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Summary

Purpose – *The aim of this paper is to investigate the impact of brands on small to medium-sized enterprise (SME) performance in the fashion industry, trying also to shed light on the different effect that corporate and product brands may produce.*

Design/methodology/approach – *The approach uses cross-sectional time series regression to investigate the relationship between trademarks and sales, controlling for firm size. A purposive sampling technique is adopted, focusing on a sample of Italian SMEs in the fashion industry.*

Findings – *Results indicate that trademarks do have a positive impact on SMEs' performance in the fashion industry, and in particular corporate trademarks seem to be effective in producing a sales increase, while product trademarks do not.*

Research limitations/implications – *The main limit of this research is that no variable mediating the relationship between trademarks and performance was considered. Furthermore, the number of trademarks may not capture all the dimensions of brand.*

Practical implications – *The most important aspect is that SME managers in the fashion industry could benefit from a trademarking strategy; in particular, investments in building a strong corporate brand, thus concentrating SMEs' effort, instead of having many different product brands, seems to create greater effect in the minds of consumers, and thus result in sales increases.*

Originality/value – *This paper is one of first attempts to shed light on the issue regarding the association between SMEs' branding strategy and performance. Moreover, the distinction between corporate and product brands represents an innovative element in this type of study.*

Keywords *Small to medium-sized enterprises, Italy, Brands, Firm performance, Fashion industry, Corporate trademark, Product trademark*

Paper type *Research paper*

Introduction

Brands have become an increasingly valuable marketing tool in a crowded marketplace because they allow consumers to distinguish sellers and goods and make choices based on information that is more reliable (Lemper, 2012). The term brand is defined as a complex symbol representing a variety of ideas and attributes that build up in the minds of consumers over time, whose legal term is trademark; the brand is fundamental for competitiveness and long-term survival. Moreover, brand personality might be, in some cases, more important than technical features of the product (Petty, 2010).

From an academic point-of-view, this issue has been under-investigated, apart from few studies (Seethamraju, 2003; Griffiths *et al.*, 2005; Greenhalgh and Rogers, 2007; Krasnikov *et al.*, 2009), which focus on large corporations and generally show a positive impact of brand and trademark activities on firm economic and financial performance. Further, even though small and medium-size enterprises (SMEs) account for 95 per cent of the business population, and recently provide evidence of stronger brand investments (Hughes and Mina, 2010), studies on the relationship between marketing activities and firms' performance

This research has been supported by the Fondazione Studi Universitari di Vicenza (FSU) which grants scholarships to young researchers at the Department of Management and Engineering of the University of Padua. A special thanks to Professor Adriano Paggiaro for his support during the statistical analysis.

have not taken them into consideration (Mendonca *et al.*, 2004; Rogers *et al.*, 2007; Helmers and Rogers, 2008).

SMEs generally have different peculiarities in comparison to large firms; their entrepreneurs are often involved in day to day activities, and face some difficulties in distinguishing between current decision (underlying short-term objectives) and long-term business goals; this implies that they often adopt a reactive and emotional decision-making process (Bianchi *et al.*, 1998; Hutchinson and Ray, 1986). Furthermore, they view strategic planning as a possible limitation of flexibility and on the same time prefer to use the scarce time resources for operational activities rather that for strategic development process. For this reason normally SMEs do not devote many resources to brand and marketing activities which often are not the result of a deliberate strategy. A report of one of the largest Italian financial institutes confirms that among smaller firms effective branding strategies are not so widespread, mainly due to resource constraints, and large firms register a higher number of trademarks with respect to SMEs and also have positive returns on their investment (Intesa San Paolo, 2012).

Taking into consideration all these aspects, that outline an increasing trademarks registration by SMEs (Hughes and Mina, 2010) and, at the same time, a different behaviour of SMEs in comparison to large firms as far as branding strategy is concerned, we argue whether brands may have such a positive effect also for SMEs, which suggests that the impact of branding and trademarks strategy on SMEs performance is worth investigating. Consequently, this paper aims at answering the following question: is there a positive relationship between branding and SME economic performance?

In order to shed light on this relationship, we consider trademarks as a reliable indicator of branding, since previous studies (Cohen, 1986; Aaker, 1991; Krasnikov, 2009) outline the close link between brands and trademarks, showing that the latter captures a significant portion of branding efforts. Moreover, according to Mercer (2010), in this paper we classify trademarks into two broad categories, corporate trademarks (also called trade names) and product trademarks. We then evaluate not only the relationship between the number of trademarks and the SMEs economic and financial performance, but also whether corporate and product may trademarks have a different impact.

To this purpose, we analyse a sample of SMEs belonging to the Italian fashion industry, where the SMEs have shown relevant trademarking activity in the last ten years (data from the Italian Office for Patents and Trademarks, UIBM), because branding has become a dominant competitive strategy (Ramello and Silva, 2006).

The paper is divided into three parts. It first deals with the analysis of the literature concerning the relationship between brands and trademarks and their impact on firm performance in order to formulate the hypothesis; then, the second part focuses on the method and the analysis; finally, the third part discusses the results, in order to draw the conclusions and suggest opportunities for further research.

Literature review

Brand and trademark

According to the concept of brand marketing, managers give increasingly distinctive names to their company and product offerings with the aim of personifying them so that consumers might easily remember them (Krishnan, 1996), saving time in transactions and decreasing search costs. Branding is thus a strategic attempt to ''personify'' products, to provide them with a history and a personality (Ramello and Silva, 2006).

