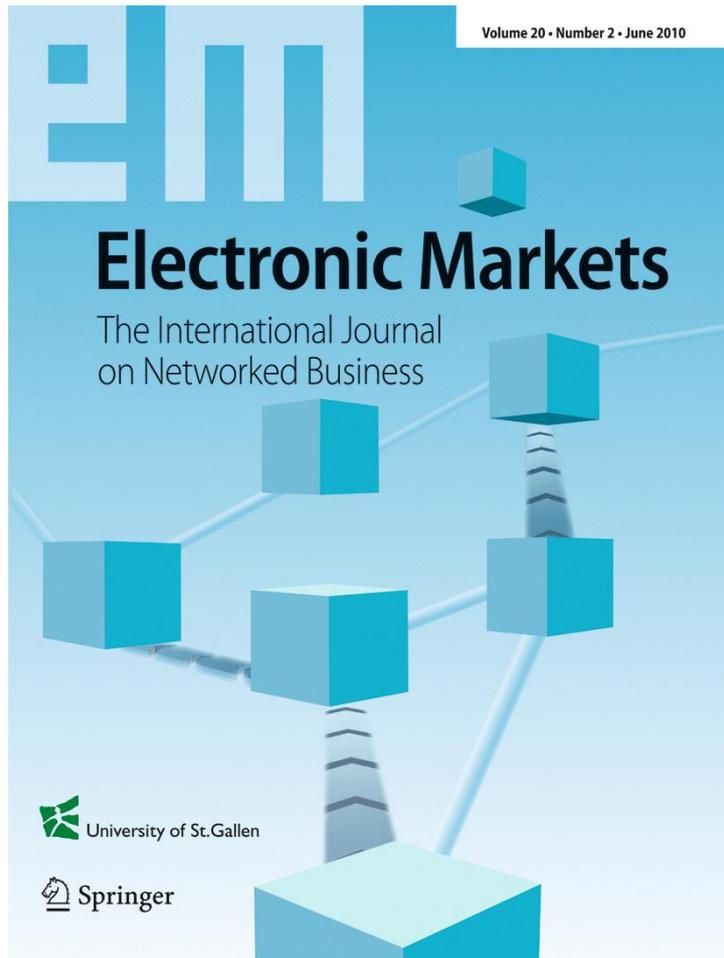


ISSN 1019-6781, Volume 20, Number 2



**This article was published in the above mentioned Springer issue.
The material, including all portions thereof, is protected by copyright;
all rights are held exclusively by Springer Science + Business Media.
The material is for personal use only;
commercial use is not permitted.
Unauthorized reproduction, transfer and/or use
may be a violation of criminal as well as civil law.**

E-commerce: a brand name's curse

Samuel Otim · Varun Grover

Received: 4 March 2009 / Accepted: 21 April 2010 / Published online: 8 May 2010
© Institute of Information Management, University of St. Gallen 2010

Abstract The reach of the Internet and the low cost of selling products online have made it possible for anybody to participate in the online market. In this paper, we argue that e-commerce can be a brand name's curse due to information asymmetries and the existence of indifferent consumers, which perpetuate counterfeiting of branded products and the infringement of brand names in e-markets. Counterfeiting and infringement devalue the information capital embodied in a brand name, and ultimately reduce sales and profits of the brand name holders. While legal measures have been enacted to deal with intellectual property problems, we argue that market mechanisms are more efficient and more effective in dealing with brand name problems in e-markets. This is because rules in themselves often provide neither the slightest hint of where to look for violations, nor the incentive to convict violators. Market mechanisms such as information syndication, pricing of e-markets services, and vendor malpractice could be effective in deterring counterfeiting and brand name infringement. We hope our positional contribution will stir interest to look into this serious problem and extend our suggestions by developing concrete innovative mechanisms to safeguard online transactions.

Keywords E-commerce · E-markets · Counterfeiting · Brand names

JEL Classification L81

Introduction

The reach of the Internet and the low cost of selling products online have made it possible for anybody to participate in the online market. Set-up costs are particularly low for vendors¹ selling products on the Web sites of established e-markets intermediaries (or cybermediaries) such as Amazon.com and eBay.com. Given that anybody can sell products online through cybermediaries, coupled with the anonymity of the Internet, customers face a tougher challenge to verify the credibility of the vendors and authenticity of products listed for sale. The problem of verifying the authenticity of products in online environments has encouraged the growth of *counterfeiting*—the illegal use of a spurious trademark that is identical with, or substantially indistinguishable from, a registered trade mark (Jennings 1989).²

