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# Editorial: why and when do firms trademark? Bridging perspectives from industrial organisation, innovation and entrepreneurship

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## ABSTRACT

This editorial to the special issue on “Trademarks and their role in innovation, entrepreneurship and industrial organization” proposes a novel framework to understand why and when firms file trademarks. The three perspectives at the core of the special issue offer several insights on trademark motives but have not been linked for understanding the underlying strategies and contingencies. We propose to study trademark motives in relation to the firm and the innovation life cycle stage. Inspired by the framework, we outline avenues for further research.

## KEYWORDS

Trademarks; trademarking motives; industrial organisation; innovation; entrepreneurship

## 1. Introduction

Research on trademarks is gaining significant momentum<sup>1</sup>. According to Castaldi (2019), one of the challenges for further research is that we still miss a comprehensive theory of why firms choose to file trademarks and which contingencies explain specific strategies. At the same time, trademark research is growing within three distinct domains: industrial organisation (IO), innovation and entrepreneurship studies (see Table 1 for an overview).

The IO perspective is the oldest and has focused on the cost/benefit considerations behind the use of trademarks by firms (Economides 1988). Trademarks are information signals that can reduce transaction and search costs (Milgrom and Roberts 1986). Increasingly, trademarks have become ‘signs above signs’ (Ramello 2006). They allow firms to pursue differentiation strategies that translate into premium pricing, hence bring significant private returns to firms (Greenhalgh and Rogers 2012). As such, the IO perspective views firms as highly strategic in their decision to trademark. Trademarks allow securing market positions by avoiding imitation and deterring market entry (Lunney, 1999, Appelt 2009, Fosfuri and Giarratana 2009). Relatedly, a key motive for firms to file and maintain trademark portfolios is that they represent assets (Castaldi 2019), with a clear impact on firm market value and profitability (Schautschick and

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<sup>1</sup>Another trademark-focused special issue on ‘The Brand and its history: Part I: Trademarks and Branding’ has appeared in 2018 in *Business History* (Saiz and Castro 2018) and one on ‘Regions and Trademarks’ is in the making at *Regional Studies*, edited by Carolina Castaldi and Sandro Mendonça.

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**Table 1.** Overview of motives and contingencies discussed in the IO, innovation and entrepreneurship domains.

Perspectives	Why do firms trademark?	When? Contingencies, triggers
<b>Industrial Organisation</b> [focus is on strategic motives and securing market positions]	<ul style="list-style-type: none"> <li>• To enable differentiation strategies and premium pricing</li> <li>• To safeguard market positions, by fighting imitation and erecting barriers to entry</li> <li>• To build valuable asset positions</li> <li>• To participate in markets for brands</li> </ul>	<ul style="list-style-type: none"> <li>• B2C markets with stronger differentiation levels more likely to have high trademark use</li> <li>• Large firms in specific sectors skilfully enacting IPR bundling/stacking to counteract patent and/or copyright expiration cliffs (pharma, media)</li> </ul>
<b>Innovation</b> [focus is on appropriation strategies by innovative firms]	<ul style="list-style-type: none"> <li>• To flag the market introduction of innovation</li> <li>• To secure the benefits from branding strategies for innovation in home markets and beyond.</li> <li>• To prolong other IP rights, predominantly patents.</li> <li>• To enable the franchising of innovative concepts.</li> </ul>	<ul style="list-style-type: none"> <li>• Before the market introduction of innovations to signal their market orientation to VCs (R&amp;D stage) or to preview a new product or service.</li> <li>• After the market introduction of innovations: conditional on market success.</li> </ul>
<b>Entrepreneurship</b> [focus is on resource attraction by young firms]	<ul style="list-style-type: none"> <li>• Resource attraction through signalling to external stakeholders (e.g. entrepreneurial finance providers)</li> <li>• Other motives and explanations: marketing myopia, founder ambitions, IP subsidies for startups</li> </ul>	<ul style="list-style-type: none"> <li>• Depends to a strong degree on founder team composition</li> <li>• Existence of resource constraints</li> <li>• Role of VC (→ professionalisation of the startup)</li> <li>• Innovativeness of the product</li> </ul>

Greenhalgh 2016). Trademark assets often complement technological assets (Sandner and Block 2011, Grazzi, Piccardo, and Vergari 2019; Dosso and Vezzani 2017).

From an innovation perspective, filing a new trademark is a means for firms to announce the introduction of new products (Flikkema, de Man, and Castaldi 2014; Flikkema et al. 2019). Next to signalling, trademarks act as complementary specialised assets helping firms to appropriate the economic rents from innovation through compelling branding, distribution and franchising strategies (Teece 1986, Hoffman, Munemo, and Watson 2016). Trademarks are used both as complements to patents and instead of patents, for the ‘protection’ of incremental or new-to-the-firm innovation and of non-technological innovation, like service and organisational innovation (Mendonça, Pereira, and Godinho 2004).

