

FIRM'S STRATEGY TO INNOVATE IN A EUROPEAN TRANSITION ECONOMY

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Abstract

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The aim of this paper is to investigate Albanian registered trademarks to understand the characteristics of a successful trademark in a transition economy. In order to verify the research hypothesis on the characteristics of the trademarks (Crass, Czarnitzki, & Toole, 2019) as key indicator of success, we use linear regression on a dataset set based on taxonomy of the legal status of applications and the registration of the trademarks in Albania. Our empirical analyses are based on data from the DPPI (*Drejtoria e Përgjithshme e Pronësisë Industriale*), Albanian Central Intellectual Property Office, for the period 1994–2019. The findings show evidence of the choice of the trademark name as a critical success factor as well as the characteristics of the activities, as the trademarks used in different product contests or corporate trademark strategies (Antwi, Carvalho, & Carmo, 2021). These results could be relevant both to firms implementing branding strategies and to analysts or policymakers analysing markets in transition economies.

Keywords: Innovation, Transition Economy, Trademarks, Firm Strategy

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1. INTRODUCTION

The World Intellectual Property Organization (WIPO, 2014) defines a trademark as a “distinctive sign, which identifies certain products or services such as those produced or provided by a specific person or enterprise” (p. 4) The owner of a trademark has the exclusive legal use of it to identify his or her goods or services or to license it to another entity for a fee. Rights are granted nationally but, unlike patents and copyrights, once registered, trademarks can be renewed indefinitely upon payment of additional fees. A trademark must be used otherwise it may be deleted and used by another company after a period. Its maintenance by economic agents can be seen as an indication of the exercise of regular commercial activities. Trademarks represent

an important aspect of contemporary culture around the world and are a source of qualitative and quantitative information on socio-economic activities.

Trademarks play an important role in the process of economic innovation as they differentiate products and, above all, appear suitable for capturing changes in service activities and in small and medium-sized companies. Recent developments in institutions for international trademark regulation, along with the increasing availability of digital databases, have increased the possibility of using trademark statistics as a new source of information in industrial and innovation studies (De Vries, Pennings, Block, & Fisch, 2017; Flikkema, Castaldi, De Man, & Seip, 2017). They confer the exclusive right of use, thus improving

the ability of firms to appropriate the economic returns on new and existing products. As companies have to pay taxes to register and renew their rights in national and international offices, the effort required for the presentation of a new brand or logo reveals a strong economic decision. Furthermore, given the growing demand from governments, businesses, and academics for more reliable information on innovation, the analysis of trademarks can be a valid and complementary indicator alongside the more traditional measures of innovative activity (R&D expenditure and patents).

Those indicators based on trademarks are valuable tools for analysing product innovations in different industrial sectors and international models of specialization. However, they can present data consolidation problems (a trademark can be protected simultaneously by a combination of words and symbols), sectoral differences (the international classification system of trademarks follows the characteristics of the product and not of the industrial sector), and weaknesses of international comparability.

For transition economies (McMillan & Woodruff, 2002), which always present a lack of innovation processes, entrepreneurial risk could help improve the allocation of scarce resources and could lead to new products and wealth creation.

Starting from the consideration that trademarks represent a critical (success) factor to support innovation in transition economies, the aim of the paper is to investigate the Albanian registered trademarks in order to highlight their successful characteristics and to introduce *ad hoc* policies for supporting local competitiveness and innovation. From the econometrical point of view, this paper is new because it uses both Wikipedia and Google Maps-position, while other works usually use panel data (Herz & Mejer, 2019) and simulations (Danguy & van Pottelsberghe de la Potterie, 2011) for analyzing the potential impact of the introduction of European patent.

The paper proceeds as follows. Section 2 presents a critical review of the literature and suggests the hypotheses of the work. In Section 3, research methodology is offered. Section 4 presents the results, discussed in Section 5. Section 6 suggests concluding remarks and policy implications.

2. LITERATURE REVIEW

Innovation can, through the localization of entrepreneurial activities, favour a continuous exchange of organizational and technical knowledge, thus affecting firms' performances.

The use of indicators of innovation for obtaining quantitative and/or qualitative information, due to the multidimensional nature, cannot give complete indications about innovation and therefore other socio-economic elements. Otherwise, intellectual property as an indicator of innovation could help a firm's ability to obtain the economic advantages connected to the change. In this sense, a trademark (indicator of innovation) furnishes behavioural information on social and economic entities. A trademark can be solution to the asymmetry problem between firm and a customer (Landes & Posner, 2003; Davis, 2009).

In fact, according to Flikkema, De Man, and Castaldi (2014), trademarks could flag the introduction of new products to the market, as they are a signal of quality and help firms to maintain customer loyalty. Gotsch and Hipp (2012) identify a positive correlation between trademark use and registration by innovative firms: firms can use trademarks when innovative products are not able to incorporate the final novelty (Greenhalgh & Rogers, 2012). Companies with a more diversified stock of trademarks are more likely to have a lower intensity of geographic overlap in external technology search locations compared to rivals.

Firms in transition economies face radical processes of transformation, with a lack of both the resources and capacity to face competitive external markets and the internal routines and processes that facilitate organizational change (Uhlenbruck, Meyer, & Hitt, 2003).