As explained in the definition, there is a close link between brand and trademark, which appears even more evident if we think that trademarks are defined as ''any word, name, symbol or device, or combination thereof, adopted and used by a manufacturer or merchant to identify his goods and distinguish them from those manufactured or sold by others'' (Lanham Act, 15 USC. § 1127[1982]). Consequently, trademarks account for the large majority of a firm's efforts to create brand identity and awareness in the mind of consumers

(Krasnikov *et al.*, 2009); in the connections between producer and consumer, the trademark plays a significant role since it helps consumers increase their knowledge about sellers and goods (Wilkins, 1992). This statement seems also confirmed by both the fact that the history of modern brands is to a significant degree related to that of trademarks (Duguid, 2009) and that there is a coevolution of trademark law and the brand marketing literature (Hollander *et al.*, 2005). Given the strong connection between these two constructs, different authors (e.g. Greenhalgh and Rogers, 2007; Krasnikov *et al.*, 2009) use trademark as a proxy of brand. Subsequently, we describe how trademarks, given their close relationship to branding, may affect firm value and performance.

Brand, trademark and firm performance

As far as the impact of trademarks on firm performance is concerned, literature has not deeply analysed this aspect even if recently firm trademark activity has sharply increased (Greenhalgh and Rogers, 2007), to the point that innovative firms in the EU consistently use more trademarks than patents (Mendonca *et al.*, 2004). Only a few authors have concentrated on this issue, finding interesting results (see Table I). Landes and Posner (1987) were first to investigate the influence of trademarks on performance in the sense that a firm uses trademarks to show its products are of quality, so that the ''search costs'' of customers decrease, and the firm can charge a higher price and thus, have a profits increase. Their model highlights that trademarks might encourage firms to increase investment in improving the quality of their goods, which would lead to higher returns. As confirmed by the qualitative study of Llonch-Casanovas (2012) carried out in the Spanish knitwear districts, trademarks allow firms to differentiate a specific product and to establish it

Table I Econometric studies about the impact of trademarks on firm performance

Authors	*Sector/Firm size*	*Country*	*Method*	*Dependent variable*	*Results*
Seethamraju (2003)	Various/large firms	USA	Longitudinal	Sales; Stock market	Positive association between trademarks and sales and market values
Griffiths *et al.* (2005)	Various firms (private and public)	Australia	Longitudinal	Profit	Trademarks are positively related to profit
Greenhalgh and Rogers (2007)	Various/large firms	UK	Longitudinal	Tobin's q, productivity	Positive association between trademarking and profitability and productivity
Srinivasan *et al.* (2007)	High tech firms/ large firms	USA	Longitudinal	Time to exit by dissolution and exit by acquisition	Trademarking delays the time of exit by dissolution and accelerates the time of exit by acquisition
Helmers and Rogers (2008)	Various/small firms and start-up	UK	Longitudinal	Survival rate	Firms registering trademarks have higher survival rates
Krasnikov *et al.* (2009)	Various/large firms	USA	Longitudinal	Cash flow; cash flow variability; Tobin's q; ROA; stock value	Trademarks increase cash flows and decrease cash flow variability and are also positively associated with Tobin's q, ROA and stock returns
Millot (2011)	Various industries and size	France and Germany	Longitudinal	Marketing innovation	Significant and positive correlation between trademark applications and marketing innovation
Mehrazeen *et al.* (2012)	Food and beverage/various firms	Iran	Longitudinal	Net income; ROA; ROE; ROS	Significant and positive relationship between trademarks and performance indicators

among consumers: trademarks are used to differentiate the products in the eyes of the consumers, but also to identify new products.

A study of 300 Australian firms conducted from 1989 to 2002 by Griffiths *et al.* (2005) shows that the stock of trademarks is a significant determinant of profits. Also Seethamraju (2003) finds a positive role for trademarking on sales and market values of 237 US firms. Similar results are also reached by Krasnikov *et al.* (2009), who prove that trademarks increase cash flows and decrease cash flow variability, and are positively associated with Tobin's q, Return On Assets (ROA), and stock returns of large firms. Finally, Greenhalgh and Rogers (2007) find that stock market values are positively associated with trademark activity by UK manufacturing, service-sector large firms, and firms with a trademark that have significantly higher value added than nontrade markers (by between 10 per cent and 30 per cent across all firms). This is one of the few studies focusing on the relationship between trademarks and the sales growth of SMEs but it is neither industry-specific nor does it perform a time-series analysis. Because trademarks are cheaper to obtain than patents, with no need for a technological breakthrough, it is likely that a much larger group of SMEs will be involved in applying for trademarks than in applying for patents (Mendonca *et al.*, 2004); additionally, Millot (2011) finds that French and German SMEs account for the majority of trademark applications in the reference period analysed. Table I summarises the studies concerning the relationship between trademarks and firm performance.

Because of both the importance of trademarks for SMEs and the fact that the studies on this issue have been carried out mainly in large firms, the above-mentioned authors suggest further research might include smaller firms in order to investigate whether the positive relationship between trademarks and performance is confirmed. Based on this body of literature and on the fact that in Italy firms belonging to the top performers group show a stronger inclination towards trademark registration (Intesa San Paolo, 2012), the first hypothesis focuses on the relationship between trademark registrations and SMEs' performance in a market-driven industry (fashion), where the importance of trademarks is particularly significant (Weller, 2007; Davey *et al.*, 2009):

H1. Trademarks are positively associated with SME performance in the fashion industry.

