strategies.	Manufacturers within several industries: engineering, chemicals, computers, plastic, papers, (and others).
Norris (1993)	Ingredient branding strategy (Intel case).	For ingredient branding to work, the supplier should have a component that is truly important to the consumer. Collaboration with the manufacturer in promotional and non-promotional areas is fundamental to success.	Microprocessor market: Intel is the leader, with roughly two thirds of global sales. Other manufacturers determine intense competition and price pressures.
Yoon & Kijewski (1995)	Relationship between brand awareness, brand preference (and brand choice).	A brand must surpass aided awareness of approx. 10% before increases in brand awareness translate into greater brand preference (values vary significantly across categories/ purchasing/products).	Semiconductor industry (USA): 1017 brands for 95 product categories, average of 10.7 brands per product category.
Hutton (1997)	Existence of brand equity in B2B markets; influence on brand sensitivity of variables principally related to the product and to the buying situation.	Brand equity exists in B2B markets in the form of buyers' willingness to pay a price premium for their favorite brand, recommend that brand to peers and give special consideration to another product with the same brand name.	Experimental design: buying process for personal computers, copiers, fax machines and floppy disks.
Mudambi, Doyle & Wong (1997)	Sources of industrial brand value for customers.	Brand value consists of four components/sources: product performance, distribution (ordering and delivery) performance, support service performance, and company performance.	UK Precision bearings markets. Well established sector. High-quality products. Customer access to multiple suppliers. Purchases and products perceived to be relatively

			complex. Some elements of risk.
Kim, Reid, Plank & Dahlstrom (1998)	Developing a model of brand equity for business markets.	A seller's brand equity is the result of marketing efforts, moderated by buying firm factors, environmental factors, and buyer's perceived risk. A set of 19 propositions is suggested.	/
Michell, King & Reast (2001)	Benefits and impacts of branding strategies. Replication and extension of the study by Shipley and Howard (1993).	Industrial firms perceive their brands to embody a number of value-laden propositions (as in B2C markets), and the majority of these core values are seen as intangible.	Broad range of industries (and firm sizes): engineering, electronics/ computers, chemicals, plastics, paper, and others.
Rosenbroijer (2001)	One's own brand as a resource for an industrial distributor in the producer-distributor relationship.	Distributor branding aims to avoid competition between distributors selling a product produced by the same producer. Branding choice in industrial settings is more rigid and less reversible.	Fine-paper (uncoated) sector, cut size (or copier paper) in the UK. Both producer brands and private label brands on the market.
Low & Blois (2002)	Use of a B2B brand name in a generic manner: strategic responses.	When the brand name starts to be used in a generic fashion, not only will the brand equity be lost, but additional costs will be incurred. Three options: fight, accept or change the brand.	/
Mudambi (2002)	Branding importance as perceived by industrial buyers: understanding to whom branding is important and in what situations.	Some industrial buyers may be more receptive to branding than others. Three clusters of buyers are found: -branding receptive: 37% -highly tangible: 49% -low interest: 14%.	UK precision bearings industry, a well established sector with ISO product standards. Differentiated products purchased by companies across a range of B2B sectors. High purchase frequency.
Taylor & Hunter (2003)	Relation between brand attitude, satisfaction and loyalty in B2B markets.	Brand attitude is a direct antecedent of loyalty, while satisfaction has an indirect effect through brand attitude.	eCRM software industry in USA.
Bendixen, Bukasa & Abratt (2004)	Relative importance of brand as compared to other purchasing factors. Sources of brand equity and the most effective way to communicate it.	Delivery, price and technology are more important than the brand to buyer's decision-making. Quality, reliability and performance are the most significant sources of brand equity. Technical specialists and sales representatives are the most effective means of promoting a new B2B brand.	Market for the medium-voltage indoor circuit-breaker panels (South Africa). Mature stage of the product life-cycle, many competing brands. Buyers belong to a wide range of industries and are heavy users of electricity.
Blois (2004)	Threats deriving from the evolution of the B2B brand name into a generic term and from the development of counterfeiting;	Generic brands suffer from a dilution of their distinctive features. Five responses: fight, accept the generic use of the brand, change the brand, co-opt suppliers found to be	/

