No Trolls Barred: Trademark Injunctions After eBay

David H. Bernstein and Andrew Gilden

Delay in Filing Preliminary Injunction Motions: 2009 Edition

Sandra Edelman

Genericness Surveys in Trademark Disputes: Evolution of Species

E. Deborah Jay

Space Pirates, Hitchhikers, Guides, and the Public Interest: Transformational Trademark Law in Cyberspace

Thomas C. Folsom

The Identification of Trademark Filing Strategies: Creating, Hedging, Modernizing, and Extending Brands

Philipp G. Sandner
EDITOR'S NOTE

The Trademark Reporter is pleased to publish in this issue the two articles that won the 2009 Ladas Memorial Awards. Thomas C. Folsom, an Associate Professor of Law at Regent University School of Law, was the winner of the 2009 Professional Award. Philipp G. Sandner, a recent doctoral graduate from the Institute for Innovation Research, Technology Management and Entrepreneurship, University of Munich, was the winner of the 2009 Student Award.

The Ladas Memorial Awards are jointly funded by the law firm of Ladas & Parry LLP and the International Trademark Association. They are awarded yearly to honor the memory of Stephen P. Ladas, a distinguished trademark lawyer and author, who made significant contributions to the field of intellectual property law. The principal purpose of the yearly Ladas Memorial Awards is to enhance an understanding of international trademark law and to foster thereby a greater interest in the field of trademarks.

Cliff Browning, Editor-in-Chief
THE IDENTIFICATION OF TRADEMARK FILING STRATEGIES: CREATING, HEDGING, MODERNIZING, AND EXTENDING BRANDS*

By Philipp G. Sandner**

This article explores brands as intangible assets, focusing on how companies build trademark portfolios as a management tool to protect and bolster the visibility of their brands. Company trademark portfolios are not loose agglomerations of trademarks but, instead, contain complex structures that coherently protect a company’s brand, which may extend across multiple products, product categories, and services. When new products are introduced, brand management deals with decisions to either create new brands or use existing ones. Such decisions are typically followed by trademark filings, which reflect both the creation of new brands as well as the development of existing brands through hedging, modernization, and extension. This article discusses and applies a technique to a compilation of a cross-section dataset of 1,735 companies that reveals the inherent structure of company trademark portfolios to enable an assessment of how brands are protected by trademarks and how trademark filing strategies produced these portfolios.

I. INTRODUCTION

Financial markets value companies based on the future cash flows that are generated by their assets. These assets include not only tangibles, but also intangibles such as knowledge assets or brands, which are generally difficult to measure. Understanding the contribution of brands to the market value of companies has a long history, and researchers have often used research and development (“R&D”) expenditures and patent data to estimate

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I thank Dietmar Harhoff for his valuable support. I would also like to thank Georg von Graevenitz for his discussions on several issues concerning this article. This article would not have been possible without data provided by the Office for Harmonization in the Internal Market (OHIM) in Alicante, Spain. The contributions of the participants in the SFB/TR 15 workshop and research seminar at the University of Munich have also been helpful in the production of this article.
the monetary value for such assets (e.g., Connolly and Hirschey, 1988; Griliches, 1981; Hall, 2000; Hall et al., 2007). Though efforts have been made to estimate the monetary value for brands, less emphasis has been placed on systematically studying entire brand portfolios. Some researchers have employed measures at the brand level to analyze the determinants of brand value and to estimate the share of brand assets in total company value (e.g., Barth et al., 1998; Kallapur and Kwan, 2004; Simon and Sullivan, 1993).

Although there are many trademarks that have existed for generations and, by inference and operation, have guided and continue to guide product choice and selection by consumers (e.g., Swaminathan et al., 2001), there has been minimal study of how companies use trademarks as legal instruments to back their brand portfolios. In other words, although the world today is unimaginable without trademarks that transmit messages or deliver value propositions to assist or influence us when we decide to purchase products, trademarks and, in particular, their firm-level portfolios have largely been neglected by researchers in the area of both business and economics. This leads to the following research questions: How can brands be analyzed using trademarks? How can companies’ trademark portfolios be examined to reveal the inherent structure of these portfolios? Which trademark filing strategies can be identified? To address these questions, corporate brand management needs to be reconciled with the complex structure of trademark portfolios.

The objective of this study is to scrutinize companies’ trademark portfolios in detail and examine the trademark filing strategies that produced these portfolios. Understanding the link between brand management and the valuation of brand assets will provide a basis for better assessing how company brand management decisions contribute to company value and, in turn, how financial markets value the brands that a company owns. This allows investigating how brand management is associated with trademark filing strategies, unveiling the importance of different kinds of trademarks, and how trademarks are affiliated with brands.

Both brand creation and brand development are reflected by trademark filings. Identifying trademark strategies and determining whether they reflect company brand management provides insights into the inherent structure of a company’s trademark portfolio. It can be shown that there are four key trademark filing strategies: (i) creating, (ii) hedging, (iii) modernizing, and (iv) extending brands. In the case of the first strategy, brand creation, trademarks are filed because a new brand is created, for example, to cover new products. Second, trademarks that hedge brands are filed if a company simultaneously applies for several trademarks that are highly
interrelated and that jointly support various facets of a brand. Third, the strategy of modernizing brands is used if trademarks are filed in order to update the appearance of a brand or to prevent an established brand from becoming obsolete. Fourth, extending brands involves trademarks that are filed if established brands are to be extended to products in familiar or unknown markets.

This article demonstrates that the trademarks a company owns are not a loose accumulation of legal rights. Instead, this work shows that trademark portfolios have an inherent logic and are to a large extent systematically built. A technique that reveals the structure of trademark portfolios unveils the different roles of trademarks as well as the filing strategies responsible for producing these portfolios. This technique shows that trademark portfolios are organized in families that coherently protect brands. This is an important contribution as it makes the association between brands and trademarks explicit. Revealing the structure of trademark portfolios adds to the few studies in economics that simply pool trademarks on the firm-level (Bosworth and Rogers, 2001; Greenhalgh and Rogers, 2006a, 2006b). Also, it complements marketing-related research (e.g., Rao et al., 2004; Simon and Sullivan, 1993) by investigating brand assets through entire trademark portfolios obtained from objective data sources. Concerning marketing-related research, this contribution is particularly noteworthy since a large share of work studying brand assets deals with hypothetical data from laboratory settings or subjective data from consumer evaluations (e.g., Aaker and Keller, 1990; Dacin and Smith, 1994).

The remainder of this article is organized as follows. Part II explains the connection between brand assets, brand management, and trademarks. The development of brands would not be possible without transferable reputation and informational leverage. Both mechanisms are described in detail in Part III because they explain to a large extent how companies “construct” their trademark portfolios. Part IV, discusses an approach to reveal the structure of trademark portfolios and the application of this approach for companies that applied for Community Trade Marks (CTMs). CTMs are the pan-EU trademark rights granted by the Office for Harmonization in the Internal Market (OHIM) in Alicante (Spain). Part V provides a conclusion including limitations of this study and opportunities for future research.

II. THE CONNECTION BETWEEN BRAND ASSETS, BRAND MANAGEMENT, AND TRADEMARKS

This section discusses general approaches to company brand management and decision-making processing, while also providing background on brands as an asset class and how this asset class is
linked to brand management. Among the main issues of brand management are the decisions to create new brands or develop existing ones (e.g., by means of line extension or brand extension).

A. Brand Management

The way in which brands and trademarks are managed is influenced by the branding strategy. Brands differ from trademarks in two main ways: First, a brand can comprise not only a single name, term, design, or symbol, which regularly are the trademarks, but any combination thereof. Hence, although not explicitly stated in the aforementioned definition, a brand can represent a bundle of trademarks. Second, consumer perceptions of a brand are formed not only be the visual representations of trademarks (European Council, 1993, Art. 4) but also by intangibles such as reputation and image (Ailawadi et al., 2003). Though such visual representations assist the company in protecting its trademarks and the brand, for consumers, the definition of a brand focuses on the perceived added value delivered by the brand, and less so on the visual representation (Farquhar, 1989).

Brand management deals with the management of the whole brand and the trademark portfolio that a company owns. Although portfolios of brands have been considered in research (Aaker, 2004a; Montgomery and Wernerfelt, 1992; Petromilli et al., 2002; Simmons et al., 2000; Völckner and Sattler, 2006), this area lacks systematic examinations of brand portfolios and, in particular, trademark portfolios. Work in this area points out that, in addition to single brands, the brand portfolios of companies in their entirety are important to appropriately study companies that own multiple brands. Brand management involves marketing decisions that seek to build brand strength at the consumer-level. Moreover, companies are able to foster brand strength by filing trademarks that enable consumer perceptions to center on a particular and protected visual representation of the trademark, thereby establishing a link between the consumers and the company. Finally, companies protect the strength of a brand by taking legal actions against competing businesses that seek to take unfair advantage of a brand by filing confusingly similar trademarks.