Today, companies can choose different typologies of branding formats, ranging from corporate brands and family brands, which are used for two or more similar products, to stand-alone product brands, which are used for a single product or service. From a legal point of view, this distinction is reflected by the adoption of different labels. That is, a trade name is used to identify the corporate brand, and a trademark is used for products or a family of products (service mark in the case of services); those terms, however, are often employed together for convenience under the term ''trademark'' (Lemper, 2012).

Thus, one of the most important branding strategy decisions is whether to use a unique corporate name, separate names for products, or both. The last decades seem to be characterised by the increased separation of corporate brands and product brands (Mercer, 2010). Indeed, a corporate brand serves as a means to create loyalty and commitment of customers towards the company, and it allows for the reduction of marketing costs because it is easier to keep an old client than to attract a new one (Kotler, 1991). Thus, the value of a key corporate brand can be the primary intangible asset for many companies (Cravens *et al.*, 1997).

Product brands and the associated trademarks serve as a means to make customers aware of the different typologies of products, so that they remember them (Munteanu *et al.*, 2010); they are a signal of a product's quality, and, therefore, the ''search costs'' of customers decrease and firms can charge a higher price and, thus, increase profits. This model highlights that trademarks may encourage firms to increase investments meant to improve the quality of their goods in expectation of higher returns.

Based on the considerations made above, which outline a distinction between corporate and product trademarks, we propose the following two hypotheses that distinguish the two

typologies of trademarks in order to verify whether they both have a positive impact on SME performance:

H2a. Corporate trademarks are positively associated with SME performance in the fashion industry.

H2b. Product trademarks are positively associated with SME performance in the fashion industry.

Methodology

Sample

In order to support the sample identification, we recall that the aim of our paper is to test the impact of trademarks on SME performance in the fashion industry. As previously noted, the fashion industry is a market-driven industry where the importance of trademarks is particularly significant (Weller, 2007; Davey *et al.*, 2009). In Italy, the fashion industry is second, only after the sector of household electrical appliances, in the ranking of the industries which are more inclined to register trademarks (Intesa San Paolo, 2012). Moreover, in Italy, the regions with the highest number of trademark registrations are Lombardia and Veneto, whose main provinces are all in the top-ten ranking of the cities registering the most trademarks.

Based on these considerations, we decide to adopt a purposive sampling technique in which the sample is selected based on the nature of the research aims (Babbie, 1990). Indeed, purposive samples are drawn to include particular areas or groups found in a population (Short *et al.*, 2002) in order to meet specific criteria (Kerlinger, 1986). In particular, we identify the following conditions:

- considering SMEs, which are defined as firms with a turnover from 2 to 50 million euros (from the definition of the European Commission);
- belonging to the fashion industry, identified as the codes 141 and 143 in the ATECO 2007 classification, referring to Italian economic activities; and
- located in Italy, in particular in the northern part of Italy where there are a significant number of fashion industrial districts.

This choice follows the suggestion asserting that studies investigating the impact of IPRs on firm performance should better be country- and industry-specific (Ernst, 2001).

Because we examine a ten-year period (2002-2011), we also include in the panel data set those firms having a maximum of two annual sales lower than 2 million or higher than 50 million euros. Moreover, we consider those firms that already existed in 2002 and continued to survive until 2011, so that no firm entered or exited during the period of study. The panel data in this study contains the number of corporate and product trademarks, and the financial data of 310 Italian SMEs.

Measures

Dependent variables. In this study, firm performance is measured by sales, which has been used in past studies (Ernst, 1995; Artz *et al.*, 2010) to assess the impact of innovation activities, including IPRs, on firms' growth. Data of performance measures are achieved from AIDA, the Bureau Van Dijk database containing companies financial and business data. Table II summarises some descriptive statistics of the sample firms belonging to the fashion industry. It appears clear that the sample is mainly constituted of small firms (less than 10 million euros of turnover following the indications of the European Commission). Moreover, we can notice that mean sales have a steady trend between 2002 and 2005; they grow until 2008 and then they decrease until 2010. Indeed, the years between 2008 and 2010 are characterised by the global economic crisis; thus, the trend of the sample reflects the global trend.

Table II Descriptive statistics of the sample (data on sales)

	2002	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*
Mean sales (M€)	8,751.9	8,631.0	8,511.5	8,631.6	9,149.7	9,612.3	9,640.2	8,798.3	8,748.6	9,153.4
Min sales (M€)	1,038	1,002	829	1,072	1,308	666	899	272	1,363	2,082
Max sales (M€)	46,514	49,987	49,603	48,583	47,856	45,942	47,105	46,235	43,355	46,415

Independent variables. This study uses the number of trademarks as the independent variable, making also a distinction between corporate trademarks and product trademarks as described in the previous paragraph. Some of the advantages in using these data are related to their objectivity, to their public availability, and to the information provided (Greenhalgh and Longland, 2005; Belderbos *et al.*, 2010). Data for trademarks were gathered from Romarin, the international trademark system, and UIBM, the Italian patent and trademark database.

For each company, we examine the annual number of trademarks (TT), then distinguishing between annual corporate trademarks (CT) and annual product trademarks (PT): trademarks which are equal to or are an abbreviation of the name of the company were coded as corporate trademarks (CT), whereas trademarks which differ from the name of the company were coded as product trademarks (PT). In order to overcome possible shortcomings of this operationalisation that are related to the fact that there could be some companies that have a corporate brand that differs from the name of the company or some product trademarks that contain the name of the company or part of it, we also randomly check the websites of the companies in order to better distinguish between corporate and product trademarks. The check provides support of the presumed type of trademark in 99 per cent of cases, thus confirming the operationalisation of the constructs is well built.