The literature on organizational change in both transition and developed economies (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997) is based on the dynamic abilities of the firm (distribution, research, and innovation) linked to managerial skills and organizational learning. Ambrosini, Bowman, and Collier (2009) and Dixon, Meyer, and Day (2010) carried out an analysis of the organizational change of firms in transition economies, identifying four levels of change: 1) leadership, 2) organizational learning, 3) dynamic skills and performance, and 4) a new phase of market economy arising from the interrelationships of these levels. The dynamic skills, defined as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al., 1997, p. 516), are the systematic methods used by the firm to modify operational routines and are created by organizational learning (Zollo & Winter, 2002). Therefore, there is a co-evolution link between dynamic capacity and organizational learning (Eisenhardt & Martin, 2000). Organizational transformation is constrained by organizational history, inherited routines, and the limited rationality of managers. These represent the firm's administrative assets, that is, the internal configuration of assets, capabilities, management responsibilities, and influence that continue even after structural change.

There are many ways to assess the degree of success in transitional economies (GDP, number of active firms in a year, average number annual number of trademark and patent applications). The choice of network colocation by enterprises is related to the increase in the level of knowledge.

Giarratana and Fosfuri (2007) and Block, Fisch, Hahn, and Sandner (2015) believe that trademarks represent strategic assets as a firm's strategy.

In transition economies, inefficiencies are due to lack of norms, values, and not just resources. Previous research has widely investigated the link between a firm's own trademarks and its monetary features (Fosfuri & Giarratana, 2009) as well as the firm's value (Sander & Block, 2011) and return on assets (Krasnikov, Mishra, & Orozco, 2009). This implies that a highly diversified portfolio could be an efficient way for firms with diversified trademarks to compete: the more resources are available for allocation, the greater the geographic

technological distance (Sebrek, 2020). Furthermore, a more diversified trademark holding implies different marks from many categories of products. Therefore, it is a signal of the organizational changes in the firm's strategies and routines (Sorenson, McEvily, Ren, & Roy, 2006). Due to their cultural and territorial connections, trademarks represent a mechanism for protecting innovation and producing visibility for national and international firms (Crass, 2020). In this study, definitions of innovation by Coombs and Miles (2000) and Flikkema et al. (2017) are broadly used, as are the traditional classifications of the Community Innovation Survey (CIS). Millot's (2009) distinction between technological and non-technological innovation (marketing and organizational innovation) is recalled, as this non-technological innovation responds to trademark application. In fact, even if trademarks do not protect new knowledge and innovation like patents do, they could be a way to capitalize on knowledge and values. So, why do companies register trademarks?

There is a lot of literature on this topic. It is possible to organize the literature into at least four groups:

- *Industrial organization.* In this kind of literature, a trademark is a means of simply using innovation (Greenhalgh & Rogers, 2007). Trademarks could be an entry barrier to protect the market within which a firm operates. There is a positive connection between trademarks and innovation. R&D statistics and trademark statistics are positively correlated (Daizadeh, 2009; Allegranza & Guardia-Ranch, 1999).

- *Economic literature.* Companies register trademarks because they could be a signal of the characteristics of a service or product (Ramello & Silva, 2006). A trademark is also a signal of corporate strategy and identity (Mendonça, Pereira, & Godinho, 2004).

- *Strategic literature.* Hall (1993) and the resource-based view assert that resources are important for creating a real competitive advantage. Thus, a trademark could be a useful intangible resource for this purpose.

- *Marketing literature.* We consider the theories of brand co-creation, as they are historically connected to innovative products. The concept of co-creation is an extension of an idea developed by researchers interested in product innovation driven by users. In the case of branding, co-creation affects not only consumers. Ind and Bjerke (2007) define the participation of stakeholders in the co-creation of a brand as a matter of brand governance, as it involves sharing between the firm and its interested parties. Therefore, the value of the brand passes through the process of involving the stakeholders of a firm (Hsu, Li, Li, Teoh, & Tseng, 2022).

A trademark could reinforce customer loyalty through the incorporation of visible signs and words: it protects the firm's reputation because it drafts rights against fraud and illegal actions because the entrepreneur-owner has a monopoly over the elements of the trademark product. There is also a positive link between the use of registered trademarks and firm success. In fact, trademarking shows more profitable productivity and a better propensity to survive (Crass et al., 2019; Helmerts &

Rogers, 2010; Crass & Peters, 2014). Trademarks can be a positive element not only for a firm's performance and its visibility but also for its ability to attract external investors that could favour the transfer of specific expertise. Companies protect innovative products through intellectual property, which, if implemented through patents and trademarks, allows the protection and management of (innovative) ideas both within the country and abroad. A firm that registers a trademark usually has a competitive advantage because it increases its specificity. A trademark could be a proxy for innovation (Crass, 2020) due to the correlation between trademarks and the introduction of new products.

In transition economies, entrepreneurship is increasingly becoming recognized as a key factor contributing to economic growth. Entrepreneurs in transitional countries, by the creation of networking externalities, could be a catalyst for economic growth through the promotion of new ideas. In fact, by creating his or her firm, the innovator can largely overcome the problem of free riders and collect the benefits of his or her own invention (Ovaska & Sobel, 2005). In these countries, a trademark has two main functions: a distinguishing one (i.e., it is able to distinguish a product from those of other firms; Greenhalgh & Rogers, 2007) and a protective one.

There are several studies (Herz & Mejer, 2019; Hu & Png, 2013; Qian, 2007) that, investigating the relation between innovation and economic performance, find different effects on the reform of digital process innovation (DPI) protection at European level. This paper wants to integrate economic literature on the argument, providing which role could have trademarks in a transition economy.