As Simon and Sullivan (1993) point out, studying brand assets correctly and objectively allows an evaluation of the long-run impact of marketing decisions. Such decisions concern the structure of both the brand and the trademark portfolio. The structure of a brand or trademark portfolio can be regarded as the visible “façade” of a company. It represents the way in which a company organizes its brands, marks its products, and interacts with the market. Aaker (2004a) illustrates the portfolio configuration with several examples and classifies the brands in
companies’ portfolios according to their roles. According to him, a parent brand is located at the top of the hierarchy, e.g., the brand SONY. Then, by extending the parent brand into a new segment, a novel so-called sub-brand may emerge, e.g., SONY WALKMAN.

Brand management will be reflected in companies’ trademark portfolios. For example, the register of CTMs shows that Microsoft, according to its trademark filings, sought to create a new brand for its operating system WINDOWS\(^1\) as it did not explicitly link the trademark’s name to the corporate name.\(^2\) Microsoft continued this strategy with subsequent versions (e.g., WINDOWS XP\(^3\) and WINDOWS MOBILE\(^4\)). This is different from its package of office applications sold under the brand MICROSOFT OFFICE.\(^5\) Microsoft explicitly links this software package to its corporate name.\(^6\)

It is important to point out the linkages of brand management to new product development and subsequent market introduction. If a new product has been developed, several issues are important for its introduction to the market. The company has to decide whether it should create a new brand or use an existing brand to cover it. When creating a new brand, the name to be chosen is a complex issue. Schuiling and Moss (2004) illustrate these difficulties in the pharmaceutical industry. For example, the name of a new pharmaceutical product may be a chemical-derived name, a therapy name, referring to a use, an indication, or a newly invented name. If the company decides to use an existing name to cover the new product, it has to decide whether the existing brand is used without change to label the new product or if the existing brand is used through a modified name, which may trigger the filing of a new trademark. It has been stated that the corporate name itself is usually among the most important brands a company owns (Aaker, 2004b). As the history of well-known brands shows (e.g., SHELL or LUFTHANSA), a brand needs to be

1. CTMs No. 79681, No. 327890, and No. 1691963.
2. Here, creating a new brand explicitly needs to be distinguished from a new product. Of course, the new product may carry both trademarks, MICROSOFT and WINDOWS. However, the name of the new trademark is WINDOWS and not “MICROSOFT WINDOWS.”
3. CTM No. 2160810.
4. CTM No. 3423845.
5. CTMs No. 951459, No. 2157113, and No. 7138225.
6. MICROSOFT does not call this software package simply “Office,” “Office 2000,” or “Office XP.” Obviously, the trademark “Office” is devoid of distinctive character, and its filing would be rejected if it has not gained distinctiveness through use. Although not protected, Microsoft could still use the term “Office” for advertising its software suite, something that has not happened. While trademarks like “OFFICE 2000” or “OFFICE XP” are unlikely to be subject of a rejection, Microsoft still did not register these trademarks.
modernized to continuously serve as an attractive platform for extensions and new product launches (Farquhar, 1989; Farquhar et al., 1992).

Brand management thus deals with two main decision categories. The first category involves decisions to create new brands or to use existing ones when introducing new products. If an existing brand is used to accommodate the new product, the brand is said to be extended or stretched (Aaker, 1990; Cabral, 2000). The second decision category is solely associated with applying an existing brand and concerns the way in which the brand is developed. In general, it must be decided whether existing brand names should be used without any change or whether they should be modified. Developing a brand might elevate the brand to the status of an umbrella brand. An umbrella brand is a brand that spans various products, product classes or business segments but still seeks to communicate a common value proposition (Erdem, 1998; Sullivan, 1990; Wernerfelt, 1988). For example, VIRGIN can be viewed as an umbrella brand covering retail business, an airline, a radio station, and other business segments. According to the founder of VIRGIN, Richard Branson, “Consumers understand that all the values that apply to one product—good service, style, quality, value and fair dealing—apply to the others” (Time Magazine, No. 26, June 1996, cited by Andersson, 2002). Of course, a common value proposition of such different product categories all carrying the same brand is not always given. Still, the example of VIRGIN illustrates the breadth an umbrella brand can take.

B. Creating Versus Developing Brands

Brand management first involves the creation of new brands and, second, the development and leveraging of established brands, for example, by extending pre-existing brands to new products. If companies introduce new products, the decision either to create a new brand or to use an existing one is influenced by cost-benefit analyses (Choi, 1998; Smith and Park, 1992) and by the availability of a suitable brand for further development (Choi, 1998; Osler, 2004). The share of new products that use an existing brand through extension has been estimated to range between 80% and 95% of all new product introductions (Aaker, 1991; Kim and Sullivan, 1998; Rangaswamy et al., 1993). An interesting example is the car manufacturer Toyota (Choi, 1998). For communication to the mass market, it used its corporate brand TOYOTA, which is linked to introductions of new cars like TOYOTA AYGO7 or

7. CTM No. 3342227.
However, when Toyota introduced LEXUS as a new car category to target the premium market segment, it avoided any associations with the corporate brand TOYOTA when filing trademarks. Obviously, the question arises why Toyota intentionally connected its cars for the mass market with its corporate name but chose a new unrelated brand for its luxury cars. According to Choi (1998), this can be explained by Toyota entering a new market segment with different consumer preferences.

When extending an established brand to a new product, researchers distinguish between line extension and brand extension (Aaker and Keller, 1990; Ambler and Styles, 1997; Reddy et al., 1994). Line extension refers to the application of an existing brand to a new product with the new product being in a category the brand is already known in. In other words, the existing brand is not extended to new product classes. Examples include the broad product portfolios of consumer electronics manufacturers like HEWLETT PACKARD, which uses its corporate brand for virtually all new products. Brand extension involves the application of an established brand to different product classes that are new to the brand. An example is CANON, which initially produced photographic cameras and later extended its brand to printers and photocopiers (Cabral, 2000). Another example is HONDA, which originally produced motorcycles but later extended its name to automobiles as well as lawn and garden power tools (Dacin and Smith, 1994).

Instead of using the term brand extension, as most researchers do, sometimes researchers prefer to say “brand stretching” (e.g., Pepall and Richards, 2002) although both mean the same. Some researchers explicitly focus on brand extensions (e.g., Smith and Park, 1992; Sullivan, 1992), and others focus on line extensions (e.g., Reddy et al., 1994). The main features of both extension modes such as informational leverage, transferable reputation, and spillover effects—described in the next part—apply to both variants of extensions. It needs to be noted that, depending on the definition of how broad a product class is, the distinction between line and brand extensions blur. While both line extension and brand extension refer to the process of extending an existing brand to new products, the term umbrella brand refers to the result of several extension processes: An

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8. CTM No. 726026.
9. CTMs No. 24406 and No. 24919.
10. For the remainder of this study, “extension” and “brand extension” shall be used interchangeably, with “extension” also covering “line extension” if not noted otherwise.
umbrella brand covering a broad range of different products or product classes thus results, to a large extent, from multiple extensions.

A cost-benefit analysis compares the attractiveness of brand development to that of brand creation (Choi, 1998). For firms extending their brands either within or beyond original product categories, several sources of costs and benefits have been revealed by researchers. According to Smith and Park (1990), firms that use brand extension have lower advertising expenses and thus exhibit a greater advertising efficiency. Tauber (1988) found that on average the cost of introduction of a new product via a brand extension amounts to 50 million US dollars, compared to 150 million US dollars when a product is introduced with a newly created brand. One would anticipate that these launch costs are even higher due to inflation given the date of Tauber’s study. Brand extensions also have a positive impact on the market share of new products (Smith and Park, 1992). Moreover, it has been stated that extensions have the potential to generate future cash flows and are valued by financial markets (Srivastava et al., 1998). On the other hand, costs may be incurred if consumers become confused, for example, when a brand name is used on various products, leading to the dilution of the existing brand (Loken and John, 1993).