Responsible editor: Rolf T. Wigand

S. Otim · V. Grover (✉)
Department of Management, Clemson University,
101 Sistine Hall,
Clemson, SC 29634-1305, USA
e-mail: vgrover@clemson.edu
URL: <http://people.clemson.edu/~vgrover/grover.htm>

S. Otim
e-mail: sotim@clemson.edu

¹ Our usage of “vendor” refers to anybody selling products online, which may include established retailers, manufacturers engaged in direct sales, and partners and individuals selling products through other established web sites (e.g., Amazon.com's value net partners). Furthermore, the recommendations suggested in this paper can be “scaled up” or “scaled down” depending on the size of the vendor. Also, the goods could be any goods that have brand equity. Higher priced goods tend to have greater counterfeiting and infringement issues.

² While counterfeiting is not limited to brand name products, we focus on branded products due to the added problem of snobbish or aspirational consumers for this category of products.

Counterfeit products are frequently listed for sale at eBay.com and other Web sites. According to the International Anticounterfeiting Coalition (2008), due to the Internet, counterfeiting has grown over 10,000 percent over the last two decades and it is now estimated to exceed \$600 billion each year globally. The sale of counterfeit goods is believed to cost U.S. businesses over \$200 to \$250 billion annually (International Authentication Association 2010). While the characteristics of the Internet have facilitated the growth of this phenomenon, it is partly fueled by consumer demand. This demand arises from “catching up with the Joneses syndrome” (Abel 1990), whereby some “snobbish” or “aspirational” consumers purchase branded goods for the purpose of demonstrating to others that they are consumers of a particular good and/or belong to a certain class (the ‘elite’ class).³ This group of consumers knows that the product is a counterfeit but still prefers to purchase it instead of a non-branded product. The apparent anonymity of the Internet makes it easier for them to do so.

Brand names are a class of intellectual property, and within the intellectual property domain, they are protected under trademark law (Ridgway 2006). A trademark is a label, whether word, symbol, sound, color, or other signifier, used by a business entity to distinguish its goods or services from those sold by others (Rozek 1982). Trademarks are thus the legal form of names that serve as carriers of reputation. While trademark law has traditionally relied on a clear distinction between trademark users (sellers of goods and services) and its beneficiaries (consumers), the Internet blurs this distinction (e.g., we have consumer-to-consumer auctions and transactions on eBay). As a consequence, legally enforcing trademark breaches has become a daunting challenge. This is exacerbated by the lack of a physical presence of some Internet players and the global reach of the Internet, which transcends jurisdictional boundaries. In the pre-Internet era, international trade was the domain of large companies and large-volume transactions. The players were fairly easy to identify and the cost-benefit ratio of litigation was reasonable (Vetter and Hill 2006; Viguerie et al. 2006). The cost-benefit ratio is hard to justify in the domain of e-commerce and electronic markets for a couple of reasons. First, the lack of physical presence of some online vendors makes it harder to apprehend culprits (hence pushing up the legal costs of enforcement). Second, low volume transactions typical of fragmented small vendors on the Internet imply that the benefits of enforcing intellectual property laws are correspondingly small.

While trademarks have been in use for centuries, and counterfeiting of trademarks has always been a problem (Jennings 1989), the Internet injects multiple ways for this problem to be realized in a larger scale in e-commerce. Brand names have become a *curse* in e-commerce because the owners of strong branded products tend to lose or are *cursed* in a couple of ways: (1) the reputation embedded in the brand name is devalued by counterfeiting, undermining the sunk investments brand name companies undertook to build such reputation over time, and (2) counterfeit products cut into brand owner’s market share, resulting in lost revenue (Higgins and Rubin 1986; Klein and Leffler 1981). The first curse arises as a result of the reaction to counterfeiting by genuine *elite* consumers. Since this group of consumers prefers genuine to counterfeit products, realization that a product is a counterfeit leads these consumers to devalue the exclusiveness of even genuine brand products (i.e., counterfeiting implies that *ex post*, these consumers will have received less than they bargained for). The second curse is attributed to *snobbish* or *aspirational* consumers that are indifferent about counterfeit products. Since these consumers do not really care if the product is counterfeit as long as it appears genuine to an outside observer, this change in consumption motive increases the amount of counterfeiting, resulting in lost revenue for the brand name company.

Despite the prevalence of counterfeiting in e-markets, there is surprisingly limited research on this important issue, despite the burgeoning literature on e-commerce. This paper provides some conceptual foundations on the growing problem of counterfeiting in e-commerce and suggests some preventive measures that go beyond the traditional legal route of trying to cure the problem by apprehending culprits. Like many things in life, we believe that prevention may be better than cure.