	determining the appropriate responses.	manufacturing counterfeit material, encourage informants to report cases of counterfeiting.	
Lynch & De Chernatony (2004)	Role of emotional brand values in B2B settings.	Industrial brands are clusters of both cognitive and emotional values to be communicated both internally (e.g., through sales force training) and externally.	/
McQuiston (2004)	Opportunity to transform a basic commodity product into a highly differentiated product through a successful B2B brand.	A successful B2B brand allows a strategy of carving out and defending market niches with a high level of market specialization. The B2B brand is a multidimensional construct that includes technical solutions, logistics, customer support, corporate image and policy.	Steel for use with laser-cutting machines: a niche in the highly competitive worldwide steel market that is characterized by over-capacity.
Srivastava & Mookerjee (2004)	B2B brand equity, its determinants and its impact on high-tech products.	Brand equity in high-tech industries is the result of trust and the perceived value of functional benefits. Its impact depends on the stage in the product evaluation process.	Banking business application software products: prominent global brands competing against emerging Indian producers.
Webster Jr. & Keller (2004)	Branding strategies in industrial markets.	10 guidelines for successful industrial (corporate) brands are suggested.	/
Andersen (2005)	Role of B2B web-enhanced brand communities in supporting the relationship between buyer and seller.	B2B web-enhanced brand communities not only increase buyers' brand involvement but are also useful for sharing knowledge as necessary to develop new products.	Disposable plastic and polymer products for the health care sector. Analysis of a company operating in a niche against a few large competitors.
Bennet, Härtel & McColl-Kennedy (2005)	Antecedents of brand loyalty in a B2B service environment.	Satisfaction (cognitive attribute) and involvement (emotional component) are important antecedents of brand loyalty. Experience with purchasing the service has a moderating effect on the relationships between these antecedents and brand loyalty.	Telephone directory advertising in Australia. High level of competition between alternative brands looking to sell their advertising services—in particular to small businesses.
Van Riel, De Mortanges, Streukens (2005)	Antecedents and consequences of both corporate and product brand equity in B2B markets.	B2B brand equity is the result of past investments in products, place, people, promotions and price. Product brand equity and corporate brand equity are two different but interrelated components of brand equity and are antecedents of loyalty.	Chemical industry: high-performance engineering plastics, used primarily in the electrical/electronic and auto motive industry.
Bengtsson & Servais (2005)	Effectiveness of co-branding strategies in B2B markets.	The co-branding strategy is generally effective in an industrial context. Co-branding for two different products that oftentimes are used in conjunction communicates to the purchaser that the two products are	Co-branding between a Danish producer of wooden parquet floors and a Danish supplier of electric floor heating systems and temperature controls.

		compatible with each other.	
Ballantyne & Aitken (2007)	Meaning of the service-dominant logic for B2B brands and branding.	Suppliers and customers co-create brand meanings. Brand value is confirmed/disconfirmed in use.	/
Beverland, Napoli & Lindgreen (2007)	Industrial global brands: resources needed for success.	Adaptability to key customers is central to global brand success. Five global brand capabilities reinforce brand identity: relational support, coordinating network players, providing a total solution, adding value to the customer's brand and quantifying the intangible.	5 New Zealand-based cases in several industries: textiles, food, and pharmaceutics.
Beverland, Napoli & Yakimova (2007)	Key attributes for building a strong B2B brand.	Five foundational elements of a B2B brand identity: product benefits, services, logistics, adaptation, and support. Support and adaptation are less likely to be imitated by competitors.	/
Blombäck & Axelsson (2007)	Role of corporate B2B brands in the selection of subcontractors.	Corporate brands have a salient role in the selection of subcontractors because they are proxies of capacity, competences and on-time delivery. The impact of brand decreases as the selection process progresses.	Subcontractors producing several metal and/or plastic parts to be incorporated into buyers' products.
Cretu & Brodie (2007)	Effects of product brand image and company reputation on perceived customer value and behavioral loyalty.	Brand image has a specific influence on customer perceptions of quality. Company reputation has a broader influence on perceived customer value and customer loyalty.	Manufacturers of shampoo sold to a large number of hair salons in New Zealand. Three manufacturers account approx. for 80% of the total market; other five suppliers with a share of 5% or less.
Glynn, Motion & Brodie (2007)	Sources of manufacturer brand benefits for resellers.	Manufacturers' brands generate the following for the reseller: financial benefits (high margins), customer benefits, managerial benefits (e.g., support for the reseller's promotional program).	Grocery retailers and liquor resellers in New Zealand. Highly concentrated industries.
Kotler & Pfoertsch (2007)	Relationship between strong B2B brands and their companies' stock performance.	B2B brand strength has an impact on financial market performance.	Largest Dow Jones and DAX B2B companies.
Lynch e De Chernatony (2007)	Communication of B2B brands through the sales force.	To successfully communicate the essence of the B2B brand, the sales force should focus on a limited number of rational and emotional core values and adapt the messages to the buyer's information processing mode.	/
Morgan, Deeter-Schmelz &	Branding implications of partner firm performance for	Experiences with partner firms within a strategic B2B service network will affect customers'	/