Table III summarises some descriptive statistics of the sample firms belonging to the fashion industry. It shows that 41.3 per cent of firms (128 out of 310) have at least one trademark and the mean number of trademarks per trademarking firm is three. A higher rate of firms have corporate trademarks (29.7 per cent) than product trademarks (21.3 per cent), thus having a mean number of corporate trademarks per trademarking firm of 2.9, with respect to the mean number of product trademarks per trademarking firm of 1.8. The main reason for the higher number of corporate trademarks with respect to product trademarks is that corporate trademarks are usually renovated and firms can protect different types of trademarks: only verbal, only figurative, both the verbal and the figurative, and slogans.

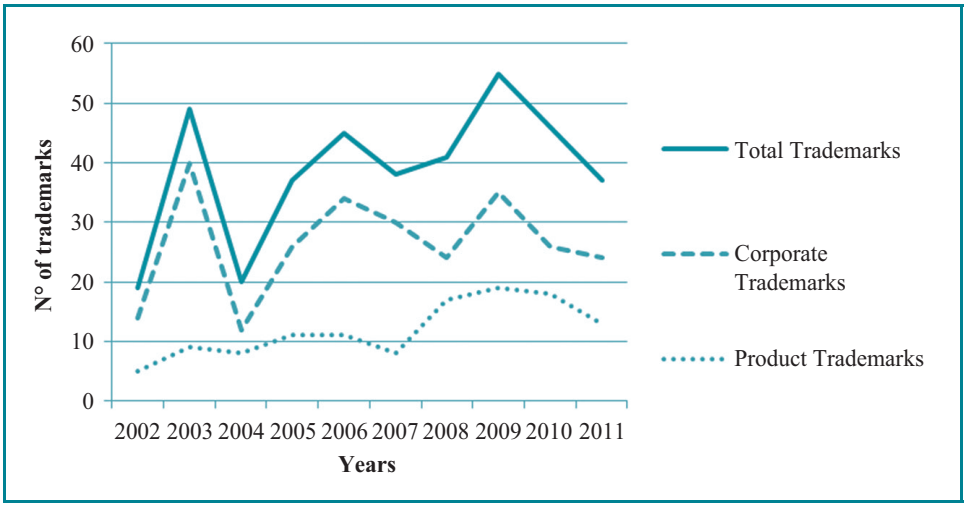
As Figure 1 shows, trademarks do not follow a regular trend during the observation period. Moreover, corporate trademarks reflect the trend of total trademarks, owing to the fact that

Table III Descriptive statistics of the sample (data on trademarks[a])

	n	*Rate (%)*
Firms without trademarks	182	59.0
Firms with trademarks	127	41.0
Firms with corporate trademarks	92	29.7
Firms with product trademarks	66	21.3
Firms with only corporate trademarks	61	19.7
Firms with only product trademarks	35	11.3
Firms with corporate and product trademarks	31	10.0
Total number of trademarks	384	
Mean number of trademarks per trademarking firm	3.0	
Total number of corporate trademarks	265	
Mean number of corporate trademarks per trademarking firm	2.9	
Total number of product trademarks	119	
Mean number of product trademarks per trademarking firm	1.8	

Note: [a]All data refer to the whole period taken into consideration

Figure 1 Trend of trademark registrations



they account for the majority of them; instead, product trademarks are less numerous but they have increased considerably since 2007.

Another important issue is the breadth of the trademark portfolio of firms. Most of trademarking firms have only one trademark, which is particularly evident for product trademarks. Indeed, almost 60 per cent of firms having at least one product trademark have only that one, whereas most of the others have no more than two or three product trademarks (see Figure 2).

All these descriptive analyses make clear that data of trademarks are quite dispersed through years, but, overall, data are very variable through years, in the sense that if a firm registers a trademark in a year, it is unusual that it registers another trademark also in the following year. Table IV provides evidence of this variability by showing the number and

Figure 2 Breadth of trademark portfolios of firms

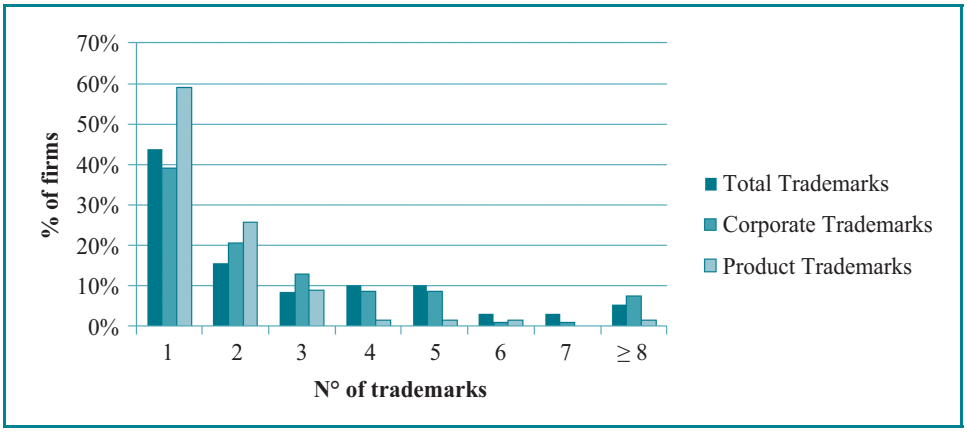


Table IV Firms which register a new trademark in two subsequent years

	'02-'03	*'03-'04*	*'04-'05*	*'05-'06*	*'06-'07*	*'07-'08*	*'08-'09*	*'09-'10*	*'10-'11*
No. of firms	2	3	6	10	8	7	9	8	5
% of firms	0.6	1.0	1.9	3.2	2.6	2.3	2.9	2.6	1.6

share of firms that have registered at least one trademark in two subsequent years. Further, they are not always the same firms; indeed, only a few firms show constant and regular trademarking activity. Of course, when considering corporate and product trademarks separately, numbers decrease even more.