The availability of a suitable brand for development is required if a new product is to be introduced to the market by extending an existing brand (Osler, 2004). Obviously, if the company is not able to find leveragable associations with an existing brand, a new brand needs to be created. The suitability of developing a brand has been widely discussed in the marketing literature referring to the ‘fit’ between the parent brand and the extension (Aaker and Keller, 1990; Broniarczyk and Alba, 1994; Keller and Aaker, 1992; Reddy et al., 1994; Völckner and Sattler, 2006, 2007). The parent brand could be damaged, for example, if two products carrying the same brand are too different, leading to consumer confusion. In particular, quality considerations matter as illustrated by the brands TOYOTA and LEXUS. Choi (1998) analyzed the decision of firms to use brand extension or to create a new brand and finds that “new brand names are created for high-cost premium products such as LEXUS, whose market is limited to upscale consumers”11 (p. 666). His study focused on multi-product companies having different reputations in different markets. It has been found that the development of brands through extensions

11. Emphasis added.
signals high quality; this will be described in more detail in the next section.

III. INFORMATIONAL LEVERAGE, TRANSFERABLE REPUTATION, AND SPILLOVER EFFECTS

Brand management would not be possible without transferable reputation and informational leverage. Extensions have been proven to be profitable strategies because of the reduced product introduction cost, the increased chance of success, the advertising efficiency that can be gained, the increased demand that an existing brand can provide to a new product, and the premium prices that can be charged (Aaker, 1990; Kapferer, 2004; Pepall and Richards, 2002; Reddy et al., 1994; Smith and Park, 1992; Tauber, 1988). Any successful development of brands such as extending or modernizing brands would not be possible without informational leverage (Choi, 1998). Informational leverage builds upon transferable reputation and spillover effects between the parent brand and the new product. Spillover effects can also have a reciprocal nature since the brand value of the parent brand can in turn be enhanced or diminished (Swaminathan et al., 2001). In all, it is important to also consider the extension potential of a brand when studying brand assets (Tauber, 1988).

Brand extension is a mechanism of informational leverage (Choi, 1998). Consumers make inferences from the performance of one product to other products using the same brand. For example, if a consumer discovers a product’s inferiority, he might opt to not repurchase the same product again or refrain from purchasing another product that is affiliated with the same brand: The experience with his first purchase is valuable information regarding the second purchase. As Wernerfelt (1988) stated, consumers pool their experiences with several products and attribute them to the brand. Because consumers use these pooled experiences to infer the performance of other products of the same brand, the brand carries information, and companies can use the brand to transmit information to consumers. If companies extend an established brand to a new product, they seek to tap into consumers’ experiences with products sold under the established brand and to link these experiences with the new product. Using informational leverage thus allows companies to alleviate the problem of asymmetric information because consumers use the experience of old products to infer the performance of new products.

Companies can only solve the problem of asymmetric information through informational leverage if consumers correlate their beliefs about the quality of products sharing the same brand.
This leads to spillovers from the experience of known products to unknown products. The assumption that consumers correlate their beliefs has been empirically validated using experimental settings (Aaker and Keller, 1990) and field data (Balachander and Ghose, 2003; Erdem, 1998; Sullivan, 1990). Aaker and Keller (1990) found that the perceived quality of one product provides a stock of information about the expected quality of other products. According to Erdem (1998), consumer expectations about the quality of several products are highly correlated if these products share the same brand. The panel data that she uses in her regression framework concern dental care products, some of which carry the same brand. Sullivan (1990) also uses field data from the automobile market and observes image spillovers. Hakenes and Peitz (2008b) point out that numerous product classes are concerned such as cars, consumer electronics, household durables, cosmetics, and many services (e.g., maintenance or financial services), as these product classes are characterized by imperfect observability of product quality.

The link between brand extension and product quality has been assessed in the economics literature. Extending brands to new products is a signal of high quality (Cabral, 2000; Choi, 1998; Hakenes and Peitz, 2008b; Wernerfelt, 1988). Choi (1998) considers a multi-product monopolist introducing new experience goods. He finds that informational leverage leads to less price distortion of the newly-introduced products. According to him, firms stake their “reputation as a bond for quality in using brand extension as a signal of quality” (p. 655). Reputation is at stake if the association of a high-quality with a low-quality product adversely affects the profits of the former due to the negative evaluation of the brand by consumers. The reputation being transferred between products leads to both forward and reciprocal spillover effects (Wernerfelt, 1988). Wernerfelt (1988), using a signaling model, argues that a common brand shared by different products represents a “performance bond” that only links high-quality products. The company’s decision to extend a brand

12. Experience goods require the consumer to first purchase the product before he is able to determine its quality (Nelson, 1970). Examples include appliances, automobiles, and consumer electronics.


13. Choi (1998) states that brand extension is not the only mechanism for informational leverage. According to him, “any marketing arrangement that purposely associates one product with another” (p. 667) is a form of informational leverage as long as the company puts its reputation at stake. Hence, other mechanisms for informational leverage are sequencing of product introductions or bundling of products (Choi, 1996, 1998).
optimally spans only high-quality products in order to comply with consumer perceptions. If the company chooses to extend a high-quality brand to a low-quality product, it would jeopardize its reputation and its overall product quality. The monopolist therefore uses brand extension only if the new introduced product is of high quality. Cabral (2000) takes a different approach and compares high-quality with low-quality firms. He finds that high-quality firms whose reputation builds on past performance will often use extensions to transfer their reputation to new products. His model suggests that high-quality firms benefit more from reputation than low-quality firms. Thus, he argues that stretching reputation by means of extensions signals high quality. Hakenes and Peitz (2008b) argue that umbrella brands act as “a safeguard to consumers” (p. 547) and also provide incentives to companies to offer products of high quality if these products are sold under a well-developed brand. This is in line with the finding that umbrella brands act as full or partial substitutes to external quality certification (Hakenes and Peitz, 2008a). Moreover, Choi (1988) points out that brand extensions might enhance incentives for R&D.

Taking a broader perspective, Montgomery and Wernerfelt (1992, p. 50) argue that “reputational economies of scope” exist. This can be traced back to information spillovers, which exist between all products affiliated with one shared brand. If products are introduced sequentially, Smith and Park (1992) find that brand extensions benefit from spillover effects of the parent brand. However, it is important to note that both forward and reciprocal spillover effects exist (Balachander and Ghose, 2003). Balachander and Ghose (2003) apply scanner data from food products and find reciprocal spillover effects between products that carry the same brand, namely, that the success of the parent brand is affected by new product introductions carrying the same brand. These reciprocal spillover effects can be both negative and positive (Balachander and Ghose, 2003; Swaminathan et al., 2001). Negative reciprocal spillovers exist because consumers might devalue the brand subsequent to an extension thereby also threatening other products affiliated with the brand. These negative reciprocal spillover effects can weaken the parent brand and can materialize through cannibalization or dilution of the brand (Aaker, 1990; Farquhar, 1989; Loken and John, 1993; Sullivan, 1990).

The success of extensions is mainly driven by the way consumers process information and evaluate the extension. The sources of success and failure of these instruments have been widely studied in the marketing literature (for a survey, see Völckner and Sattler, 2007). Some studies employed laboratory experiments and confronted potential consumers with hypothetical
extensions (e.g., Aaker and Keller, 1990; Dacin and Smith, 1994) while others examined actual extensions (e.g., Erdem, 1998; Kim and Sullivan, 1998). The factors that drive extension success can be grouped into (i) determinants related to the parent brand, (ii) the relationship between the parent brand and the extension product, (iii) the extension’s product class characteristics, and (iv) the characteristics of the company (Völckner and Sattler, 2007). Factors relating to the parent brand are the quality of the parent brand (Smith and Park, 1992), the associations with the parent brand (Aaker and Keller, 1990; Reddy et al., 1994), the experience with a parent brand (Kim and Sullivan, 1998), and the brand’s previous extension history (Dacin and Smith, 1994). In the second group, the most important factor is the “fit” between the parent brand and the extension. The “fit” usually involves the similarity or dissimilarity of the parent brand and the extension. To assess similarity, Aaker and Keller (1990) used the product classes of the original and the extension product. Numerous studies examined and confirmed the importance of this factor (Aaker and Keller, 1990; Broniarczyk and Alba, 1994; Keller and Aaker, 1992; Reddy et al., 1994; Völckner and Sattler, 2006, 2007). The third group, which relates to characteristics of the extension’s product class, covers factors such as the mode of product evaluation (i.e., search goods versus experience goods) (Smith and Park, 1992). Finally, the fourth group comprises company characteristics such as firm size or advertising support (Reddy et al., 1994).

Having described the mechanisms that allow extensions to be a profitable strategy, the approach to identify the trademark filing strategies that companies apply when they file their trademarks will be developed in the next section.

IV. REVEALING THE STRUCTURE OF TRADEMARK PORTFOLIOS

To assess trademark filing strategies, the structure of how companies build and maintain their trademark portfolios needs to be known. Revealing the structure of trademark portfolios means that the various trademarks a firm possesses have to be grouped into separate coherent trademark families. I use the term “trademark family” in order to denote a group of trademarks that jointly protects a brand to preserve its distinctiveness. This allows separating those trademarks potentially creating new brands from those that are filed adjacent to existing brands. For example, Microsoft’s brand WINDOWS is protected not only by its
corresponding trademark\textsuperscript{14} but also by new trademarks that refer to the parent brand but have been filed subsequently such as WINDOWS XP,\textsuperscript{15} WINDOWS MOBILE,\textsuperscript{16} or WINDOWS VISTA.\textsuperscript{17} Trademark protection means that the distinctiveness of a brand can be maintained since trademarks allow their owners to take legal actions against counterfeiting, imitation, or competitors who file identical or confusingly similar trademarks (European Council, 1993, Art. 8, and Art. 9; Phillips, 2003). Thus, trademark families serve as the legal basis of a brand’s distinctiveness and protect various facets and appearances of the brand. This section explains the source of the trademark data and these data to evaluate and describe the trademark families. Then it assesses which trademark filing strategies companies employed to form these families.