Moberg (2007)	customers' evaluation of a focal selling firm (e.g., when logistics are outsourced to third parties).	evaluation of the focal firm brand. The stronger the focal brand, the more resilient it will be to the effects of partner brand episodes on customer evaluations.	
Walley, Custance, Taylor, Lindgreen & Hingley (2007)	Importance of the B2B brand name and other purchasing factors for buyers' decisions.	The B2B brand name is the most important purchasing factor; it accounts for 38.95% of the decision. Other relevant purchasing factors are price, proximity of dealer, quality of service, and dealer experience.	Tractors sold by dealers in the U.K. Total unit sales per year about 15,000. Four brands account for more than 80% of market share.
Roberts & Merrilees (2007)	Role of branding in service B2B markets.	Brand attitude is a significant antecedent of the decision to continue purchasing an industrial service from the same supplier. Quality is the strongest influence on brand attitude.	Leasing agreements between 20 Australian malls and tenants within these malls.
Russel-Bennett, McColl-Kennedy & Coote (2007)	Relationship between attitudinal and behavioral brand loyalty in business settings.	There is a positive relationship between attitudinal and behavioral loyalty. Satisfaction and involvement are important antecedents of brand loyalty.	Telephone directory advertising in Australia. Buyers are mainly small businesses.
Brown, Bellenger & Johnston (2007)	Differences between B2B and B2C markets and implications for successful B2B branding strategies.	B2B and B2C markets differ in terms of contextual conditions, psychological variables, product variables and marketing communication variables. B2B contexts have a higher level of (performance) risk, leading buyers to rely more heavily on brands.	/
Davis, Golicic & Marquardt (2008)	Power of branding in differentiating commodity-like B2B services.	B2B brands are able to differentiate commodity-like B2B services. Brand awareness and brand image are positively related to brand equity.	Logistics services in the USA. Hundreds of thousands of logistics service providers; thus, fierce competition.
Kuhn, Alpert & Pope (2008)	Applicability of Keller's customer-based brand equity model to a B2B market.	Several of the dimensions of Keller's framework are confirmed in B2B markets, but the impact of feelings in the industrial context is not verified; a revised model is suggested.	Waste-tracking technologies for Australian local authorities. Introduction stage of the product life cycle. Two main competitors operate in this market, offering two different types of technologies.
Jensen & Klastrup (2008)	Conceptualizing and validating a B2B customer-based brand equity model, including both rational and emotional factors.	The most important sources of B2B customer-based brand equity are trust and credibility, followed by product quality, price and differentiation (but only for OEM customers).	An industrial pump manufacturer (quite well consolidated but not monopolistic) selling its products to two groups of customers (OEM and consulting engineers).
Aspara e Tikkanen	Goals related to customers and other	A matrix combining 18 management goals and 9	Finland-based paper and pulp corporation among the