To deal with the variability of data through years, we shifted from using the annual number of trademarks as the independent variable to using the sum of trademarks of previous years as the independent variable of the regression model. Summing trademarks of subsequent years means using a stock measure instead of a flow measure, which thus takes into account the effects of trademarks during a number of years on firm performance, which makes sense for IPRs whose benefits are likely to persist into future years (Grabowsky and Mueller, 1978). The body of literature about the impact of trademarks on SME performance has never dealt with this issue before, nor does it agree in asserting which are the time lags that are more likely to produce the positive impact of trademarks on firm performance. For this reason, we use the sum of trademarks of previous years as the independent variable, and, performing different analyses. We test the impact of the sum of trademarks of two years on the SME performances of the subsequent year, then the sum of trademarks of three years on the SME performance of the subsequent year, and so on until the sum of six years, as Table V shows.

Control variables. Most empirical studies on firm performance include firm size as a control variable in the analysis of the impact of IPRs on firm performance. We measure firm size through total assets (e.g. Freeman and Soete, 1997; Chang *et al.*, 2012). We had also considered intangible assets (as they appear in the balance sheet) as a control variable, but it had no impact on the results and it reduced the sample, because this data was missing for many firms in the sample. Therefore, we decided not to include them in the analysis.

Data analysis and results

In line with previous studies, we proposed an approach that uses cross-sectional time-series regression to investigate the relationship between trademarks and firm performance, the dependent variable. Based on the Hausman test, we used the fixed-effect model, which removes all between-firm variance and thus controls for any time invariant unobserved heterogeneity among firms (Chang *et al.*, 2012). Thus, we used a fixed-effect model with year dummy variables to control for multiple observations per year (Artz *et al.*, 2010).

The following panel models were employed in order to estimate the fixed-effect for trademarks:

- $\text{Sales}_{i,t} = \beta_0 + \beta_1(\Sigma_\tau\ \text{Trademarks}_{i,\tau}) + \beta_2(\text{Firm assets}_{i,t}) + \text{Error term}.$
- $\text{Sales}_{i,t} = \beta_0 + \beta_1(\Sigma_\tau\ \text{Corporate trademarks}_{i,\tau}) + \beta_2(\Sigma_\tau\ \text{Product trademarks}_{i,\tau}) + \beta_3(\text{Firm assets}_{i,t}) + \text{Error term}.$

Where $i = 1, 2 \ldots$; N is the company identifier, $t = 1, 2 \ldots$; T is the number of periods, $\tau = t\text{-}1 \ldots t\text{-}5$ represents the year aggregates; β_0 is the intercept; and β_1, β_2, β_3 the regression coefficients.

Before performing the regression, we log transformed both dependent and control variables. All statistical data analyses were carried out using STATA software.

Table VI contains the correlation coefficients related to the aggregation of two years of total trademarks (TT2Y), corporate trademarks (CT2Y), and product trademarks (PT2Y). All independent variables results correlated with sales, the dependent variable. In particular, the correlation coefficient of total trademarks is higher than the one of corporate trademarks,

Table V Example of year aggregates

Year aggregates	*2*	*3*	*4*	*5*	*6*
Trademark cumulated years	2002, 2003	2002, 2003, 2004	2002, 2003, 2004, 2005	2002, 2003, 2004, 2005, 2006	2002, 2003, 2004, 2005, 2006, 2007
Sales year	2004	2005	2006	2007	2008

Table VI Correlation matrix

	1	2	3	4	5
1. Sales	1.0000				
2. Total assets	0.8444	1.0000			
3. TT2Y	0.1331	0.1188	1.0000		
4. CT2Y	0.1091	0.0934	0.8799	1.0000	
5. PT2Y	0.0838	0.0838	0.5948	0.1469	1.0000

which is higher than the one of product trademarks. In addition, we checked the aggregation of more years, which shows a positive correlation: actually the more years considered in the aggregation the higher the correlation coefficient between the independent variables and dependent variable, even if slightly. The correlation between corporate and product trademarks and total trademarks is quite high, but this does not constitute a problem because they are used in different models. Instead, corporate trademarks and product trademarks, tested in the same model, show a lower correlation, which implies that if a firm has corporate trademarks, then we might not expect that it also has product trademarks, and thus the number of firms having both corporate and product trademarks is not so relevant.

Tables VII and VIII report the results about the impact of the number of total trademarks and corporate/product trademarks on sales, respectively, by controlling for firm size. *H1*, which predicts a positive impact of trademarks on SMEs performance, is supported for sales with four- and five-year aggregates. The control variable (i.e. total assets), which is a proxy for firm size, is positively related to the performance of the firm. *H2a* and *H2b* predicted a positive impact of corporate and product trademarks on firm performance, respectively. *H2a* is supported with four- and five-year aggregates, as for total trademarks, although with

Table VII Panel data regression results: total trademarks

	Year aggregates				
	2	3	4	5	6
Total trademarks	0.0049	0.0085	0.0111	0.0178	0.0010
	0.437	0.159	0.082*	0.014**	0.212
Firm size (total assets)	0.5969	0.5801	0.5685	0.5683	0.6416
	0.000***	0.000***	0.000***	0.000***	0.000***
No. of observations	2,775	2,471	2,163	1,854	1,545
R-squared overall	0.71	0.70	0.70	0.69	0.69