\textbf{A. Data Source and Sample}

For building corporate trademark portfolios, this article relies on CTM data provided by the OHIM. This database represents a copy of the CTM register comprising all CTMs that have been filed between 1996 through 2004. There are no CTM filings before 1996 since the OHIM commenced its operations in that year. As this study analyzes trademark filing strategies, it is arguable that the focus should be on companies’ branding aspirations, namely their trademark applications, regardless of whether an application is ultimately granted or rejected.\textsuperscript{18} Applications are strategically filed to achieve three brand management objectives, namely: creating, modernizing, and extending brands. Creating and extending brands has already been explained in detail, and modernizing brands can be summarized briefly as the “renovation” of existing brands. This strategy might be required to inhibit the dilution of a brand or to conserve a brand’s potential to provide a platform for subsequent brand extensions. Perhaps the brand’s prior visual representation needs to be updated to increase its appeal to consumers or a facelift is required to change undesirable consumer associations attributed to the prior visual representation of the

\begin{itemize}
\item \textsuperscript{14} CTM No. 1691963.
\item \textsuperscript{15} CTM No. 2160810.
\item \textsuperscript{16} CTMs No. 3423845, and No. 3901527.
\item \textsuperscript{17} CTM No. 4510749.
\item \textsuperscript{18} For the remainder of this study, the term “trademark” is thus used to cover both applications and registered trademarks. This also applies to the terms “trademark portfolio” and “trademark families.”
\end{itemize}
brand. There is a fourth trademark filing strategy, hedging brands, that cannot be derived from the perspective of brand management since it specifically builds on the nature of trademarks as intellectual property rights and their relation to multi-faceted brands. In all, the dataset from the OHIM comprises 402,724 trademark applications, of which 229,627 have been registered until the end of 2004 when the legal status of each application was recorded; 56,169 trademark applications failed and 116,928 were still in the application process.

In order to group the trademarks within a company’s portfolio into families, the relatedness between the trademarks needs to be examined. Although trademarks “may consist of any signs capable of being represented graphically, particularly words, including personal names, designs, letters, numerals, the shape of goods or of their packaging” (European Council, 1993, Art. 4), this study focuses on those trademarks that contain words or letters for two reasons. First, the relatedness between these text-based trademarks can be assessed more easily and more objectively than other types of trademarks such as pure graphical symbols, which would require a systematic examination of images. Second, the majority of trademarks are text-based, be it either a pure word mark or a trademark that includes text in its graphical depiction. Of all 402,724 trademarks in the dataset, 378,811 (94.1%) are text-based and analyzable.

Companies of all sizes file trademarks. Using the financial databases Reuters and Compustat, it is possible to identify the world’s largest publicly traded companies. A total of 4,085 companies complied with this study’s selection criterion of reporting at least 400 million Euros in revenues in their last income statement. Other criteria such as the selection of certain industries were not imposed. The next section describes how trademark portfolios were built for these companies.

**B. Building Trademark Portfolios**

To establish firm-level trademark portfolios, the trademarks of the OHIM database needed to be reconciled with the names of the companies obtained from the financial databases Reuters and Compustat. This study employed a consolidation approach that uses each company name as a search pattern and assigns the

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19. Note that such situations involve the filing of new trademarks because registered trademarks generally cannot be altered (European Council, 1993, Art. 48).

20. Actually, 383,495 trademarks are text-based but 4,684 of them cannot be systematically analyzed. Specifically, this study declared those trademarks as analyzable which contained two or more alphanumeric characters.
appropriate set of compatible trademark applicants to that company. This step is necessary since a company can be represented by multiple trademark applicants. There are three main reasons for this: First, spelling variations or misspellings can immediately lead to a seemingly inflated number of applicants.\textsuperscript{21} Such variations of applicant names can be traced back to inconsistencies committed by the trademark applicant or the examiners at trademark offices. Second, a company changing its name or its legal form leads to multiple applicants. Third, a company as a corporate entity needs to be distinguished from trademark applicants as legal entities. From an organizational perspective, large corporations own different legal entities, which represent several divisions and departments. Trademarks are filed on the level of legal entities. An appropriate consolidation of trademarks at the corporate level thus requires that all trademark filings of these associated applicants are pooled on the company-level. An examination of the data reveals that not all companies of the initial selection filed CTMs. Trademark applications were matched to 2,289 companies, which in total filed 57,370 trademarks with the OHIM. Table 2, discussed in detail in the next section, reports the top 30 companies as measured by the numbers of CTM applications they have filed (see the column containing the portfolio size). The Japanese company Konami tops the list, with 1,401 trademark applications, followed by Procter & Gamble (827 CTM applications) and Deutsche Telekom (797 CTM applications).\textsuperscript{22}

\textbf{C. Identifying Trademark Families}

This section explains the algorithm employed to identify the various trademark families within each trademark portfolio and then presents the results obtained by applying this algorithm.

\textbf{1. The Algorithm to Identify Trademark Families}

After building firm-level trademark portfolios, their structures are revealed. As pointed out above, this study uses the characters,

\textsuperscript{21} This issue has also been found to be a severe problem with patent filings (Magerman et al., 2006).

\textsuperscript{22} Note that 12 of these top 30 companies having the largest CTM portfolios are US-based. It is possible that if non-European companies enter the European market, they are more likely to seek Europe-wide protection by filing CTMs instead of filing multiple trademarks at the national level. As compared to European companies, which might still file national trademarks despite the advent of the CTM as a pan-EU right (Greenhalgh and Rogers, 2006a), the possibility of filing national trademarks additionally increases the share of non-European companies in the sample.
words and syllables contained in trademarks to form trademark families within the portfolios. Within each corporate portfolio, trademarks are grouped into families by an iterative algorithm beginning with the first trademark filed and ending with the last.

Based on this algorithm, the trademark families within a portfolio will be uncovered as illustrated in Figure 1. It begins with the first trademark filed by a company, trademark A, and gradually analyzes each trademark that is subsequently filed. As the second trademark B is filed by that company, the relatedness between both trademarks is assessed. If B is related to A, it is connected to the first trademark and creates a trademark family with two members. In Figure 1, this is indicated by an arrow. As the third trademark C is filed, the relatedness of this trademark to the preceding two trademarks, A and B, is assessed. Where the relatedness is greatest, trademark C is connected to that trademark, which is trademark A in Figure 1. As the fourth trademark D is filed by the company, its relatedness to all previous trademarks is assessed again. If it is found to be unrelated to any of the previously filed trademarks, it does not become connected to any preceding trademarks; instead, it becomes an independent trademark, at least until the new trademark E arrives. D and E are then connected because they show the highest relatedness compared to the other preceding filings. Note that trademarks K, P, and Q remain independent because they were not found to be related to others.
Depending on the highest relatedness to previous filings, new trademarks may also lead to “chains” of trademarks. Figure 1 illustrates this by the trademarks F, G, and H. Trademark F, the first one filed within its group, initiated the trademark family. The subsequently filed trademark G was connected to F since G yielded the highest relatedness. H was then filed and found to have the highest relatedness to G among all other preceding filings; hence, it is connected to trademark G and forms a “trademark chain.” This addresses the issue raised by Dacin and Smith (1994), who suggested that extension chains also need to be considered.

The order of the algorithm explained above is determined by the filing dates of the trademarks. When multiple trademarks were filed on the same day, the CTM application numbers were used to order them simply because I assume that lower numbers are processed earlier by the OHIM than higher numbers. This may not be fully appropriate since companies might intentionally file multiple trademarks on the same day. Simultaneous filing is considered and accommodated in Figure 1 through the use of bold
lines instead of arrows to represent such relations (trademarks L, M, and N).