More recently, the entrepreneurship perspective has focused on trademarking decisions in young and small firms. Trademarks filed by startups constitute a valuable signal to external stakeholders such as (potential) customers and investors. Startups, particularly in their early phases, do not have a track record of satisfied customers and successful products and are typically not known to the market. They may suffer from severe liabilities of newness (Gruber 2004) and hence may file a trademark as a way to signal their seriousness and professionalism towards external stakeholders (Block et al. 2015a). When it comes to investors, De Vries et al. (2017) found that VC involvement is an important driver of trademark filing and the building of brand assets (Forti, Munari, and Zhang 2019).

In this paper we argue that bridging the three perspectives and combining insights from IO, innovation and entrepreneurship research on trademarks can shape the contours of a theory on the motives behind trademarking and their underlying corporate practices. Hence our guiding question is the broad one of *why and when do firms trademark?* We propose that motives to trademark depend both on the phase in the *firm* and *innovation lifecycle*. These two dimensions allow connecting the insights from

the three perspectives in an organic way. The papers collected in the special issue offer clues to define and test elements of this novel framework.

Our main contributions are three. First, we develop a framework linking different types of motives to trademark suggested by the three perspectives. Second, we complement existing reviews of trademark research which have focused on economic studies (Schautschick and Greenhalgh 2016) or on management studies only (Castaldi 2019) and present an interdisciplinary review focusing on the important question of why firms trademark. Third, we offer an interdisciplinary agenda for future trademark research from the perspectives of IO, innovation and entrepreneurship research. This agenda fits well with the aims and scope of *Industry and Innovation* which is an interdisciplinary journal and has developed into one of the premier outlets for trademark research.

## **2. A conceptual framework linking trademarking motives to firm and innovation lifecycle**

To connect the different perspectives and offer a conceptual framework for further research, we discuss the motives to file trademarks according to where the firm and its products are located in the firm and innovation lifecycle. We thereby integrate trademark research from the three perspectives introduced above as well as the studies from this special issue. The entrepreneurship domain has of course focused mostly on the specific challenges of young firms, while the IO domain has looked at how trademarks are used by mature firms, often the incumbents in a given industry, to protect and exploit their respective market positions. The innovation domain can be placed at the intersection: innovation can either emerge in young entrepreneurial firms or in the more routinised settings of established firms.

### **2.1. Securing market positions as a motive (IO perspective)**

A rational motive to file trademarks is that they bring significant private returns to firms (Schautschick and Greenhalgh 2016). de Rassenfosse (2019) in this special issue provides original evidence that trademarks bear value to firms by showing that the price elasticity for their demand is low: higher fees hardly dampen demand. The strategic motives of mature firms to trademark appear strongest in markets where competition is driven by product differentiation (WIPO 2013). Most often these are B2C markets (Reitzig 2004) and key examples include pharma, electronics and consumer goods. Service firms in markets characterised by strong information asymmetries, like financial, information and digital services, have also clear incentives to use trademarks, since trademarks secure the protection of important reputational assets (Castaldi and Giarratana 2018; Castaldi 2019).

Some mature firms cash in on trademark assets through licencing, so that participation in ‘markets for brands’ is emerging as an additional motive to file and maintain trademarks (Graham *et al.* 2013; Frey *et al.* 2015). Ferrucci *et al.* (2019) in this issue offer a first in-depth overview of the trademark licencing agreements officially registered at the USPTO (building on data from Graham, Marco, and Myers 2018). A first insight is that licencing volumes and properties differ significantly across markets, suggesting that market-level analysis is the most fruitful direction for a further understanding of the

phenomenon. A second insight is that applicant firm size, a proxy for maturity, and trademark age appear related to the probability of a trademark being licenced. This suggests that mature firms are better able to judge the value of their trademark assets and that the valuation process is easier for established trademarks.

## **2.2. Appropriation of rents as a motive (innovation perspective)**

The innovation perspective highlights how trademarks are used in appropriation strategies of innovative firms, particularly in the later phases of the innovation life cycle. In this special issue, the study of Llerena and Millot (2019) looks at the relation between trademarks and patents in appropriation strategy. They confirm empirically that the complementarity between trademarks and patents depends on market characteristics, particularly on advertising spillovers and depreciation rates. They show that in case of high advertising spillovers and low advertising depreciation rates, as a consequence of long life cycles of technologies, the complementarity is strongest. In line with their findings, Thoma (2019), also in this special issue, shows with USPTO data that an appropriation strategy that pairs patents and trademarks almost doubles patent value. Not all industries show this patent-trademark complementarity. Strictly, trademarks cannot substitute patents, since trademark law and patent law are inherently different. Yet, innovators sometimes use them as such, for reasons of limited financial resources or lifecycle characteristics of new technologies (Flikkema et al. 2019). In these cases, innovators often try to combine lead time advantage and trademark protection to build and maintain brand loyalty even when fast second movers enter the market soon.