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table VIII Panel data regression results: corporate trademarks and product trademarks

	Year aggregates				
	2	3	4	5	6
Corporate trademarks	0.0577	0.0092	0.0162	0.0269	0.0050
	0.439	0.202	0.033**	0.002***	0.592
Product trademarks	0.0016	0.0065	−0.0024	−0.0066	0.0256
	0.905	0.586	0.847	0.652	0.119
Firm size (total assets)	0.5792	0.5804	0.5685	0.5662	0.6422
	0.000***	0.000***	0.000***	0.000***	0.000***
No. of observations	2,775	2,471	2,163	1,854	1,545
R-squared overall	0.71	0.70	0.70	0.69	0.69

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

higher estimates. *H2b* seems not to be supported for any year aggregate. As for the control variable, also in this second model, firm size is positively related to sales.

The fact that the aggregation of the independent variables of six years is not significant suggests that the results are not attributable to the simple accumulation of the number of trademarks, but that there is a specific temporal window in which trademarks are more likely to show an association with firm performance.

The different number of observations in the models is not responsible for different results, which is proved by the fact that we obtained similar results when testing different models with a homogeneous sample.

If we perform the analysis also using the OLS regression model (see Tables IX and X), we can appreciate that regression coefficients related to total trademarks are always significant, no matter what the year aggregate; whereas, for corporate trademarks three- to five-year aggregates show significant results. This is in line with previous results, contrarily to results related to product trademarks. Indeed, the OLS regression shows that three- and four-year aggregates results are significant, even if with lower estimates. Therefore, it suggests that there are some unobserved features, typical of the fixed-effect model, that are correlated more to product trademarks than to corporate trademarks, for example specific investments or advertising related to products.

Discussion and conclusions

The objective of this paper is to investigate the impact of trademarks on economic and financial performance of SMEs belonging to the fashion industry, while trying also to shed light on the different affect that corporate and product trademarks may produce on SME performance.

Table IX OLS regression results: total trademarks

	Year aggregates				
	2	*3*	*4*	*5*	*6*
Total trademarks	0.0361 0.001***	0.0318 0.000***	0.0311 0.000***	0.0287 0.000***	0.0296 0.000***
Total assets	0.7428 0.000***	0.7443 0.000***	0.7449 0.000***	0.7456 0.000***	0.7402 0.000***
No of observations	2,775	2,471	2,163	1,854	1,545
R-squared	0.71	0.70	0.70	0.69	0.69

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table X OLS regression results: corporate trademarks and product trademarks

	Year aggregates				
	2	*3*	*4*	*5*	*6*
Corporate trademarks	0.0334 0.005	0.0315 0.002***	0.0308 0.001***	0.0302 0.001***	0.0314 0.000
Product trademarks	0.0177 0.375	0.0285 0.083*	0.0287 0.052*	0.0225 0.116	0.0233 0.102
Total assets	0.7432 0.000***	0.7447 0.000***	0.7453 0.000***	0.7560 0.000***	0.7406 0.000***
No. of observations	2,775	2,471	2,163	1,854	1,545
R-squared	0.71	0.70	0.70	0.69	0.69

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Our findings are useful as, despite the fact that SMEs devote important efforts to build brand, the current literature provides limited insights into the financial returns of such efforts. The study findings confirm that, generally speaking, trademarks preserve their benefits also in subsequent years, with respect to their registration, and are likely to show a cumulative effect over time. In particular, aggregating the count of trademarks of five subsequent years seems to be the most noteworthy, which suggests a time lag from one to five years could be appropriate for trademarks to have an impact on the performances of SMEs in the fashion industry. This represents a longer and more variable period than proposed in previous literature (e.g. Greenhalgh and Rogers, 2007; Krasnikov *et al.*, 2009). This makes particular sense for SMEs which face resource and money constraints and thus need more time to communicate and promote their trademarks and carry on a sustained branding effort.

When testing the impact of corporate and product trademarks on SME performance separately, results show that only corporate trademarks have a positive impact on SME performance with four- and five-year aggregates, and with five-year aggregate showing the highest estimates, as for total trademarks. Instead, product trademarks do not show any positive impact on SMEs' performance in the fashion sector. There are some potential explanations for our findings. First, the fashion industry is characterised by products that have a short life, for which the creation of product brands is not very effective. Second, SMEs usually do not have enough resources to build both a corporate brand and a product brand; consequently, their efforts should be dedicated to constructing a strong corporate brand that consumers can easily identify.

As far as the implications for research, this paper is one of the first to deal with the issue of the impact of branding efforts, using trademarks, on SME performance. Previous studies have shown a positive relationship in the context of large firms, being quite silent as far as smaller firms are concerned; our findings show that this relation persists also for SMEs belonging to the fashion industry. By confirming that branding influences SME performance, our findings may encourage researchers to study this issue more in depth.

Moreover, our study, differently from previous ones, investigates whether both corporate and product brand generate a positive effect on SME performances. Results show that investing in a corporate brand seems to produce better results than promoting a product brand in the fashion industry. This is a first attempt to introduce a difference between these two typologies of brand, accordingly with literature that distinguishes between corporate brands and product brands (Mercer, 2010): to capture branding activity, we have proposed a framework that employs trademark registration information, which is objective and publicly available. This operationalisation of the construct could be found interesting by future researchers.