The remaining sections of this paper are organized as follows. The next section outlines the benefits provided by a brand name, both to the customer and the branded company. Thereafter, we discuss the types of brand name problems in e-commerce and the facilitating Internet features, using real-world examples to bolster our discussion. We then discuss measures that could be used to mitigate counterfeiting problems, while pointing out the limitations of some of the proposed solutions. The final section provides some concluding comments.

Benefits of a brand name

The benefits of a brand name accrue both to the consumer and to the seller of branded products. To the consumer, a brand name provides the following benefits: (1) reduces search costs, (2) guarantees a certain level of quality and

³ Snobbish consumers are alternatively called “aspirational” consumers because they aspire to be of the status of true high-end consumers (i.e., true “elite” consumers).

consistency, and (3) acts as a source of psychological reward (i.e., a consumer derives psychological satisfaction from owning a brand product, such as a Rolex watch or a Mercedes Benz car). For the seller of branded products, a brand name provides the following benefits: (1) helps differentiate its product offerings from those of competitors, (2) fosters customer trust and brand loyalty, (3) reduces price comparisons and guarantees price premiums, (4) preserves reputation, (5) preserves goodwill, and (6) facilitates product line extensions. We briefly discuss each of these benefits below.

Benefits to the consumer

Reduce search costs It is often too costly for buyers to gather information on price, quality, reliability, service, style, technical characteristics, warranties, and so on about the various products they purchase. Classical trademark law is based on the proposition that consumers rely on a particular mark to identify a product possessing a particular mix of attributes (Landes and Posner 1987). From this viewpoint, a brand name is a proxy for a set of product attributes. Thus, a brand name serves as an *information conduit* or *channel* through which product and seller information is delivered to the consumer. By inferring product and seller attributes from the brand (i.e., product quality and seller reputation), consumers realize savings in search costs. These savings accrue because the stronger the reputation of a brand, the less likely a customer is to engage in extensive information search and evaluation before making a purchase (Shapiro 1982). Ads such as “it’s a Sony” are intended to signal the strength of a brand name and the quality of the product. Customers know this and often buy brand name products without extensive information evaluation required for less familiar and unbranded products. From the advertising perspective, a trademark induces a consumer to purchase a particular brand because of the associations a consumer makes between that trademark and concrete information (i.e., price, source, ingredients, quality, and characteristics) delivered through an advertisement of the goods to which the trademark is attached (Chaudhuri 2002).

While it is often stated that the Internet has reduced consumer search costs (e.g., Bakos 1991), search can still be time consuming and information verification can be a problem in online environments, despite the Internet’s capacity to present rich information. This is because information can be rich and yet remain inaccurate, distorted, or equivocal (Grover et al. 2006). Furthermore, the sheer volume of online information makes information overload a real problem for those inclined to do extensive information search and evaluation, despite the presence of a plethora of online decision aids that supposedly help with information filtration and condensation (Grover et al.

2006). Thus, brand names still serve as information channels even in the online context because customers are more likely to trust branded products listed for sale on the Internet, resulting in limited search and evaluation.

Guarantee Quality and Consistency A brand is the promise of a certain level of quality and consistency and serves as the basis for the relationship between a customer and a specific product, service or company (Abrahams and Granof 2002). Due to the far-flung nature of e-commerce transactions, brand names take an increased significance in an online marketplace. In a physical market place, quality assurances could be made through the interaction of consumer and producer. However, when transactions take place in an impersonal channel such as the Internet, the use of brand names becomes necessary as a source indicator to assure the quality of the goods purchased and authenticity of the vendor (Lwin and Williams 2006).

Provide Psychological Reward Besides imparting concrete information to the consumer as to the source, price or components of a product, brands can also be associated with symbolic or conceptual meanings, conveying status, prestige, or trendiness (Achenreiner and John 2003). For instance, a person may desire to buy a Mercedes car, and may be willing to pay a higher price for it, not solely because of the mechanical attributes or reliability of the vehicle, but also because the brand name “Mercedes” carries with it a distinction of prestige and wealth, and gives a consumer a feeling of exclusivity (Yan 2007). Names such as “Calvin Klein” and logos such as “Nike” are displayed on apparel and many consumers value this display because it portrays some social status (Achenreiner and John 2003).

Benefits to the firm

Differentiate Product Offerings from Competitors A brand name helps a firm identify its goods and services and to differentiate them from those of competitors (Kotler 1997). This mitigates consumer confusion as to the source and quality of products and a firm that can effectively differentiate its product and service offerings through strong brand recognition will be rewarded with customer loyalty (Carroll and Ahuvia 2006).