(2008a)	stakeholders, which motivate the adoption of B2B corporate branding.	management practices for corporate branding explains why managers of B2B companies are motivated to adopt corporate branding.	industry’s top five largest companies worldwide.
Aspara e Tikkanen (2008b)	Explaining why in the B2B context, the corporate brand is more important than the product brand.	The B2B corporate brand is fundamental because it includes: offering-related, personal (selling) contacts-related and network-role related perceptions.	/
Han e Sung (2008)	Modeling antecedents and consequences of brand value in B2B markets.	Supplier competence increases industrial brand value, which explains relationship performance. Buyer satisfaction is a strong antecedent of brand loyalty.	Buyers from 6 different industries: electronics, electricity, engineering, chemicals, plastics and equipment.
Erevelles, Stevenson, Srinivasan & Fukawa (2008)	Existence and benefits of co-branding strategies for both the downstream manufacturer and the ingredient supplier.	Both ingredient suppliers and manufacturers benefit from the co-branding relationship. The relationship is superior when the supplier provides advertising support.	/
Lee, Park, Baek & Lee (2008)	Effect of brand management systems (BMS) on brand performance (both customer and financial performance) in B2C and B2B markets.	In B2B contexts, the BMS has a positive impact on customer performance (e.g., brand image, brand trust, brand feeling, etc.), which in turn has a positive influence on financial performance.	Corporate brand (or product brand when available) owned and managed by companies belonging to several industries.
Tang, Liou & Peng (2008)	Consumer’s attitude toward B2B a brand extension on the B2C market.	The evaluation of the B2C extension product is influenced by the perceived quality and innovativeness of the B2B brand but above all by brand concept consistency between the parent brand and the extension.	Experimental design: four possible B2B-B2C extensions made by four well-known electronic manufacturers in Taiwan.
Baumgarth (2008)	Integrating brand quality, product quality and relationship quality to explain successful market performance in B2B settings.	According to the suggested B2B quality model (“Market-q”), product quality influences brand quality, which in turn is a strong antecedent of positive market performance (price, loyalty and advocacy premiums).	Building industry in Germany: suppliers of several products (front doors, flooring, switches, etc.). The study is replicated with an additional target group (wholesaler).
Alexander, Bick, Abratt, Bendixen (2009)	Impact of branding on the DMU buying process.	The brand has the highest degree of relative importance in the buying process, followed by durability and price. Within a DMU, users and deciders rely first on the brand, with an emphasis on durability.	Tires for front-end loaders to be used in open pit mining (conjoint experiment).
Rauyruen, Miller & Groth (2009)	Antecedents and consequences of service loyalty in a B2B context.	Habitual buying, trust in service provider and perceived service quality determine service loyalty. Behavioral loyalty is a predictor of customer share of wallet;	Courier service providers purchased by Australian SMEs. Multiple suppliers are usually used at the same time.

		attitudinal loyalty is an antecedent of the willingness to pay a price premium.	
Virtsonis & Harridge-March (2009)	Textual elements used to position corporate brands in a B2B online environment.	Varied textual content is used by suppliers on their webpages to position their B2B brands: information on benefits and features, value chain position and offerings, pricing and value, product and service information, and other information.	UK print industry: there are 11,000-12,000 suppliers, but only 370 companies have a turnover of over £5m. (30 brands from this body of 370 larger are analyzed).
Ohnemus (2009)	The link between B2B branding and the financial performance of companies.	Companies with an appropriate brand strategy achieve a return up to 7% higher than other companies.	1,700 listed American and European companies active in the B2B sector.
Ghosh and John (2009)	The choice between branded and white box component contracts in B2B markets.	OEM use branded (instead of white box) contracts to gain from the differentiation capabilities of the vendors' brand name.	OEM-supplier contracts in 3 industry sectors: nonelectrical machinery, electrical and electronic machinery and transportation equipment.
Baumgarth (2010)	Internal implementation of brand strategy in the business-to-business sector.	Internal promulgation of a strong brand orientation (through value, norms, artifacts and behavior) has a positive impact on both market and economic performance.	German business-to-business companies from a broad range of different branches and company sizes.
Gupta, Melewar & Bourlakis (2010)	The role of (brand personified as) representatives in transferring brand knowledge to resellers and, in turn, to influence their purchase behavior.	The relationship between transferring brand knowledge to resellers and their purchase intention is moderated by the link between brand representatives and resellers.	International manufacturer brands of the IT industry and their IT resellers (SME customers) in India. A highly competitive and complex market with a multi-layered reseller network.
Roper & Davies (2010)	The impact of affective associations (brand personality) to business-to-business brands on both customer and employee satisfaction	Brand personality is a driver of customer satisfaction. There is a link between customers' and employees' view of the corporate brand. The training an employee receives influences his view of the corporate brand.	B2B construction firms, engaged in large-scale building projects, highly competitive markets, with low profit margins.
Lai, Chiu, Yang & Pai (2010)	The relationship between corporate reputation, CSR, industrial brand equity and brand performance.	Buyers' perceptions about suppliers' CSR activities (and corporate reputation) is an antecedent to industrial brand equity, which in turn is positively related to brand performance.	Major suppliers of a sample of Taiwan manufacturing and service companies.
Homburg, Klarmann & Schmitt (2010)	The link between brand awareness and market performance in B2B markets.	Brand awareness is positively associated with market performance, which in turn is positively related to return on sales. Four moderating variables are identified (including product homogeneity and technological turbulence).	A broad range of industries (machine building, electronics, chemicals, automotive suppliers and others).