Albania presents cultural, political, and economic characteristics that differ from other transition economies. In fact, as part of Eastern Europe, it is the last country that moved from centrally planned to a free-market system and it suffered for developing a new institutional context.

The Albanian's choice has its appeal in the performances registered by this country in the last years. This region wants to compete at international level and trademarks activity is the strength for surpassing the actual limit. Albania in the last ten years introduced reforms on privatization and several law improvements. Moreover, transition economies and Albania in particular, have a high presence of SMEs (95%) even if their survival has many limits (corruption, the absence of economies of scale, lack of trust), that are not investigated here. Products and services that contain a low level of innovation can be protected by a trademark, which perhaps limits the statistical value of the trademark as an indicator of innovation. Furthermore, trademarks are often not directly linked to innovation (Blind et al., 2003), so increased visibility or a reflection of competitive strategies could be the main motivation for firms to register trademarks. In fact, registration of a trademark is both a way to support (Block et al., 2015) and is also a secure legal marketing protection (Fosfuri, Giarratana, & Luzzi, 2018). Trademark registration is a good way to sustain and develop a business because it is a signal of new product development ability and opportunity (Gao & Hitt, 2012). Empirical studies show the existence of

a correlation between innovation and the use of trademarks. The phenomenon of innovation has a multidimensional nature, which involves qualitative changes in economic, strategic, organizational, and institutional factors. Innovation indicators should convey behavioural information about social entities. Both the complexity of the phenomenon relating to trademark success identified in the literature and the multidimensionality of the success factors led us to focus our attention on two research hypotheses.

H1: Trademark's name is a relevant success factor.

A successful brand must be simple and straightforward. Trademarks consisting of longer names have a lower commercial value, so they are renewed less frequently. Brand's visual design helps to communicate its identity (Henderson, Cote, Leong, & Schmitt, 2003). In fact, longer names are more complex to communicate by the innovator and more difficult to memorize in the minds of consumers (Krishnan, 1996). Trademarks with longer names have a lower commercial value, so they are renewed less frequently. In fact, Krishnan (1996) shows that it is difficult for consumers to remember a longer name.

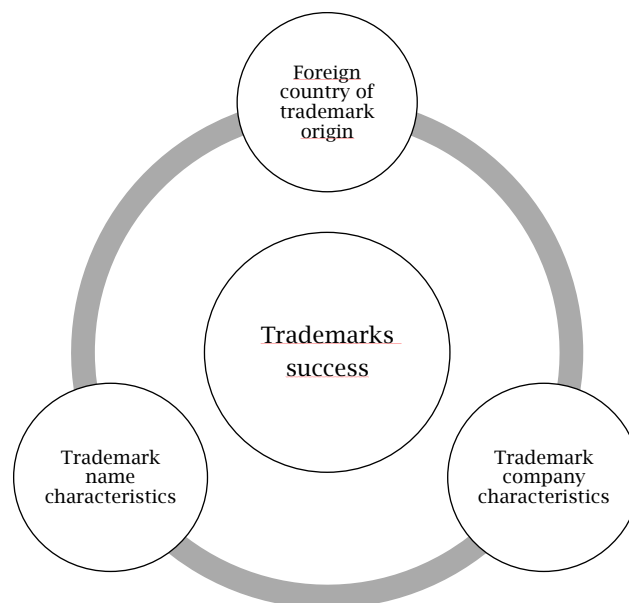
Moreover, the greater the number of its product classes, the higher the value. A more diversified trademark is a signal of the organizational changes in a firm's strategies and routines (Sorenson et al., 2006). Industrial literature (Ramello & Silva, 2006; Davis, 2009) underlines that companies register trademarks in order to protect products and

to differentiate them horizontally. The positive relation between a firm's number of registered trademarks and its achievements is well proven in empirical studies (Allegrezza & Guarda-Rauchs, 1999; Millot, 2009). Innovation management and knowledge transfer are important key levers to support Albania's competitiveness, which seeks to meet the performance levels of Western economies (Della Malva & Santarelli, 2016). Analyzing trademarks it is necessary to distinguish between services and goods. In fact, service-trademark-renewal requires less R&D investments (Nasirov, 2018; Mendonça et al., 2004). Also, economic and linguistic proximity between countries (Madrid Protocol) could influence trademarks' filing (Fink, Smarzynska Javorcik, & Spatareanu, 2005).

H2: Firm's characteristics are key indicators of trademark success.

The characteristics of the trademark are linked to the characteristics of the company as they are considered an element of its identity and corporate strategy and thus of its ability to innovate and to survive in the market (Crass & Peters, 2014; Crass et al., 2019). Among the characteristics that influence the success of a brand is undoubtedly the size of the company. Jensen and Webster (2006) shows that, through trademark's registration, SMEs could have a higher possibility to protect their innovation, while Allegrezza and Guarda-Rauchs (1999) find a correlation between trademark's deposits and a firm's dimension. Starting from these considerations, we propose a theoretical framework.

Figure 1. Trademark characteristics analysis: Our theoretical framework



3. RESEARCH METHODOLOGY

The analysis of trademarks could be done in different way, especially in non-transition economies (Ahulu & MacCarthy, 2020). In particular, using data on patents and intellectual property rights it could be possible to deep investigate the phenomena because these indicators reflect firms' potential ability to develop and to emerge. In order to verify the research hypothesis, we use a data set based on

taxonomy of the legal status of applications and the registration of the trademarks within the DPPI (*Drejtoria e Përqjithshme e Pronësisë Industriale*). Our empirical analyses are based on data (for January 1, 2019) from the DPPI for the period 1994–2016. The sample includes all trademarks registered in the period 1999–2008, distinguishing between those renewed in the following ten years and those not renewed.