The assessment of the relatedness among trademarks is a difficult issue. Every time a new filing enters the portfolio, the relatedness of this filing to all previously filed trademarks needs to be assessed pair by pair. When assessing these pairs, the pair showing the highest relatedness then needs to be determined. If the similarity is below a certain threshold or if other criteria are not met, relatedness is rejected and no connection is created between the new filing and any of the previously filed trademarks. In this study, relatedness is based upon the text-based similarity of a trademark pair. The similarity of trademarks can be analyzed solely on the basis of numerical string similarity algorithms like the Jaro-Winkler or the Levenshtein approach (Cohen et al., 2003; von Graevenitz, 2007). Such algorithms provide a value that indicates the similarity estimate between any two strings. This study uses the bigram measure, whose values range between zero and one, with higher values indicating higher similarity. However, trademarks that contain specific words or syllables have to be treated separately as it is these key terms that make up the reference to a common brand. For example, consider the filing of the trademarks ROCHE, ROCHE CARDIAC, LA ROCHE. The similarity metric of the bigram string comparator yields 0.89 for a comparison of ROCHE and LA ROCHE. Using a threshold of 0.7, this value is above the threshold indicating a reasonable degree of relatedness. However, although ROCHE and ROCHE CARDIAC are also clearly related, the bigram metric indicates a similarity measure of 0.14, which mistakenly indicates a very low degree of relatedness. Companies often seek to trigger spillovers from one trademark to another by intentionally making them similar or using common words or syllables in both. Hence, based on the construction of trademarks, a two-step approach is more appropriate when assessing their relatedness. In the first step, similarity is assessed based on words or syllables that are contained in both trademarks of each pair. In this step, for example, the fact that ROCHE is included in ROCHE CARDIAC is considered as an indicator of high relatedness. The second step assesses similarity using the bigram string comparator as a similarity metric to assess imperfect string matches. In this step, the words a trademark is composed of do not matter. Instead, only

23. Specifically, only the alphanumeric characters of the texts contained in trademarks are used to determine the relatedness between trademarks.

24. This is due to the algorithm that cannot distinguish between the relevant importance of the fragments ROCHE and CARDIAC. Obviously, the former should be more strongly weighted, which this study’s approach exactly seeks to do.
the letters matter so that, for example, the trademark SULAGIL can be found to be related to the trademark SOULAGIL although neither word is included in the other. This hybrid approach of combining the search for perfect matches with reliance on similarity algorithms is appropriate because it takes into account the way in which companies construct their trademarks to induce spillovers between them. Moreover, this approach—given that trademarks are compounds of words or syllables—is likely superior to applying solely numerical algorithms.

The second step of the process involves the application of the bigram string comparator as a similarity algorithm. In the first step, however, ROCHE and ROCHE CARDIAC are compared, and it is found that the text of the former trademark is fully included in the text of the latter trademark. Put differently, it is arguable that similarity within a pair of trademarks occurs in a hierarchy with five different layers. As different layers are given by the way in which trademarks have been constructed, the first step deals with determining the layer of each trademark pair. Higher layers represent higher degrees of relatedness. After the first step, pairs with lower degrees of relatedness are therefore ruled out and only the remaining pairs of the highest layer are passed on to the second step. To select the most similar pair in the second step, the bigram string comparator is then used.

In the first step, each pair is assigned to one of the following five layers whose explanation is organized in a descending degree of relatedness: The fifth layer, with the highest degree of relatedness, is used for trademark pairs where both trademarks are identical. The fourth layer regards pairs where one trademark as a separate word is fully included in the other one if and only if the other trademark begins with that word, e.g., ROCHE and ROCHE CARDIAC. The third layer concerns pairs where one trademark as a separate word is fully included in the other one regardless of the position within the other trademark, e.g., PANASONIC and NEW PANASONIC SPECIAL. The second layer refers to those pairs where one trademark is fully included in the other one but not as a separated word, e.g., SANOSTOL and MULTISANOSTOL. The fifth layer does not require any common word or syllable but instead requires the bigram metric to be \( \geq 0.7 \), e.g., SULAGIL and SOULAGIL having a bigram metric of 0.97.

To illustrate the differences of this technique to others that seek to form groups in large networks, the total number of possible connections is an interesting criterion. On maximum, the technique used in this work establishes \( n - 1 \) connections given that the portfolio consists of \( n \) trademarks. Establishing trademark families through relatedness between trademarks aims at finding the preceding trademark that is most similar to the new incremental trademark entering the portfolio. New trademarks are
therefore either connected to exactly one preceding trademark or connected not at all.\textsuperscript{25}

This is in contrast to other approaches that seek to find clusters in networks by connecting each node with multiple other nodes. Approaches of this kind would result in a maximum of \( n(n - 1) / 2 \) connections.\textsuperscript{26} Because only very few studies dealt with trademarks and their portfolios, this study employed the preferred technique described above due to its clarity and its replicability. Other approaches would add substantial complexity but would not greatly alter the outcome. Moreover, regarding trademark filing strategies, the approach used here complies with the suggestions set out by several researchers to systematically assess order, directions, and chains of extensions (Dacin and Smith, 1994; Dawar and Anderson, 1994).

To summarize the technique of identifying trademark families used in this study, new trademarks flowing into the portfolio are compared to all previously filed trademarks. This process leads to new trademark families, the growth of existing families, as well as a number of independent trademarks, which are not connected to any preceding trademark. A trademark family is thus defined as comprising at least two trademarks.\textsuperscript{27}

\section*{2. Empirical Results}

After the last trademark has entered the portfolio, the outcome stage can be inspected. Figure 2 presents the trademark families in the portfolio of the telecommunications company.

\textsuperscript{25} This approach only produces robust results, however, if the relatedness observed within pairs of trademarks is unambiguous. If the assessment was ambiguous, one subsequent trademark would have to be linked to two or more preceding ones. The two-step approach of assessing relatedness outlined above turned out to have this characteristic: In all, 14,514 assessments of relatedness were performed, and the approach proposed potential 14,545 connections between trademarks. The difference between proposed connections and performed assessments is due to 31 assessments that had ambiguous outcomes as some incremental trademarks were proposed to be connected to two or more preceding trademarks because the bigram metric of the second step did not produce unique values among the pairs. The trademarks involved in this rather low amount of uncertain assessments (i.e., the share of ambiguous connections is 0.2\% of all assessments) were therefore randomly connected to one of the proposed preceding trademarks.

\textsuperscript{26} If all pairwise combinations of, for example, four objects A, B, C, and D are formed, six assessments (\( = 4 \cdot 3 / 2 \)) are required: A and B, A and C, A and D, B and C, B and D, as well as C and D.

\textsuperscript{27} Independent trademarks exist for several reasons, which are not distinguished in this study. For example, an independent trademark may singularly protect a brand or it protects a slogan in advertising. In both examples, the trademark is not related to others in the portfolio.
Vodafone. In all, Vodafone filed 53 CTM applications. Of these, 19 applications were independent and 34 applications were grouped in three trademark families. Note that Figure 2 only includes the trademarks arranged in families. As this figure shows, the largest trademark family agglomerates around the trademark VODAFONE. This trademark family consists of 30 trademark applications. Each of the other two trademark families (INTERCARE and OMNIFIN/OMNIAFIN) accommodates two applications. As arrows indicate successive filings and bold lines multiple filings on the same day, the development of these brands can be assessed. Various subsequent filings made explicit reference to the trademark VODAFONE. Some of these clearly extended the parent trademark, e.g., VODAFONE HOTSPOT. Others used the parent trademark without changing the text. This can be interpreted as modernizing or extending the parent trademark depending on the target product class of the new filing. VODAFONE LIVE is also an interesting example. It clearly followed the parent trademark VODAFONE. Instead of filing just one application, however, Vodafone filed four applications including the same text on the same day as indicated by the bold lines. In all, this figure suggests that Vodafone has a rather developed umbrella brand.

28. For graphically depicting the trademark families in this and the following figures, the program Cytoscape was used.

29. Note that the lengths of the connections vary only in order to display the trademarks in the best possible way. There is no additional interpretation of this.

30. Three of these filings are figurative and differ in the way they are graphically represented. The fourth filing is a word mark.
Figure 3 shows trademark portfolios of other companies in various industries: Deutsche Telekom operating in telecommunications, BASF producing chemicals, and Philips mainly producing electronics. The variety of trademark portfolios both in size and structure suggests that these companies employed different trademark filing strategies. Most companies developed certain larger core trademark families in addition to numerous smaller ones. With some companies, the corporate brand is protected by the largest trademark family in their portfolios (e.g., Deutsche Telekom, and Vodafone). With others, product-oriented brands are protected by more trademarks than the corporate brand (e.g., BASF). A main reason for such fundamental differences in trademark portfolios are companies’ business models.

31. Deutsche Telekom, having one of the largest trademark portfolios, filed 797 trademark applications, of which 482 are contained in 137 families. BASF, with 676 trademark applications, accommodates 174 of them in its 61 trademark families. Philips filed 234 applications, of which 34 are contained in 14 families.

32. The trademark family Telekom also includes all trademarks related to the corporate brand DEUTSCHE TELEKOM.
Figure 3: Trademark Portfolios of Deutsche Telekom, BASF, and Unilever

(A) Deutsche Telekom
(797 TMs in portfolio, thereof 482 TMs in 137 families. 315 independent TMs not displayed.)

(B) BASF
(676 TMs in portfolio, thereof 174 TMs in 61 families. 502 independent TMs not displayed.)

(C) Philips
(234 TMs in portfolio, thereof 34 TMs in 14 families. 200 independent TMs not displayed.)
and their industries, which lead them to emphasize different trademark filing strategies. Interestingly, the graphical depiction of Philips’ trademark portfolio understates the number of applications Philips has filed. Philips filed 234 trademarks, of which only 20 are included in trademark families; the remaining 214 are independent applications. Philips files trademarks that are less related to each other than those filed by other companies like Deutsche Telekom or Vodafone. A reason might be that Philips uses its corporate brand to label its products and also new trademarks that are not associated with existing brands.