Finally, as far as the methodology is concerned, this study uses a stock measure (i.e. the year aggregates) instead of a flow measure (i.e. the annual counts) for the independent variable (i.e. trademarks) to better capture the effect of brand on the economic performance. The few previous studies on the topic do not agree on the time that trademarks take to produce an impact on SME performance, and thus they carry out the analysis using different time lags. Our study proposes a new approach that uses the sum of trademarks of previous years as the independent variable to test the influence of possible cumulative effects, but also to deal with the variability of data through years.

Focusing now on management implications, the most important aspect is that SME managers in the fashion industry could benefit from a trademarking strategy, which may produce increases in sales. Moreover, it seems that firms can use trademarks in order to charge a higher price and, thus, have increases in sales and profits, as Landes and Posner (1987) posit. These considerations appear to be much more effective when firms use corporate trademarks instead of product trademarks: investments in building a strong corporate brand, thus concentrating SMEs' effort, instead of having many different product brands seems to create greater effect in the minds of consumers, and thus result in sales increases. Indeed, it is important that managers make informed decisions regarding both corporate brand and product brand strategy (Mercer, 2010), overall in the case of SMEs,

which always face resource and money constraints and need more efforts to carry on their branding activity. Thus, our findings could support marketing managers in more cogently communicating the value of pursuing a branding strategy to management. This becomes especially important during lean economic conditions, when firms may be inclined to make cuts in their brand-related investments.

However, this study presents some limitations. First, we investigate the relationship between trademarks and economic performance, without considering some variables (e.g. fidelity, notoriety, reputation) which can mediate this relationship: future studies could try to open the black box between these two dimensions for a more thorough investigation of the effect of branding strategy on SME performance. Second, we propose that branding is measured by the number of trademarks, which does not capture all the dimensions of the construct. In the future, researchers should focus on integrating trademark information with consumer attitudinal information to capture better the value of branding. Further, we have introduced a distinction between corporate and product brand whose operationalisation could be improved in future studies. In addition, the possible interaction between corporate and product trademarks could be worth investigating.

Third, since this is a preliminary study, our model samples from a single industry and country to collect rich insights, as explained in paragraph 3.1, but it should be followed by a multi-industry/country test to assess the external validity of study findings (Short *et al.*, 2002).

References

Aaker, D.A. (1991), *Managing Brand Equity: Capitalising on the Value of a Brand Name*, Free Press, New York, NY.

Artz, K.W., Norman, P.M., Hatfield, D.E. and Cardinal, L.B. (2010), ''A longitudinal study of the impact of R&D, patents, and product innovation on form performance'', *Journal of Product Innovation Management*, Vol. 27, pp. 725-740.

Babbie, E.R. (1990), *Survey Research Methods*, Vol. 2, Wadsworth Publishing, Belmont, CA.

Belderbos, R., Faems, D., Leten, B. and Looy, B.V. (2010), ''Technological activities and their impact on the financial performance of the firm: exploitation and exploration within and between firms'', *Journal of Product Innovation Management*, Vol. 27 No. 6, pp. 869-882.

Bianchi, C., Winch, G. and Grey, C. (1998) pp. 1-20, ''The business plan as a learning-oriented tool for small/medium enterprises: a business simulation approach'', *Electronic Proceedings of the International System Dynamics Conference, Quebec*.

Chang, K.C., Chen, D.Z. and Huang, M.H. (2012), ''The relationships between the patent performance and corporation performance'', *Journal of Informetrics*, Vol. 6, pp. 131-139.

Cohen, D. (1986), ''Trademark strategy'', *Journal of Marketing*, Vol. 50 No. 1, pp. 61-74.

Cravens, K., Oliver, E.G. and Ramamoorti, S. (1997), ''The Reputation Index: measuring and managing corporate reputation'', *European Management Journal*, Vol. 21 No. 2, pp. 201-212.

Davey, J., Schneider, L. and Davey, H. (2009), ''Intellectual capital disclosure and the fashion industry'', *Journal of Intellectual Capital*, Vol. 10 No. 3, pp. 401-424.

Duguid, P. (2009), ''French connections: the international propagation of trademarks in the nineteenth century'', *Enterprise and Society*, Vol. 10 No. 1, pp. 3-37.

Ernst, H. (1995), ''Patenting strategies in the German mechanical engineering industry and their relationship to firm performance'', *Technovation*, Vol. 15 No. 4, pp. 225-240.

Ernst, H. (2001), ''Patent applications and subsequent changes of performance: evidence from time-series cross-section analyses on the firm level'', *Research Policy*, Vol. 30, pp. 143-157.

Freeman, C. and Soete, L. (1997), *The Economics of Industrial Innovation*, MIT Press, Cambridge, MA.

Grabowski, H.G. and Mueller, D.C. (1978), ''Industrial research and development, intangible capital stocks, and firm profit rates'', *The Bell Journal of Economics*, Vol. 9 No. 2, pp. 328-343.

Greenhalgh, C. and Longland, M. (2005), ''Running to stand still? – The value of R&D, patents and trademarks in innovating manufacturing firms'', *International Journal of the Economics of Business*, Vol. 12 No. 3, pp. 307-328.

Greenhalgh, C. and Rogers, M. (2007), *Trade Marks and Performance in UK Firms: Evidence of Schumpeterian Competition through Innovation*, Oxford Intellectual Property Research Centre, Oxford.

Griffiths, W., Jensen, P. and Webster, E. (2005), ''The effects of firm profits of the stock of intellectual property rights'' Melbourne Institute Working Paper no. 4/05, available at: http://melbourneinstitute.com/downloads/working_paper_series/wp2005n04.pdf

Helmers, C. and Rogers, M. (2008), ''Innovation and the survival of new firms across British regions'', Department of Economics Discussion Paper Number 416, Oxford University.