3.1. Dependent variable

We use linear regression with a dependent binary variable that consists of the legal status of the application or registration as of January 1, 2019. This dichotomous variable takes a value of one if

the record is active and zero if it is not. The activity/inactivity status of the record is set out in Table 1.

A registered trademark usually has a greater advantage than registration costs (Mendonça et al., 2004).

Table 1. Legal status of the trademark application or registration (2019)

<i>Legal status</i>	<i>Active</i>	<i>Inactive</i>
Application	Payment of the registration fee pending	Refusal appealed
	Opposition refused	Refused by the court
	Opposition pending	Refusal due to procedural aspects
	Published for opposition	Refusal without further appeal
	Examination pending	Court decision pending
Registration	Transferred	Cancelled
	Registered	Abandoned
	Registration unopposed	Invalidated by the court
		Withdrawn
		Grace period before cancellation

Source: DPPM data.

The legal status of the application or registration of a trademark is divided into two categories, which are further classified into two other macro-categories: active or inactive. Table 1 shows the various modes of activity or inactivity depending on the application or registration of the trademark. The trademarks registered and kept active are indicative of greater value due to the related innovative projects, as the innovator has to bear the costs of the procedures for the renewal of registration and perpetuate the conditions for the fulfilment of the legal requirements necessary for the registration of the trademark (Melnyk, Giarratana, & Torres, 2014).

Usually, a trademark life cycle is about 7-10 years because registration is not renewed at the legal deadline (Millot, 2009). In Albania, a registered trademark that meets legal requirements is active if the renewal fee is paid every 10 years. Furthermore, the requirement for commercial use of the trademark must be demonstrated in the fifth year of its registration. The legal requirements considered valid for registration must be reconfirmed upon each renewal. The DPPI provides detailed information regarding the identification number of the application and registration, the application and registration dates, the name of the trademark, the Nice Agreement classification product classes, the name and relative country of origin of the trademark owner, the legal status of the application and registration, as well as other information. To avoid statistical problems, only the DPPI questions are considered, notwithstanding the forms linked to trademark applications and registrations transmitted through the WIPO.

3.2. Independent variables

To capture the multidimensionality of our research hypothesis, the independent variables are identified and grouped into two macro-categories (for each hypothesis).

1) *Trademark's name*. In the first group, there are those variables useful for testing *H1*. In particular, starting from 1(a) to 1(d), we introduce the fact that variables could help to verify whether the name of a trademark is a relevant success factor. Variables 1(e) and 1(f) support the second part of *H1*. The variables are:

- 1(a) *NC* (textual length of the trademark name): the number of characters including spaces between words.

- 1(b) *NW* (number of words in the trademark name): the textual length of the trademark name as the number of words.

- 1(c) *FT* (figurative only): a binary variable that has a positive result if the mark does not present any textual description (Henderson et al., 2003).

- 1(d) *LS* (linguistic similarity): a binary variable that is positive when the textual description of the trademark name includes at least one word from the modern dictionary of the Albanian language. To improve the statistical quality of the data, only words with at least four characters are considered.

- 1(e) *NCC* (number of classes): the number of commodity classes of the Nice Agreement classification in which the mark is registered. This variable is transformed using the natural logarithm. When there are missing values (about 6 observations), the number of classes assumes a unitary value.

- 1(f) *ST* (service mark): a binary variable that has a positive result if the trademark has been registered in at least one of the Nice Agreement classification's goods classes regarding services (goods classes 35-45).

2) *Company characteristics*. Here are the variables introduced for testing *H2*:

- 2(a) The legal status assumed by trademark ownership: *I* (individual), *NP* (non-profit organization), or *PF* (for-profit firm). Then, for-profit organizations are classed as *LF* (limited liability companies) or *PLF* (public limited companies).

- 2(b) *EE* (entrepreneur experience): the age of the owner of the trademark calculated by the number of years elapsed since the year of the first trademark application by the holder until 2019. This variable is transformed using the natural logarithm.

- 2(c) *ED* (activity of the entrepreneur): the cumulative number of applications previously filed up to the year of filing of the trademark. This variable is transformed using the natural logarithm.

- 2(d) *CT* (corporate trademarking): a binary variable that takes a positive value if the trademark owner's firm name is also used as the trademark name (Srinivasan, Hsu, & Fournier, 2011).

In order to verify the two main hypotheses, we introduce three models:

- Model 1 estimates the regressions using the *ST* as the binary variable. Service marks have

different characteristics, so it is appropriate to analyze them in a separate model (Nasirov, 2018; Mendonça et al., 2004).

- Model 2 is regressed with the inclusion of the binary variables for all 45 commodity classes of the Nice Agreement classifications.

- Model 3 replaces the binary variables of the country of origin of the trademark owner with the geographical variables regarding the kilometric size of the considered country distance of origin.