Both the order and direction of developing brands are important for corporate brand management (Dawar and Anderson, 1994). Families of various sizes as well as many independent trademarks emerge as a result of different brand management strategies. Table 1 shows how all 57,370 applications that were filed by 2,289 companies were grouped into families. 36,740 trademark applications (64%) were independent. The other 20,630 trademark applications (36%) were grouped into 6,146 families of varying sizes. About two thirds of the families consisted of only two trademark applications (13.8% of all trademark applications). Approximately one third of the families comprised 3 to 15 applications, representing 17.3% of all applications. 98 families had a size of 16 trademark applications or more, making up 4.8% of all applications.

<table>
<thead>
<tr>
<th>Family size</th>
<th># of families</th>
<th># of TMs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3,971</td>
<td>7,942</td>
<td>13.8%</td>
</tr>
<tr>
<td>3</td>
<td>923</td>
<td>2,769</td>
<td>4.8%</td>
</tr>
<tr>
<td>4</td>
<td>421</td>
<td>1,684</td>
<td>2.9%</td>
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<tr>
<td>5</td>
<td>232</td>
<td>1,160</td>
<td>2.0%</td>
</tr>
<tr>
<td>6-10</td>
<td>384</td>
<td>2,881</td>
<td>5.0%</td>
</tr>
<tr>
<td>11-15</td>
<td>117</td>
<td>1,477</td>
<td>2.6%</td>
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<tr>
<td>16-20</td>
<td>41</td>
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<td>1.3%</td>
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</tr>
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<td>0.7%</td>
</tr>
<tr>
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<td>262</td>
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</tr>
<tr>
<td>51-75</td>
<td>5</td>
<td>320</td>
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<tr>
<td>75-100</td>
<td>2</td>
<td>191</td>
<td>0.3%</td>
</tr>
<tr>
<td>&gt;100</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Families: 6,146
Trademarks in families: 20,630 (36.0%)
Independent trademarks: 36,740 (64.0%)
Total: 57,370 (100.0%)

Table 1: Distribution of Trademark Family Size
This article argues that brands are represented by trademark families. This is reasonable since the inclusion in a trademark family by the criteria used herein requires inherent relatedness between the trademarks of a family. This relatedness allows consumers to transfer the reputation between products that may carry different but related trademarks. Companies thus intentionally use the relatedness of their trademark filings as the basis of informational leverage, which triggers spillover effects. Assuming that each product is sold under one main brand, these spillover effects mostly happen within the trademark family of that brand and are far less likely to happen between trademark families. This leads to another interesting interpretation of Table 1. It shows the distribution of the number of trademark applications on which companies build their brands. Trademarks form the legal basis for the differentiating power of brands (Phillips, 2003). Estimates of the number of ‘legal roots’ a brand might have, however, do not exist. Table 1 therefore provides some insights into the legal backing of brands.

Table 2 reports the 30 largest trademark portfolios along with some characteristics of the portfolio structures. Konami, a Japanese electronics manufacturer, has the largest portfolio with 1,401 trademarks. Procter & Gamble (827 filings) and Deutsche Telekom (797 filings) have the second- and the third-largest portfolios. The number of total applications in the portfolio of company $i$, $TM_i$, can be split into trademarks of different types:

$$TM_i = TMI_i + TMC_i + TMD_i,$$  

(1)

$TMI_i$ is the number of independent trademark applications, which are not linked to a trademark family. $TMC_i$ is the number of those trademark applications that initiate a particular trademark family and to which subsequent trademark applications are connected. Thus, it is arguable that they refer to the brand creation efforts of a company. Finally, $TMD_i$ is the number of applications that enlarge and develop existing trademark families. Therefore, these trademark filings appear to reflect a company’s brand development efforts.
<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Country</th>
<th>Portfolio size (TMi)</th>
<th>Independent TMs (TMIi)</th>
<th>Brand-creating TMs (TMCi); # of families including...</th>
<th>Brand-developing TMs (TMDi)</th>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>2-5 TMs</td>
<td>6-15 TMs</td>
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<td>1,042</td>
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<td>797</td>
<td>315</td>
<td>121</td>
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<td>358</td>
<td>44</td>
<td>11</td>
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<td>502</td>
<td>59</td>
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<td>363</td>
<td>76</td>
<td>1</td>
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<td>42</td>
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<td>265</td>
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<tr>
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<td>146</td>
<td>42</td>
<td>1</td>
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<td>309</td>
<td>192</td>
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<td>307</td>
<td>138</td>
<td>37</td>
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<td>292</td>
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<td>222</td>
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<td>UK</td>
<td>280</td>
<td>203</td>
<td>24</td>
<td>0</td>
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<td>Abbott Laboratories</td>
<td>US</td>
<td>278</td>
<td>194</td>
<td>33</td>
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<tr>
<td>26.</td>
<td>Saint-Gobain SA</td>
<td>France</td>
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<td>206</td>
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<td>27.</td>
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<td>France</td>
<td>271</td>
<td>201</td>
<td>25</td>
<td>0</td>
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<td>28.</td>
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<td>US</td>
<td>270</td>
<td>139</td>
<td>39</td>
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<td>US</td>
<td>263</td>
<td>174</td>
<td>30</td>
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<td>Ford Motor Company</td>
<td>US</td>
<td>256</td>
<td>110</td>
<td>14</td>
<td>0</td>
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</table>
Table 2 includes these portfolio characteristics. Procter & Gamble, for instance, filed 827 trademark applications \((TMI)\), of which 357 were independent \((TMI)\). Of the remaining applications, 105 initiated trademark families \((TMC)\) and 365 were filed to develop existing families \((TMD)\). Note that Table 2 splits \(TMC\) into various classes. Of the 105 applications initiating trademark families, 85 have been developed to families with a size of two to five trademark applications. 18 of those family-initiating trademarks subsequently developed into families with 6 to 15 applications, and two of these trademarks initiated families with more than 25 applications.

As the trademarks that a company filed can be differentiated according to their roles, Table 2 leads to interesting insights into companies’ trademark filing strategies. Still, a thorough assessment of these strategies is not possible without a more detailed categorization of the role trademarks take within their family. The next section goes further in this direction in that it thoroughly reveals the trademark filing strategies that formed the families which were identified in this section.

### D. Identifying Trademark Filing Strategies

The development of trademark families discussed in the previous section did not reveal how the development of the families proceeded. The way in which these families were developed depends on the particular filing strategies employed. In order to discriminate between these strategies, different roles of trademarks need to be identified. To examine companies’ trademark filing strategies, it is therefore important to assess the role of each trademark application.

To distinguish between various trademark roles that develop existing brands, it is important to consider the characteristics exhibited by the connection between two trademarks. Based on these characteristics, for example, the “fit” of the extension can be explored, which has been found to be an important factor (e.g., Aaker and Keller, 1990; Keller and Aaker, 1992; Reddy et al., 1994; Smith and Park, 1992; Völckner and Sattler, 2006, 2007). To characterize the connection between two trademarks, two dimensions are employed: the linkage dimension and the market coverage dimension. The linkage dimension concerns the connection between two trademarks in a family, including similarity and filing sequence. The market coverage dimension comprises the congruence of the product classes covered by each trademark. Figure 4 summarizes the roles that a newly filed trademark can take in the portfolio. Note that the linkage dimension and the market coverage dimension are not mutually exclusive. Each trademark developing a brand takes two characteristics informing about its role: The first characteristic is
The linkage dimension concerns the connection between two trademark applications. This dimension is based on two factors. The first factor, filing sequence, refers to the elapsed duration between both applications. This distinguishes between trademark filings that were brought to the OHIM on the same day and those that were filed successively. The second factor is related to the content of both trademarks and refers to the degree of trademark similarity. This allows discriminating between a trademark “update,” where the texts of both trademarks are identical, and a trademark extension, which refers to a slightly altered trademark text (e.g., VODAFONE and VODAFONE LIVE).

The process of determining the linkage dimension and deriving a specific trademark role is illustrated in Figure 5. Recall that a bold line represents simultaneous filings and an arrow reflects successive filings. The linkage dimension reveals three roles that a developing trademark can take. For the purpose of this study, these roles were named as follows: First, the linked trademark can take the role of a *penetrating trademark* if both
trademarks are filed on the same day and, additionally, the texts of both trademarks are equal. Penetrating trademarks occur if a company seeks to protect very similar signs through multiple simultaneous filings. This might be necessary for strongly protecting a brand, for example, through multiple slight variations of the same logo containing equal content. Second, a trademark is a **retaining trademark** if it is filed subsequently and has the same content. For instance, trademark filings with equal content at different points of time are observed if a company redesigns its logo or otherwise updates it. Basically, retaining trademarks keep the content of an older trademark but adjust it or develop it further. Third, a **refining trademark** refers to trademarks in which the content is similar but not equal to a preceding one regardless of the duration between the two filings. A refining trademark uses the parent trademark and adjusts its content. This is typical for extensions where the parent brand is extended to a new brand to accommodate a new product introduction. Here, the new trademark is tailored for the new product but the new product is still put under the “umbrella” of the parent brand. An example of this is TOYOTA YARIS and TOYOTA.