Table 1: a summary of the methodology.

Step of the C-OAR-SE procedure	**Methodology followed / samples**
1. Construct definition	Extensive interviews with a convenience sample of four accounting firm owners Coding of interviews and identification of the list of utilitarian attributes conducted separately by the authors Discussion and agreement on the list of attributes indentified by the coders Retention of three utilitarian attributes mentioned by more than 50% of the respondents (plus the emotional attribute: brand attitude), and definition of these constructs in terms of object, attribute and rater entity
2. Object classification	Interviews using a convenience sample of 11 target raters (10 accounting and auditing firms and 1 ordinary firm) Expert judges (the authors together with three other marketing professors) analyzed the results Objects classified as concrete singular
3. Attribute classification	Interviews using a convenience sample of 11 target raters (10 accounting and auditing firms and 1 ordinary firm) Expert judges (the authors together with three other marketing professors) analyzed the results Utilitarian attributes and brand attitude classified as concrete singular Confirmation of the quality of the definition of the constructs provided during step 1
4. Rater identification	Expert judges (the authors together with three other marketing professors) selected the group raters, i.e., industrial buyers
5. Scale development	Appropriate scales for measuring previous constructs were selected, following available literature
6. Enumeration	The ratings on the single-items scales were collected from 171 respondents

Table 2: Utilitarian attributes mentioned by interviewed people.

Respondent	**Emerged attributes**
Accounting firm owner 1	Completeness of contents Ease of finding the desired contents Clarity of presentation of each issue Price Presentation of case studies Presence of opinion of well-known professionals
Accounting firm owners 2	Completeness of contents Ease of finding the desired contents Clarity of presentation of each issue Presence of monographic issues Degree of deepening of issues Logic structure
Accounting firm owners 3	Completeness of contents Ease of finding the desired contents Clarity of presentation of each issue Price Commented cases Practical examples of bookkeeping
Accounting firm owners 4	Completeness of contents Ease of finding the desired contents Clarity of presentation of each issue Ease of understanding contents Presence of an update complimentary online database of topics Daily indication of fiscal deadlines

Table 3: VIFs and correlation matrix

VIF	**Correlation matrix**					
		1	2	3	4	5
1.394	1 Completeness	1.000				
1.546	2 Ease	.479	1.000			
1.687	3 Clarity	.372	.497	1.000		
1.682	4 Brand attitude	.383	.398	.561	1.000	
1.183	5 Brand attitude * Knowledge	.233	.200	.240	.382	1.000

All coefficients are significant at the 0.01 level (two-tailed).

Table 4: Results of hypotheses-testing

	Model I			Model II		
	β	Sig.	Exp (b)	β	Sig.	Exp (b)
Completeness	.104	.476	1.110	.188	.183	1.206
Ease	.117	.393	1.124	.124	.336	1.132
Clarity	-.108	577	.898	.202	.212	1.224
Brand attitude	.976	.000	2.653	-	-	-
Brand attitude * Knowledge	-.135	.044	.874	-	-	-
Constant	-7.045	.000	.001	-4.070	.003	.017
Model summary						
Cox & Snell R square	.152			.063		
NagelKerke R^2	.203			.084		
Hosmer and Lemeshow test:						
Chi-square	5.101			8.778		
Df	8			8		
Sig.	.747			.361		
Overall hit ratio (%)	69.0%			59.1%		

Table 5: VIFs and correlation matrix (n=149)

VIF	Correlation matrix					
		1	2	3	4	5
1.420	1 Completeness	1.000				
1.560	2 Ease	.487**	1.000			
1.716	3 Clarity	.375**	.493**	1.000		
1.672	4 Brand attitude	.352**	.379**	.554**	1.000	
1.133	5 Brand attitude * Knowledge	-.060	.080	.024	.265**	1.000