To verify the robustness of the results, we regress the three models by enlarging the data set to include all the applications submitted to the DPPI and not only those registered, thus estimating the effects of the determinants of demand for trademarks. Because the delay in registering a trademark application is equal to or less than two years in about 96.1% of cases, we consider all the applications presented up to 2016 as reference data sets. DPPI was the main dataset in this analysis. Moreover, to improve the quality of the statistical analysis, the trademark data set is enriched with two other sources of information. On the one hand, through the use of the Google Maps search engine, the geographical distances from the country of origin of the trademark holders to Albania calculated (Pere & Ninka, 2017), using the capital city of each country as a reference point. Although the geographical distance is calculated through the longitude and latitude coordinate system of the reference capital cities, this method presents a long data set of observations and is a geographic representation-map of the trademark phenomenon in Albania.

To measure the geographical distance, seven binary variables are considered with positive results in correspondence with seven categories indicative

of the kilometric distance from the capital of the country of origin of the trademark owner to Albania. In particular, the categories are as follows: 1-250 km, 251-1000 km, 1001-2000 km, 2001-4000 km, 4001-8000 km, and over 8000 km. Where the reference variable is the domestic context, a kilometric distance of zero is assigned. These territories are Albania, the Western Balkans, France, Greece, the Netherlands, the United Kingdom, Switzerland, the European Community, Canada, Japan, the United States, OECD, Brazil, Russia, India, China, South Africa, and Turkey (BRICST), and the rest of the world.

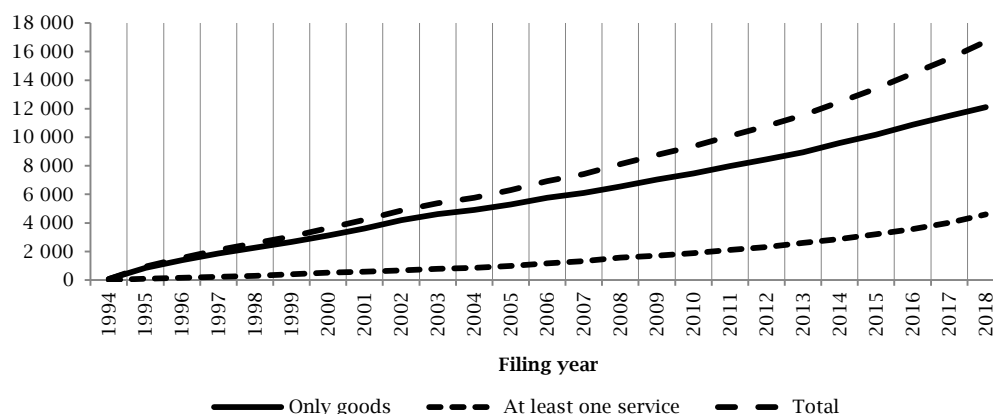
The other source is the Albanian dictionary provided by Wikipedia to determine the effect of linguistic complexity on the survival and success of a trademark (Krasnikov et al., 2009). For the typology of a trademark, we use 45 binary variables with positive results corresponding to the merchandise class in which the trademark is registered.

In order to verify where a successful trademark comes from, we investigate the owner's country of origin. Since this is a model with a binary dependent variable, it is based on a probit regression.

4. RESULTS

Figure 2 shows the cumulative trend of trademark applications at the DPPI by year of filing (1994-2018), distinguishing the applications between trademarks that concern only goods (commodity classes 1-34 of the Nice Agreement classification) from trademarks that involve at least one service (commodity classes 35-45 of the Nice Agreement classification).

Figure 2. Cumulative trend of trademark applications at the DPPI (1994-2018)



Source: Elaboration on DPPI data.

There is a positive trend for the entire period, but from 2013 it increases more sharply. This acceleration is probably due to trademark applications involving at least one service. The population of reference for the estimation of the statistical model concerns all the trademarks registered during the period from 1999 to 2008, with the period from 2009 to 2018 as the first ten-year renewal period. In the regressions, binary variables are used to control possible statistical effects linked to the year of registration. Since the dependent variable is binary, the statistical

model is based on the regression, which is suitable for the use of discrete variables. The analysis also takes into account possible corrections in the estimates due to heteroscedasticity.

Table 2 presents the descriptive statistics. During the period 1999-2008 on average trademarks are registered in two commodity classes. The name of a trademark, on average, is composed of a word and a half and is about 10 characters long, while those without textual information are quite rare (about 3%). In 60% of the cases, the trademark names include words that belong to the modern Albanian

language, while corporate trademarking represents about 15% of the trademarks registered in the period considered. The owners of intellectual property are almost all entrepreneurs. Table 3 shows the determinants of trademark registration.

Table 2. Data set of trademark registrations (1999–2008)

	Observations	Average	Median	Stand. Dev.	Min	Max
Characteristics of the trademark						
NC	4607	9.941	8.000	7.377	0	106
NW	4607	1.616	1.000	1.149	0	17
FT	4607	0.028	0.000	0.165	0	1
LS	4607	0.592	1.000	0.491	0	1
NCC	4607	1.860	1.000	2.340	1	45
Log NCC	4607	0.925	0.693	0.418	0.693	3.829
ST	4607	0.237	0.000	0.425	0	1
Demographic characteristics of trademark owner						
I	4607	0.022	0.000	0.146	0	1
NP	4607	0.008	0.000	0.088	0	1
PF	4607	0.970	1.000	0.170	0	1
LF	761	0.537	1.000	0.499	0	1
PLF	761	0.210	0.000	0.408	0	1
Log EE	4607	2.957	3.045	0.245	2.303	4.779
Log ED	4607	1.345	0.693	1.510	0.000	5.308
CT	4607	0.156	0.000	0.363	0	1
Country of origin of trademark holder						
Albania	4607	0.165	0.000	0.371	0	1
Western Balkans	4607	0.016	0.000	0.124	0	1
France	4607	0.028	0.000	0.164	0	1
Germany	4607	0.014	0.000	0.117	0	1
Greece	4607	0.077	0.000	0.266	0	1
Italy	4607	0.023	0.000	0.151	0	1
The Netherlands	4607	0.053	0.000	0.225	0	1
The United Kingdom	4607	0.042	0.000	0.200	0	1
Switzerland	4607	0.030	0.000	0.169	0	1
The European Community	4607	0.089	0.000	0.285	0	1
Canada	4607	0.308	0.000	0.462	0	1
Japan	4607	0.003	0.000	0.053	0	1
The United States	4607	0.041	0.000	0.199	0	1
OECD	4607	0.107	0.000	0.309	0	1
BRICST	4607	0.053	0.000	0.224	0	1
Rest of the world	4607	0.041	0.000	0.197	0	1