**Figure 5: Linkage Dimension**

![Diagram](image)

33. Note that equal texts do not necessarily imply equal trademarks, for example, if two similar logos or images include equal texts.
2. The Market Coverage Dimension

The market coverage dimension relates to the congruence of the product classes of two connected trademarks. For example, if a brand is extended to a new product category, the company aims at leveraging its existing brands. New markets can be entered by applying an established brand to a new product. Researchers have highlighted the importance of the targeted product class and its relation to the product class of the parent brand in determining the success of such extensions (Dacin and Smith, 1994; Lane, 2000; Pepall and Richards, 2002).

With trademark data, the congruence between two successively filed trademark applications can be assessed according to the product classes to which each application is assigned. These product classes are set out by the Nice Classification and span 34 goods and 11 service classes (Mendonça et al., 2004; WIPO, 2006). When filing a trademark, the applicant specifies the Nice classes in which he wishes to gain protection. The applicant can choose any combination of Nice classes. He can even specify all 45 Nice classes. However, the OHIM might reject this ambition and limit the Nice classes during the examination process (European Council, 1993, Art. 38). Comparing the product classes affiliated with two connected trademarks allows one to measure the market-related congruence between both trademarks. Assume that a trademark has been filed, for example, in Nice classes 2, 3 and 4. This set of Nice classes makes up the benchmark against which a subsequent trademark filing is compared. If the subsequent trademark filing is, for example, affiliated with Nice classes 1 through 5, it is reasonable to argue that this subsequent filing is broadening the company’s originally covered product classes (see Figure 6).

34. The CTM No. 2977569 (NESTLÉ) is an example affiliated with all 45 Nice classes.
35. A trademark might not be registrable for all kinds of goods and services. The trademark APPLE, for example, is a generic term when applied to food and is thus not registrable in this product class. However, it is registrable for computers and consumer electronics because it is not generic for these products.
36. Note that, due to revisions of the Nice Classification, only 42 classes could be considered until the end of 2001. Thereafter, 45 classes were considered.
Comparing the overlap between the Nice classes of two trademarks leads to five different roles which, for the purpose of this study, were named as follows (see Figure 6). First, the subsequent filing can take the role of a preserving trademark if its set of Nice classes is identical to the preceding trademark. In this case, the market scope is not altered through the new trademark filing. Second, if the subsequent trademark application has only a subset of the Nice classes of the preceding trademark, it takes the role of a narrowing trademark. Here, the market scope decreases with the new filing. The third role is that of a broadening trademark, which includes additional product classes when compared to the preceding filing. Here, the market scope clearly increases. The fourth role is a differentiating trademark, which is affiliated with some of the preceding Nice classes but also adds new ones. Finally, the fifth role is a diversifying trademark, which has no Nice classes in common with its preceding trademark.

The approach described above helps to analyze the development of a company’s brands, which might happen both within and beyond the original product classes. The market coverage dimension provides insights in which direction a company develops its brands.
3. Combining the Linkage Dimension and the Market Coverage Dimension

Both the linkage dimension and the market coverage dimension allow a characterization of those trademarks that develop brands. As the dimensions are not mutually exclusive, they can be combined as illustrated in Figure 7. More important, combining the linkage dimension with the market coverage dimension allows one to trace how companies develop brands through trademark filing strategies. Concerning the development of brands, the trademark filing strategies hedging, modernizing, and extending can be identified through these two dimensions.

Figure 7: Identifying Hedging, Modernizing, and Extending Strategies

<table>
<thead>
<tr>
<th>Market coverage dimension</th>
<th>Linkage dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-enlarging coverage</td>
<td>Penetrating trademarks</td>
</tr>
<tr>
<td></td>
<td>Retaining trademarks</td>
</tr>
<tr>
<td></td>
<td>Refining trademarks</td>
</tr>
<tr>
<td>Enlarging coverage</td>
<td>Hedging</td>
</tr>
<tr>
<td></td>
<td>Modernizing</td>
</tr>
<tr>
<td></td>
<td>Extending (Line)</td>
</tr>
<tr>
<td></td>
<td>Extending (Brand)</td>
</tr>
</tbody>
</table>

Hedging as a trademark filing strategy has not yet been explained in detail in this study. This strategy refers to the case where a company files multiple highly-related trademark applications on the same day in order to strongly protect various facets of a brand. This strategy involves solely penetrating trademarks. What primarily distinguishes this strategy from the others is that here, simultaneous filings occur so that informational leverage is unlikely to be employed.

Modernizing as a filing strategy is characterized by two conditions. First, the market scope is not broadened. Second, trademarks are filed gradually but still exhibit great similarities compared with preceding trademarks. This trademark filing strategy can be assessed based on those trademarks that take both
the role of retaining trademarks and that of preserving or narrowing trademarks.

Extending as a trademark filing strategy can be identified in two ways. First, trademarks that are related but not identical indicate extensions. This includes examples like COKE, DIET COKE, and CHERRY COKE (Aaker and Keller, 1990; Reddy et al., 1994). Second, enlarging market coverage also represents extensions. This complies with the literature where entering new market segments is the key feature of brand extensions (Aaker and Keller, 1990; Reddy et al., 1994). To accommodate both of these aspects, trademarks which enlarge the market coverage (broadening, differentiating, and diversifying trademarks) and which are filed subsequently (retaining and refining trademarks) appear to reflect extending strategies. More specifically such a filing is likely to reflect a brand extension. However, trademarks that do not enlarge the market coverage (preserving and narrowing trademarks) can still reflect an extending strategy but only if there is support for such strategy as demonstrated by the kind of linkages between the trademarks (refining trademarks). In this case, it is reasonable to assume that the filing reflects a line extension.37

Creating as a filing strategy finally concerns initiating a new trademark family that might eventually represent a new brand. As this strategy does not relate to the development of existing brands, it is not included in Figure 7. Recall that this strategy does not involve the filing of subsequent trademarks because creating a brand—by definition—means the filing of an unrelated trademark application.

Table 3 provides a summary of the four trademark filing strategies that have been identified: creating, hedging, modernizing, and extending brands. To summarize, the identification of trademark families allows scrutinizing how companies seek to protect their brands through trademark filings. This led to the distinction between trademarks that create brands and trademarks that develop brands. To examine more precisely the strategies companies employ to develop their brands, the trademarks were characterized according to their roles. In turn, the frequencies of these roles allow determining which trademark filing strategies are employed by companies.

37. If the linkages between the trademarks suggest a high similarity (which means identical texts), the trademark filing strategy is however not extending but modernizing.
Table 3: Overview of Trademark Filing Strategies

<table>
<thead>
<tr>
<th>Trademark filing strategy</th>
<th>Rationale</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating brands</td>
<td>- Protect newly created brands (e.g., for quality consistency reasons, new products or new product lines)</td>
<td>- Trademarks that initiate a family, which is subsequently developed by the filings of at least one other trademark</td>
</tr>
<tr>
<td>Hedging brands</td>
<td>- Protect different facets and appearances of a brand</td>
<td>- Trademarks in families that (1) are filed on the same day as their connected trademark and (2) exhibit very similar trademark content as measured by identical texts</td>
</tr>
<tr>
<td></td>
<td>- Seek strong protection of a brand through filing of multiple slight variations of a sign</td>
<td></td>
</tr>
<tr>
<td>Modernizing brands</td>
<td>- Maintain the protection of an existing brand, whose trademarks need to be updated from time to time</td>
<td>- Trademarks in families that (1) are filed subsequently to their connected trademark, (2) exhibit very similar trademark content, as measured by identical texts, and (3) do not enlarge the market coverage</td>
</tr>
<tr>
<td></td>
<td>- Protect the differentiation potential of an existing brand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Conserve an existing brand as a powerful platform for future extensions</td>
<td></td>
</tr>
<tr>
<td>Extending brands</td>
<td>- Extension as a mechanism of informational leverage since consumers correlate the expectations they have about products that carry the same brand</td>
<td>- Trademarks in families that (1) are filed subsequently to their connected trademark, (2) exhibit very similar trademark content as measured by identical texts, and (3) enlarge the market coverage</td>
</tr>
<tr>
<td></td>
<td>- Use existing brand for launching new products in familiar (line extension) or new markets (brand extension) to raise advertising efficiencies and increase the success of new product introductions</td>
<td>- Trademarks in families that (1) are filed subsequently to their connected trademark and (2) exhibit trademark content of lower similarity</td>
</tr>
</tbody>
</table>
Table 4: Companies’ Trademark Filing Strategies