** coefficients are significant at the 0.01 level (two-tailed).

Table 6: Results of hypotheses-testing for the sub-sample of the 149 accounting and auditing companies

	Model I			**Model II**		
	β	Sig.	Exp (b)	β	Sig.	Exp (b)
Completeness	-.024	.890	.976	.113	.437	1.120
Ease	.158	.292	1.171	.113	.406	1.119
Clarity	-.121	.581	.886	.285	.102	1.329
Brand attitude	1.015	.000	2.760	-	-	-
Brand attitude * Knowledge	-.025	.000	.976	-	-	-
Constant	-7,129	.000	.001	-4.255	.003	.014
Model summary						
Cox & Snell R square	.216			.063		
NagelKerke R^2	.288			.084		
Hosmer and Lemeshow test:						
Chi-square	13.805			6.745		
Df	8			8		
Sig.	.870			.564		
Overall hit ratio (%)	65.8%			58.4%		

Fig. 1: Plot of the observed and predicted probabilities (n=171)

```
      16 +                                                                                                    +
         I                                                                                                    I
         I                                                                                                    I
F        I                                                                                                    I
R     12 +                                                                                                    +
E        I                                     1              1                                               I
Q        I                                     1              1                                               I
U        I                                     1           1  1                                               I
E      8 +                                1    1           1  1                      1                        +
N        I                                0  1 0           1  1  1        1      1 1 1                        I
C        I                              1 0  0 0           0  1  1        1 1  1 1 1 1                        I
Y        I                              1 0  0 0  1  1     0  1  1        1 1  1 1 1 1                        I
       4 +                              1 0  0 01 1  1     0  1  1  1  1  1 1  1 1 1 1                        +
         I                              1 0  0 01 1  0     01 0  0  1  1  1 11 1 0 1 0               1        I
         I                 0       1    0 00 0 00 0  0     01 01 0  0  1  0 10 1 0 0 0      1       11        I
         I 0      00 0  0 00 1 000 00 1 0 00 0 00 0  01 0 000 00001 01101 0 00 0 0 000 1011 0     11111       I
Predicted ---------+---------+---------+---------+---------+---------+---------+---------+---------+----------
  Prob:   0       .1        .2        .3        .4        .5        .6        .7        .8        .9         1
  Group:  0000000000000000000000000000000000000000000000000011111111111111111111111111111111111111111111111111

          Predicted Probability is of Membership for 1
          The Cut Value is .50
          Symbols: 0 - 0
                   1 - 1
          Each Symbol Represents 1 Case.
```

Fig. 2: Plot of the observed and predicted probabilities (n=149)

```
       8 +                                                                                                    +
         I                                                                                                    I
         I                                                                                                    I
F        I                                                                                                    I
R      6 +                                1                             1                                     +
E        I                                1                             1                                     I
Q        I                                1                       1     1          1                          I
U        I                                1                       1     1          1                          I
E      4 +                                0         1 1           0     1        1 1   1                      +
N        I                                0         1 1           0     1        1 1   1                      I
C        I               0  0          1  01        1 1     1  1  0   110   1    110   1      1               I
Y        I               0  0          1  01        1 1     1  1  0   110   1    110   1      1               I
       2 +         0 0 0 00000 0    0  0  00   1    1110  110 111100  11011110   110  111 1   1  1  1         +
         I         0 0 0 00000 0    0  0  00   1    1110  110 111100  11011110   110  111 1   1  1  1         I
         I  0000  000010 00000 00 0000 01100  0110  0010  1100010000 101011000  11001 001111111 00 10         I
         I  0000  000010 00000 00 0000 01100  0110  0010  1100010000 101011000  11001 001111111 00 10         I
Predicted ---------+---------+---------+---------+---------+---------+---------+---------+---------+----------
  Prob:   0       .1        .2        .3        .4        .5        .6        .7        .8        .9         1
  Group:  0000000000000000000000000000000000000000000000000011111111111111111111111111111111111111111111111111

          Predicted Probability is of Membership for 1
          The Cut Value is .50
          Symbols: 0 - 0
                   1 - 1
          Each Symbol Represents .5 Cases.
```