Table 3. Determinants of trademark registration (1999–2008)

	Model 1	Model 2	Model 3
Characteristics of the trademark			
NC	0.013** [0.006]	0.010 [0.006]	0.008 [0.006]
NW	-0.112*** [0.039]	-0.097** [0.040]	-0.091** [0.040]
FT	0.237* [0.128]	0.117 [0.132]	0.100 [0.132]
LS	0.081** [0.041]	0.081* [0.043]	0.078* [0.042]
Log NCC	0.094 [0.057]	0.311** [0.142]	0.339** [0.142]
ST	-0.243*** [0.058]	—	—
Demographic characteristics of trademark owner			
I	0.228 [0.274]	0.502* [0.282]	0.584** [0.276]
PF	0.584** [0.233]	0.883*** [0.239]	0.966*** [0.233]
LF	—	—	—
PLF	—	—	—
Log EE	0.792*** [0.166]	0.801*** [0.182]	0.808*** [0.170]
Log ED	-0.114*** [0.022]	-0.120*** [0.023]	-0.100*** [0.023]
CT	0.382*** [0.058]	0.368*** [0.061]	0.380*** [0.061]
Commodity classes	No	Yes	Yes
Countries origin	Yes	Yes	No
Geographic distance	No	No	Yes
Annual binary variables	Yes	Yes	Yes
Observations	4607	4607	4607
Positive results	2397	2397	2397
R ²	0.094	0.119	0.119

Notes: * sig < 10%; ** sig < 5%; *** sig < 1%.

Source: Own elaborations. Marginal effects of the regression.

• Model 1, which estimates the regressions using the binary variable service trademark, has several statistically significant variables (nine). In particular, *NW* (number of words in the trademark name) and *ST* emerge, with a significance < 1%, in the first area referring to “characteristics of a trademark”. Furthermore, *PLF* (public limited company), *log EE* (entrepreneur experience), and *CT* (corporate trademarking) emerge in the second area, “demographic characteristics of the brand owner”. Anyway, the R² of Model 1 is very low.

• Model 2 has its dependent variable all 45 commodity classes of the Nice Agreement classifications. The R² of this model is low too. “Demographic characteristics of the brand owner” presents one more statistically significant variable: *I* (individual).

• Model 3 replaces the binary variables of the country of origin of the trademark owner with

the geographical variables regarding the kilometric distance of the considered country of origin to Albania. The marginal effects of this model are in line with the two previous models; R² is low.

These models furnish a higher R² and the variables of the “demographic characteristics of the brand owner” group are statistically significant (< 1%). These are *I* (individual), *PF* (for-profit firms), *LF* (limited liability companies), and *PLF* (the public limited companies).

Proceeding with the analysis of robustness, we consider all the trademarks registered from 1994 to 2016. Descriptive statistics are shown in Table 4, while Table 5 presents the estimates of the regression models. Even if there is less statistical variability of the dependent variable (positive results are over 90%), the results regarding the characteristics of the trademark are confirmed.

Table 4. Data set of trademark applications filed (1994–2016)

	Observations	Average	Median	Stand. Dev.	Min	Max
Characteristics of the trademark						
<i>NC</i>	14453	10.050	8.000	7.428	0	106
<i>NW</i>	14453	1.636	1.000	1.169	0	18
<i>FT</i>	14453	0.033	0.000	0.178	0	1
<i>LS</i>	14453	0.583	1.000	0.493	0	1
<i>NCC</i>	14453	1.736	1.000	2.241	1	45
<i>Log NCC</i>	14453	0.891	0.693	0.394	0.693	3.829
<i>ST</i>	14453	0.247	0.000	0.431	0	1
Demographic characteristics of trademark owner						
<i>I</i>	14453	0.046	0.000	0.209	0	1
<i>NP</i>	14453	0.009	0.000	0.097	0	1
<i>PF</i>	14453	0.945	1.000	0.228	0	1
<i>LF</i>	4193	0.506	1.000	0.500	0	1
<i>PLF</i>	4193	0.166	0.000	0.372	0	1
<i>Log EE</i>	14453	2.667	2.890	0.611	1.099	4.779
<i>Log ED</i>	14453	1.183	0.693	1.463	0.000	5.375
<i>CT</i>	14453	0.164	0.000	0.371	0	1
Country of origin of trademark owner						
Albania	14453	0.290	0.000	0.454	0	1
Western Balkans	14453	0.039	0.000	0.194	0	1
France	14453	0.030	0.000	0.170	0	1
Germany	14453	0.022	0.000	0.146	0	1
Greece	14453	0.056	0.000	0.229	0	1
Italy	14453	0.026	0.000	0.160	0	1
The Netherlands	14453	0.048	0.000	0.213	0	1
The United Kingdom	14453	0.025	0.000	0.157	0	1
Switzerland	14453	0.023	0.000	0.149	0	1
The European Community	14453	0.062	0.000	0.241	0	1
Canada	14453	0.238	0.000	0.426	0	1
Japan	14453	0.003	0.000	0.058	0	1
The United States	14453	0.046	0.000	0.208	0	1
OECD	14453	0.093	0.000	0.290	0	1
BRICST	14453	0.043	0.000	0.203	0	1
Rest of the world	14453	0.033	0.000	0.180	0	1

Source: Own elaborations.