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Vodafone</th>
<th>Deutsche Telekom</th>
<th>BASF</th>
<th>Philips</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TMs</td>
<td>%</td>
<td>TMs</td>
<td>%</td>
<td>TMs</td>
</tr>
<tr>
<td>Trademark applications</td>
<td>57,370</td>
<td>100%</td>
<td>53</td>
<td>100%</td>
<td>797</td>
</tr>
<tr>
<td>Independent trademarks</td>
<td>36,740</td>
<td>64.0%</td>
<td>19</td>
<td>35.8%</td>
<td>315</td>
</tr>
<tr>
<td>Brand-creating trademarks</td>
<td>6,146</td>
<td>10.7%</td>
<td>3</td>
<td>5.7%</td>
<td>137</td>
</tr>
<tr>
<td>Brand-developing trademarks</td>
<td>14,484</td>
<td>25.2%</td>
<td>31</td>
<td>58.5%</td>
<td>345</td>
</tr>
<tr>
<td>Hedging trademarks</td>
<td>1,551</td>
<td>2.7%</td>
<td>4</td>
<td>7.5%</td>
<td>60</td>
</tr>
<tr>
<td>Modernizing trademarks</td>
<td>2,037</td>
<td>3.6%</td>
<td>1</td>
<td>1.9%</td>
<td>20</td>
</tr>
<tr>
<td>Preserving and retaining trademarks</td>
<td>1,525</td>
<td>2.7%</td>
<td>1</td>
<td>1.9%</td>
<td>16</td>
</tr>
<tr>
<td>Narrowing and retaining trademarks</td>
<td>512</td>
<td>0.9%</td>
<td>0</td>
<td>0.0%</td>
<td>4</td>
</tr>
<tr>
<td>Extending trademarks</td>
<td>10,896</td>
<td>19.0%</td>
<td>26</td>
<td>49.1%</td>
<td>265</td>
</tr>
<tr>
<td>Triggered by line extensions</td>
<td>5,555</td>
<td>9.7%</td>
<td>2</td>
<td>3.8%</td>
<td>110</td>
</tr>
<tr>
<td>Preserving and refining trademarks</td>
<td>3,638</td>
<td>6.3%</td>
<td>1</td>
<td>1.9%</td>
<td>61</td>
</tr>
<tr>
<td>Narrowing and refining trademarks</td>
<td>1,917</td>
<td>3.3%</td>
<td>1</td>
<td>1.9%</td>
<td>49</td>
</tr>
<tr>
<td>Triggered by brand extensions</td>
<td>5,341</td>
<td>9.3%</td>
<td>24</td>
<td>45.3%</td>
<td>155</td>
</tr>
<tr>
<td>Broadening and retaining trademarks</td>
<td>758</td>
<td>1.3%</td>
<td>4</td>
<td>7.5%</td>
<td>18</td>
</tr>
<tr>
<td>Broadening and refining trademarks</td>
<td>1,010</td>
<td>1.8%</td>
<td>5</td>
<td>9.4%</td>
<td>48</td>
</tr>
<tr>
<td>Differentiating and retaining trademarks</td>
<td>520</td>
<td>0.9%</td>
<td>2</td>
<td>3.8%</td>
<td>5</td>
</tr>
<tr>
<td>Differentiating and refining trademarks</td>
<td>1,133</td>
<td>2.0%</td>
<td>13</td>
<td>24.5%</td>
<td>79</td>
</tr>
<tr>
<td>Diversifying and retaining trademarks</td>
<td>1,101</td>
<td>1.9%</td>
<td>0</td>
<td>0.0%</td>
<td>4</td>
</tr>
<tr>
<td>Diversifying and refining trademarks</td>
<td>819</td>
<td>1.4%</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
</tr>
</tbody>
</table>
4. Empirical Results

Using the approach explained above to categorize the trademarks in company portfolios allows studying to what extent companies employ different trademark filing strategies. Table 4 illustrates this decomposition not only for the total trademarks covered by the companies in the sample but also for several corporate portfolios. 75.2% of all trademarks that develop already existing brands can be traced back to extending strategies. Based on the categorization above, approximately half of these reflect line and half brand extensions (51% vs. 49%). Trademark filings based on hedging strategies have been employed nearly as frequently as modernizing strategies (10.7% vs. 14.1%). However, both hedging and modernizing strategies are less frequent than extension strategies.

Regarding the trademark filing strategies of specific companies, Table 4 shows that Deutsche Telekom to a substantial degree used hedging strategies to protect its brands: It rather frequently filed simultaneous applications for very similar trademarks. Pfizer and BASF also engaged in trademark activities that preserved or narrowed its market scope. This is different from other companies such as Vodafone or Deutsche Telekom which largely filed trademarks to broaden their market scopes.

V. CONCLUSION

The objective of this study was to reveal the structure of trademark portfolios and to identify different filing strategies linked to corporate brand management. This work may contain valuable lessons for both researchers and practitioners. It is important for both to recognize that trademark portfolios are not loose agglomerations of independent trademarks. Instead, groups of trademarks within a portfolio exist so that the trademarks within such groups jointly protect the brands of a company. For example, it was shown that some of BASF’s brands, e.g., SICO or STYRO, and also the corporate brand BASF, are protected by groups of trademarks, namely “trademark families.” BASF is not a unique example since many companies hold large trademark portfolios with the inherent logic of trademark families. Revealing the structure of company trademark portfolios unveils how companies build their portfolios to protect their brands. With the technique presented in this study, researchers and practitioners

38. Dividing the number of extending trademarks (10,896) by the number of brand-developing trademarks (14,484) yields 75.2%.
can now examine companies’ brand assets in great detail. This has been the first study to rely on trademark data to reveal and examine the structure of brand and trademark portfolios. Specifically, CTMs were considered which cover the territory of the European Union.

The technique discussed herein reveals the structure of corporate trademark portfolios and establishes groups of trademarks that protect a brand. Moreover, this technique uncovers the role of trademarks and categorized them according to the filing strategies employed by companies. For several companies, their trademark portfolios were “constructed” to illustrate the linkages between trademarks and brands. It has clearly been demonstrated that companies’ trademark portfolios are not loose agglomerations of independent trademarks. Instead, families of trademarks within portfolios exist and the trademarks within the families jointly protect the brands of a company.

Company trademark portfolios are produced along different filing strategies. Four different trademark filing strategies have been identified: creating, hedging, modernizing, and extending brands. The first strategy of creating brands involves trademark applications that are filed because the name or the sign of a new brand needs to be protected. This trademark filing strategy refers to the creation of new brands. Hedging is the second strategy and refers to a company’s intense simultaneous filing of several very similar trademarks. A company employs this strategy to protect different facets of brands with multiple trademarks. Third, modernizing strategies correspond to the renewal of established brands to keep their appearance up-to-date and to maintain their strengths. The fourth strategy, extending brands, is used in order to extend established brands to cover new products, potentially with the purpose of leveraging existing brands in new markets.

The findings of this study may be valuable for both researchers and managers. They add to the general understanding of how trademarks are linked to brands. The findings of this study are based on a technique that reveals the structure of trademark portfolios, which provides formidable insights into a company’s intellectual property activities. It has been shown that trademark portfolios include complex structures that protect companies’ brands. This systematic technique allows studying company brand management activities from a broader perspective since entire company portfolios and their development could be analyzed based on different strategies.

However, the results of this study do not come without caveats. Although the technique of revealing the structure of trademark portfolios is replicable and unveils the role of trademarks within their portfolios, trademark filing strategies could be more accurately assessed if more detailed measures of
how trademarks were applied to products were available: If the affiliation of trademarks with their products could be observed for all trademarks considered in the sample, more refined measures of trademarks and their associated strategies would result in a more accurate assessment of filing strategies. Data of this kind are largely proprietary and thus were not available for this analysis although they would be available to company insiders.

Two main avenues for future research on trademarks can be identified. It is important to investigate how companies back their brands with trademarks and how they assign brands and trademarks to products. Brands can be represented by bundles of trademarks. Over time, companies develop brands further so that, in some cases, a brand may even outlive the company that originally created it. Investigating why companies invest in brand assets and how companies further develop their established brands seems to be a promising field of future research, especially because trademarks allow researchers to analyze the entire brand portfolios of companies. This field of research is interesting because brands are intangible assets that can be virtually indefinitely deployed to new products in both familiar and unknown markets. Assessing the allocation of brands to products, including the dynamics over time, might yield interesting results. Recall that trademarks can be registered for the full range of manufactured goods and services. Thus, these analyses would not necessarily have to be restricted to specific industries. The technique of revealing the structure of corporate trademark portfolios presented in this article can also be helpful in assessing the simultaneous activities of companies in different lines of business.

REFERENCES