Increasingly, companies skilfully combine trademarks with other intellectual property rights (Seip et al. 2019) and blend them with informal appropriation mechanisms (Miric, Boudreau, and Jeppesen 2019). Trademarks allow companies to prolong market dominance after patent expiry, in case of science or technology based markets (Reitzig 2004) and copyright expiry in case of creative industries (Calboli 2014). These strategies are almost exclusively leveraged by large, asset-intensive companies that can handle the legal complexities that come with them.

Interestingly, the ownership of trademarks might also play a role in the very early phase of the innovation lifecycle, in an indirect way. Bei (2019) shows that owning valuable trademarks correlates with the success of technology sourcing strategies and Sebrek (2019) finds a relation between the breadth of the trademark portfolios of firms and the geographic scope of their external search activities. At the same time, mature firms may only see the need for filing a trademark after the product has proven to be a success (Fink, Hall, and Helmers 2018). Dinlersoz et al. (2018) found that the propensity to file trademarks significantly increases with firm size, while there is only a significant relation with firm age in the first 10 to 15 years, depending on the sector. Their result seems to suggest that trademark filing is driven more by resources and stakes than by experience.

A final consideration is that firms might not trademark their innovation at all. Castaldi (2018) proposed that firms might have both myopic and rational motives not to trademark. Myopic motives include unawareness of the possibility and/or the benefits of trademark registration because of a lack of knowledge or resources. This is a well-known issue that affect SMEs and startups most strongly (Block et al. 2015a) and also can be found with the filing of other IP rights (de Rassenfosse and van Pottelsberghe de la

Potterie 2013). Athreye and Fassio (2019) in this special issue investigated a broad set of innovative firms and suggested how two factors explain the decision not to trademark. On the one hand, innovators might already have protected their positions in other ways and will not file for a separate trademark for a new innovation project. On the other hand, the collaborative nature of an innovation project can lead firms not to claim property of rights for fear of endangering goodwill in the collaboration.

### **2.3. Resource attraction as a motive (entrepreneurship perspective)**

When it comes to trademarks, one insight is that startups tend to have stronger incentives to file trademarks earlier in the innovation lifecycle than mature firms (Seip et al. 2018). As startups suffer from liabilities of newness and smallness, they use trademarks as a means to attract resources. This motive to file trademarks relates to the signalling function of trademarks and targets different actors: VCs and other specialised investors in a very early phase for the case of innovative startups, all other investors in the R&D phase and customers and competitors in the commercialisation phase (Block et al. 2014, Zhou et al. 2016; De Vries et al. 2017). Block et al. (2014) showed that the number and breadth of trademark applications have a positive effect on VCs' valuations of startups. This positive valuation effect, however, seems to decrease when the startup progresses into a more advanced development stage (Block et al. 2014). The paper by Lyalkov et al. (2019) in this special issue confirms the notion that entrepreneurship activities at the country level are positively linked to trademarking. Although the motivation to trademark was not explicitly investigated in their study, some aspects of their results are in line with the signalling value of trademarks for startups. For example, they find that opportunity entrepreneurship relates positively to trademark registrations whereas no such effect was found for necessity entrepreneurship or entrepreneurship without employees, which are typically unambitious forms of entrepreneurship (Block et al. 2015b; Poschke 2013). deGrazia, Myers, and Toole (2019), also in this special issue, use aggregated data about trademark filings for product and service offerings and show that such data can help to predict business cycles. Whether these trademark filings are from established firms or from Schumpeterian-like innovative new firms remains a question of further research.

Table 1 summarises the trademarking motives and their contingencies; Table 2 aligns these motives in a firm and innovation lifecycle framework.

## **3. Conclusions**

This editorial has connected three different trademark research streams into a comprehensive framework that both integrates existing studies (including the ones in the special issues) and guides further efforts. We wish to conclude by outlining specific directions for further research.

Both entrepreneurship and innovation studies have suggested a strong link between trademarks and innovation. In startups trademarks often mark the start of a business (De Vries et al. 2017). Research on trademarks in entrepreneurship has focused on the signalling function of trademarks to attract financial resources. Further research might go beyond this particular form of resource and broaden the scope towards non-financial resources that are needed to successfully build and grow a venture. For example, it would

**Table 2.** A conceptual framework linking firm and innovation lifecycle to the different trademarking motives (TM = trademarks).