Table 5. Determinants of maintaining the registration of a trademark (1994–2016) (Part 1)

	Model 1	Model 2	Model 3
Characteristics of the trademark			
<i>NC</i>	0.012** [0.005]	0.011** [0.005]	0.013** [0.005]
<i>NW</i>	-0.124*** [0.032]	-0.122*** [0.033]	-0.126*** [0.033]
<i>FT</i>	0.046 [0.112]	0.023 [0.116]	0.023 [0.115]
<i>LS</i>	0.098*** [0.035]	0.096*** [0.037]	0.091** [0.036]
<i>Log NC</i>	0.000 [0.059]	0.731*** [0.136]	0.747*** [0.136]
<i>ST</i>	0.181*** [0.044]		

Table 5. Determinants of maintaining the registration of a trademark (1994–2016) (Part 2)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Demographic characteristics of trademark owner			
<i>I</i>	-0.164 [0.145]	-0.318** [0.152]	-0.305** [0.153]
<i>PF</i>	-0.125 [0.136]	-0.232 [0.145]	-0.246* [0.146]
<i>LF</i>	—	—	—
<i>PLF</i>	—	—	—
<i>Log EE</i>	-0.165*** [0.058]	-0.104 [0.063]	-0.114* [0.063]
<i>Log ED</i>	0.152*** [0.022]	0.154*** [0.024]	0.170*** [0.023]
<i>CT</i>	0.267*** [0.056]	0.296*** [0.058]	0.296*** [0.058]
Commodity classes	No	Yes	Yes
Countries origin	Yes	Yes	No
Geographic distance	No	No	Yes
Annual binary variables	Yes	Yes	Yes
Observations	14,383	14,383	14,383
Positive results	13,235	13,235	13,235
R ²	0.200	0.242	0.244

Notes: * sig < 10%; ** sig < 5%; *** sig < 1%.

Source: Own elaborations. Marginal effects of the regression.

5. DISCUSSION

If we examine the results of analyzed models, we can see that the long trademark names are less effective as a critical factor of success for a marketing strategy, because they are less strong in communicating to consumers (Krishnan, 1996). This idea is also confirmed by the positive effect of the renewal of the trademark registration on the variable that measures the linguistic similarity of the trademark name with the modern Albanian language. Trademarks used in different product classes have a higher value, even if this result is shown only for trademarks that relate exclusively to goods and not services (Mendonça et al., 2004). In general, services suffer more from rapid market dynamics, so there is a greater proliferation and turnover of the commercial offer. Supported by the referred literature, *H1* is confirmed. The demographic characteristics of the entrepreneur-owner have a significant effect on the likelihood of renewing the trademark. Innovators who work in the Albanian market for a longer time have typically faced higher marketing investments, accumulating greater results in terms of the value of their trademark portfolio. Therefore, *H2* is verified.

The most experienced innovators have overcome the learning curve and are therefore able to guarantee a higher quality of product. This interpretation is in line with the positive impact of corporate trademarking. In fact, when the trademark name is the same of the owner, the innovative offer covered by the trademark is guaranteed by the overall corporate image (Srinivasan et al., 2011). Moreover, as far as the corporate form is concerned, non-profit organizations present the lowest value of trademarks on average, followed by individuals and then for-profit organizations. In addition, it can be noted that the size of the owner's activity in terms of the cumulative number of trademarks has a negative effect on the value of the trademark. This evidence can be explained by the fact that smaller firms are more specialized and dedicate their resources to a smaller number of product lines, which are sustained on the market for longer

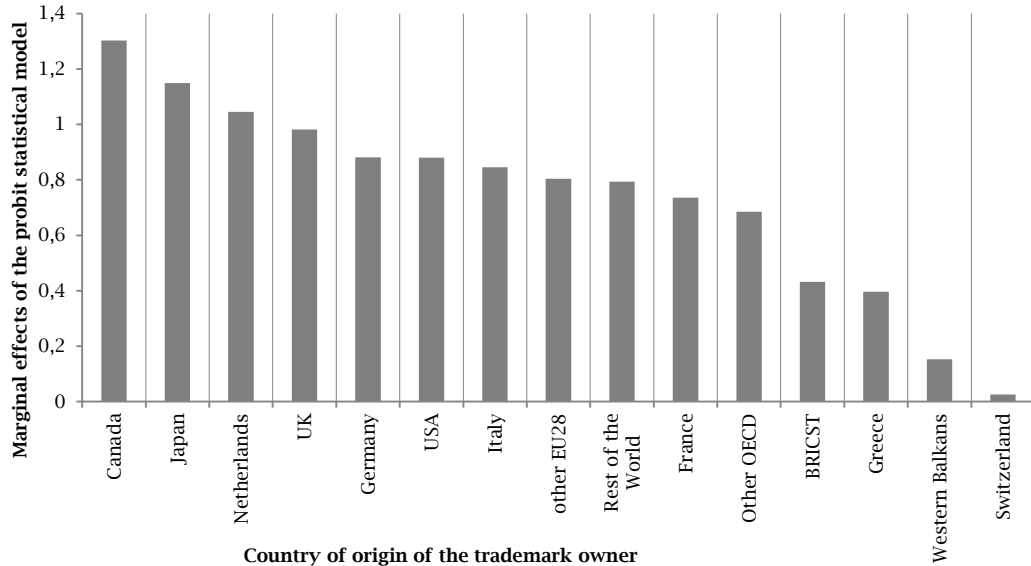
(Jensen & Webster, 2006) Model 3 confirms the results even when geographical variables are introduced in the regression. These variables measure the distance of the country of trademark ownership to Albania in place of the simple binary variables calculated using the country of residence. Figures 3 and 4 show the marginal effects of the geographical variables of Models 2 and 3, considering the Albanian domestic context as the statistical variable of reference. Thus, Albania is not included because this analysis considers only the influence of foreign countries in the Albanian market and their effect on innovation contests.