Hollander, S.C., Rassuli, K.M., Brian Jones, D.G. and Dix, L.F. (2005), ''Periodization in marketing history'', *Journal of Macromarketing*, Vol. 25, pp. 32-41.

Hughes, A. and Mina, A. (2010), *The Impact of the Patent System on SMEs*, UK Intellectual Property Office Report, London.

Hutchinson, P. and Ray, G. (1986), ''Surviving the financial stress of small enterprise growth'', in Curran, J., Stanworth, J. and Watkins, D. (Eds), *The Survival of the Small Firm. Volume 1: The Economics of Survival and Entrepreneurship*, Gower Publishing, Aldershot, pp. 53-71.

Intesa San Paolo (2012), ''Economic and financial aspects relate to industrial districts'', available at: www.group.intesasanpaolo.com/scriptIsir0/si09/contentData/view/EconomiaFinanzaDistretti.pdf?id=CNT-04-000000001F6D4&ct = application/pdf

Kerlinger, F.N. (1986), *Foundations of Behavioral Research*, 3rd ed., Holt Rinehart & Winston, Fort Worth, TX.

Kotler, P. (1991), *Marketing Management: Analysis, Planning, Implementation, and Control*, 7th ed., Prentice Hall, Englewood Cliffs, NJ.

Krasnikov, A., Mishra, S. and Orozco, D. (2009), ''Evaluating the financial impact of branding using trademarks: a framework and empirical evidence'', *Journal of Marketing*, Vol. 73, pp. 154-166.

Krishnan, H.S. (1996), ''Characteristics of memory associations: a consumer-based brand equity perspective'', *International Journal of Research in Marketing*, Vol. 13, pp. 389-405.

Landes, W.M. and Posner, R.A. (1987), ''Trademark law: an economic perspective'', *Journal of Law and Economics*, Vol. 30 No. 2, pp. 265-309.

Lemper, T.A. (2012), ''The critical role of timing in managing intellectual property'', *Business Horizons*, Vol. 55 No. 4, pp. 339-347.

Llonch-Casanovas, M. (2012), ''Trademarks, product differentiation and competitiveness in the Catalan knitwear districts during the twentieth century'', *Business History*, Vol. 54 No. 2, pp. 179-200.

Mehrazeen, A.R., Froutan, O. and Attaran, N. (2012), ''Establishing the relationship between trademark valuation and firm performance: evidence from Iran'', *International Journal of Economics and Finance*, Vol. 4 No. 6, pp. 181-186.

Mendonca, S., Pereira, T. and Godinho, M. (2004), ''Trademarks as an indicator of innovation and industrial change'', *Research Policy*, Vol. 33, pp. 1385-1404.

Mercer, J. (2010), ''A mark of distinction: branding and trade mark law in the UK from the 1860s'', *Business History*, Vol. 52 No. 1, pp. 17-42.

Millot, V. (2011), ''Firms' intangible assets: who relies on trademarks? Analysis of French and German firms', trademarking behaviour'', DRUID working paper, available at: http://druid8.sit.aau.dk/acc_papers/mrfhruoxl97gjekxq4ajhh8ln9o2.pdf

Munteanu, V., Andrei, A.E., Ion, I.D. and Coman, N. (2010), ''Considerations regarding the recognition, the evaluation, and the amortisation of the trademarks as intangible assets presented in the balance sheets,'' *Recent Researches in Applied Economics, Proceedings of the 3rd World Multiconference on Applied Economics, Business and Development (AEBD), Lasi, Romania, 1-3 July.*

Petty, R.D. (2010), ''Safeguarding brand equity in the United States by developing a family of trademarks'', *Journal of Brand Management*, Vol. 17 No. 8, pp. 561-567.

Ramello, G.B. and Silva, F. (2006), ''Appropriating signs and meaning: the elusive economics of trademark'', *Industrial and Corporate Change*, Vol. 15 No. 6, pp. 937-963.

Rogers, M., Greenhalgh, C. and Helmers, C. (2007), ''An analysis of the association between the use of intellectual property by UK SMEs and subsequent performance'', UK Intellectual Property Office, Research Report, available at: www.ipo.gov.uk/ipresearch-association-200710.pdf

Seethamraju, C. (2003), ''The value relevance of trademarks'', in Hand, J. and Lev, B. (Eds), *Intangible Assets: Values, Measures, and Risks*, Oxford University Press, Oxford.

Short, J.C., Ketchen, D.J. and Palmer, T.B. (2002), ''The role of sampling in strategic management research on performance: a two-study analysis'', *Journal of Management*, Vol. 28 No. 3, pp. 363-385.

Srinivasan, R., Lilien, G.L. and Rangaswamy, A. (2008), ''Survival of high tech firms: the effects of diversity of product market portfolios, patents, and trademarks'', *International Journal of Research in Marketing*, Vol. 25 No. 2, pp. 119-128.

Weller, S. (2007), ''Fashion as viscous knowledge: fashion's role in shaping trans-national garment production'', *Journal of Economic Geography*, Vol. 7, pp. 39-66.

Wilkins, M. (1992), ''The neglected intangible asset: the influence of the trade mark on the rise of the modern corporation'', *Business History*, Vol. 34 No. 1, pp. 66-95.

Further reading

Aaker, D.A. (2004), ''Leveraging the corporate brand'', *California Management Review*, Vol. 46 No. 3, pp. 6-18.

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