		Innovation lifecycle		
		Idea phase	R&D phase	Commercialisation phase
Firm lifecycle	<i>Young firm</i>	TM not high priority due to lack of resources and little knowledge about TMs;	TM filed as a signal to attract resources for funding R&D.	TM as a signal to attract resources for funding market entry; TM as a signal for attracting customers and flagging market introduction of new product; TM as a complementary asset to appropriate innovation rents; TM to differentiate own products from products by competitors and protect brand investments.
	<i>Mature firm</i>	New TM not necessarily needed; rational not to trademark as it is unclear how the product will fit to existing firm products; TM as specialised complementary assets driving technology sourcing.	TM not necessarily needed.	TM as a strategic tool to differentiate own products from products by competitors; TM as a complementary asset to appropriate innovation rents; TM as asset in markets for brands; TM to prolong protection after patent or copyright expiration. No TM if collaborative innovation or existing TM is available.

be interesting to learn how trademarks and their related brands help to attract co-founders and early employees (Coad, Nielsen, and Timmermans 2017), which are of crucial importance for high-growth firms. This question is of high practical importance as innovative startups compete fiercely with established firms on the labour market and typically are not able to offer as highly paid jobs as established firms do (Block, Fisch, and van Praag 2018; Burton, Dahl, and Sorenson 2018).

So far, we know little about the relatedness of trademarks to innovation in mature firms. For product and service innovation, micro-level studies that also encompass branding strategies, as Flikkema et al. (2019) propose, bear potential for establishing the trademark-innovation link. Aaker's (2007) 'Innovation, brand it or lose it' nearly speaks for itself. Studying branding strategies (for innovation) in depth may help to better understand when and why new trademarks are filed. Most empirical studies into the relatedness of trademarks and innovation pursued a cross-sectional approach and measured the firm-level use of trademarks with dichotomies: 'yes' or 'no'. There is an evident need for case studies that try to match innovation portfolios and trademark portfolios at the firm-level, to understand trademark propensities for various types and modes of open and closed innovation (see also Zobel, Lokshin, and Hagedoorn 2017; Athreye and Fassio 2019; Morales et al. 2019).

While the motives for firms to trademark might be quite clear and strengthened by the evidence of substantial private returns (Schautschick and Greenhalgh 2016), it remains unclear whether the societal benefits of trademarks are as strong as the private ones. The early IO studies stressed how the higher prices that consumers pay for trademark-protected products are compensated by the decrease in search and transaction costs (Landes and Posner 1987) and/or the increase in availability of new products (Besen and Raskind 1991). Greenhalgh and Rogers (2012) showed that trademark activity positively



correlated with dynamic competition confirming arguments from the innovation perspective on motives to trademark. Other authors have been more critical and argued that trademarks might be associated with monopolistic practices with negative outcomes for consumers and society enlarge (Lunney 1999, Beebe and Hemphill 2017). Emerging evidence on practices that one could call ‘strategic trademarking’ also casts doubts on the welfare efficiency of current trademark systems. Large incumbent firms resort to ‘submarine trademarks’ (Fink et al. 2018) by filing trademarks at obscure trademark offices to avoid revealing their market strategies while being able to claim priority. Other practices are ‘trademark cluttering’, i.e. multiple trademark filing to claim priority without an intention to market (von Graevenitz 2013) and ‘trademark squatting’, i.e. filing of trademarks by someone other than the brand owner (Fink, Helmers, and Ponce 2018). All these strategic motives to trademark potentially endanger the informational value of trademarks and the very functioning of trademark systems. Research, both theoretical and empirical is dramatically lacking on these issues, hence the social returns of trademarks represent an important avenue for further research.

Herein one promising line of research stemming from the entrepreneurship domain would be to assess the link between trademarks and impactful entrepreneurship: one would investigate not only whether trademarking is beneficial for the firms themselves but whether those new firms also create jobs or spur dynamic competition in markets. Detecting (high-impact) entrepreneurship in populations, regions and industries is however difficult as entrepreneurship as a concept is vague, elusive and sometimes ill-defined (Guzman and Stern 2015; Block, Fisch, and van Praag 2017; Henrekson and Sanandaji 2019). Trademark-based measures in combination with other firm measures could be a solution. A recent joint report of the European Patent Office (EPO) and the European Union Intellectual Property Office (EUIPO) finds, for example, that SMEs which have filed trademarks are significantly more likely to experience a growth period afterwards (EPO-EUIPO 2019). Two papers in this special issue (Lyalkov et al. 2019; deGrazia, Myers, and Toole 2019) show that macro-level trademark data can be used to predict aggregate level entrepreneurship. Whether this is Kirznerian, Schumpeterian or none of the two forms of entrepreneurship remains a question for further research. Most likely, the answer to this question will involve accounting for environmental conditions such as the appropriation and IPR regimes and the state of country development. Several opportunities for cross-industry and cross-country comparisons lie ahead. Our framework could be extended by taking into account the contingencies of specific industries and markets. Such extensions seem particularly useful in light of the policy questions around trademark practices and their effects on industrial dynamics and market competition.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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