Both Figures 3 and 4 confirm that owners coming from foreign markets are more geographically and culturally distant, typically holding higher value brands. Countries like Japan and Canada, about 9,000 and 7,000 km away, respectively, which have received less immigration from the Albanian diaspora than countries like Greece, Italy, and the United States, are at the top of the rankings. Italian trademarks' owners, assuming a typical distance of about 600 km, show a similar value to more distant or much more distant countries such as Germany or the United States. Furthermore, Greece, together with Italy, represents a main Albanian interchange partner in recent decades, and there is a lower rate of maintenance of registered trademarks. This result is due to the difficulty of directly using some established brands in the Greek market, as these are different stylistically and textually (the Albanian language uses the Latin alphabet as opposed to the Greek alphabet). On the other hand, the lower rate of maintenance of the trademarks registered by Greek owners may reflect a different productive specialization (e.g., more services and fewer goods); a hypothesis that requires more profound study and that may be the object of future studies. Finally, the trademarks held by the owner's residents in the Western Balkans, especially those countries bordering Albania, are characterized by lower values than the other countries. The correlation between the value of the trademarks and the geographical distance could be related to a selection effect of

the commercial offer sustained in international markets as compared to national markets. In other words, companies try to internationalize the offer of those products and services that have experienced

greater commercial success in national and geographically close markets. H2 finds positive confirmations in all its answers.

Figure 3. Marginal effects of the geographical variables of Model 2



Source: Own elaboration.

Figure 4. Marginal effects of the geographical variables of Model 3



Source: Own elaboration.

The analysis of robustness confirms all the statements previously considered, in particular, trademarks with longer names are less likely to be renewed (because they are perceived as less distinctive on the market), while the opposite is true for trademarks used in different product classes. With regard to the latter, the owners have probably made major marketing investments by increasing the distinctive function of the trademark name among potential consumers and buyers. Furthermore, linguistically, trademarks using modern Albanian are registered more frequently, as they are perceived as more distinctive given their easier use. Regarding the effects of the demographic characteristics of the owners, it is important to note that the preparation and filing of the application for a trademark entails a significant cost, including in

terms of fees owed to the legal offices that transmit the request to the DPPI. For this reason, the applications presented by individuals are accompanied by a lower probability of success compared to the other two categories of owners as they incur higher costs (related to their activity) in ensuring legal assistance. In addition, registration is facilitated for firms that pursue corporate trademarking strategies as they have a greater distinctive function on the market.

6. CONCLUSION

This study is among the first on trademarking activities as the management of intellectual property and as a tool for development of firms in Albania.

The results of the statistical analysis suggest some considerations. The choice of the trademark name is a critical success factor, as its complexity can hinder the effectiveness of a management strategy (i.e., names that are too long in terms of number of words are more difficult to communicate to consumers within the market and retail). The meaning of the trademark name also plays an important role, as names that are more linguistically distant from the modern Albanian language are less successful in terms of maintaining registration in the Albanian market. Thus, firms operating in Albania should use their (established) trademarks rather than creating new ones with more sophisticated names. On the other hand, not all trademark names can be versatile in the Albanian market, only those that can be easily interpreted by consumers. The importance of choosing the trademark name is also confirmed by the consideration that trademarks used in different product contexts are characterized by greater longevity on the market, a result that indicates that the names of this type of trademark could quickly reach more consumers. Furthermore, when the trademark's name is also guaranteed by

a corporate trademarking strategy, consumers can perceive a higher quality linked to the commercial offer. Moreover, specialized firms are able to implement a management and marketing strategy with a more adequate and credible positioning, and firms offering service industries must pay more attention to market dynamics, as commercial proposals in this sector seem to be more complex to communicate to consumers and subject to greater competitive pressure. This work offers value addition in terms of measurement because it captures trademark localization and diversification and aims to reinforce the empirical literature. Our study is among the first that investigate a successful trademark using peculiar elements such as its name, Wikipedia, and Google Maps. But there are some limitations. First, this is an empirical analysis, so other variables could be introduced in the future. Second, we investigate Albania but if it were possible to estimate data for other transition economies, the analysis would likely be stronger. Third, trademarks are a tool for sustaining and protecting innovation in low-tech economies, but if we consider only this instrument, we can obtain only a partial vision of the technological mechanisms.

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