Foster Customer Trust and Brand Loyalty Research from marketing indicates that customer trust in a brand is a significant antecedent to brand loyalty and market share (Chaudhuri and Holbrook 2001; Lau and Lee 1999). Customer trust in the brand derives from the reliability of a brand or from more favorable affect when customers use the brand. Trust in the brand leads to brand loyalty and ultimately to greater market share as a result of repeated

purchase of same brand by loyal customers, irrespective of situational constraints (Assael 1998).

Reduce Price Comparisons and Guarantee Price Premiums Branding makes even commodity products less comparable, and effectively reduces price comparisons across similar products; a result similar to that from product bundling (Bakos and Brynjolfsson 1999; Harlam et al. 1995). Thus, if signaling via a brand name is effective, mimetic pricing behavior on the part of an opportunistic competitor is mitigated (Tsao et al. 2006). As a result, stronger brands may enjoy a price premium over weaker brands, and branded products may realize higher prices over unbranded products (Chaudhuri and Holbrook 2001).

Preserve Reputation Under asymmetrical and incomplete information conditions, firms strive to project and maintain signals of their quality (Gompers 1996). Brand names are valuable because they denote consistent quality, and hence preserve the reputation of the firm. A firm's reputation reflects stakeholder impressions of its disposition to behave in a certain manner, incorporating information about how a firm compares to its competitors (Basdeo et al. 2006).

From the economics perspective, Klein and Leffler (1981) and Shapiro (1982, 1983) have shown that a firm that engages in repeat transactions has an incentive to use the market, as distinct from formal legal processes, to assure the quality of its product. The firm charges a price to cover its costs of production and invests the premium in reputation (brand name) capital that it forfeits, wholly or in part, if it fails to establish a favorable reputation. Since reputation is built over time, the quality of items produced in previous periods serves as a signal of the quality of those produced during the current period. The necessity of investing in reputation implies that, in equilibrium, high quality items must sell for a premium above their costs of production. This premium represents the initial investment in reputation and a benefit to the supplier or producer owning the brand name. Furthermore, favorable reputations allow firms to increase prices to consumers without significant backlash (Basdeo et al. 2006).

Preserve Goodwill The law and economics literature on contracts suggests that brand name capital does more than assure quality: it assures specific performance—the fulfillment of specific terms of the contract (De Alessi and Staaf 1994; Klein et al. 1978). Goodwill is an intangible asset representing a good relationship between a firm and its customers based on trust. From a transaction economics perspective, partners to a transaction fraught with uncertainty and risk of opportunistic behavior can safeguard the exchange using either formal safeguards (e.g., explicit contracts) or informal safeguards based on trust (Klein et

al. 1978; Williamson 1975). Scholastic research suggests that informal safeguards based on trust such as goodwill are the most effective and least costly (i.e., more efficient) way for facilitating complex exchange (Hill 1995; Dyer and Singh 1998). Since goodwill is based on trust, the reliance on writing, monitoring, and enforcing formal contracts is alleviated, thereby reducing transaction costs associated with these activities (Dyer and Singh 1998). Thus, the goodwill-preserving aspect of brand names enables consumers to return efficiently to the supplier that pleased them in the past; thereby rewarding the supplier with continued patronage (i.e., self-sustaining relational contracts).

Facilitate Product Line Extensions From the marketing perspective, familiar brand names facilitate product line extensions by helping to launch new products (Völckner and Sattler 2006). Launching new product through brand names is efficient because brands that are already known and recognized entail lower new product introduction expenses, in the form of advertising, trade deals or price promotions (Collins-Dodd and Louviere 1999). Successful examples such as Diet Pepsi and Diet Coke benefited from the brand recognition of their parent products. Cherry Coke was successful despite the near absence of advertising support. Brand extensions can create synergies between the new brands and the parent brand, leading to increased market share. Furthermore, testing the viability of a proposed brand name extension can be done more efficiently. Information about consumers' perceptions and preferences gathered through the parent brand can be effectively incorporated into modifications to create an extension. Coca-Cola through six extensions to its original brand has captured a larger market share than would have been possible with the original brand alone (Pitta and Katsanis 1995). However, it is important to recognize that a brand extension should tap into a new market segment; otherwise, it may result in brand dilution (Pitta and Katsanis 1995).

In sum, brand names serve as information conduits with several advantages for both the consumer and the brand name firm. However, unscrupulous traders can exploit brand names to their own benefit, thereby reducing the value of information that the brand name signals to the consumer. In the next section, we discuss how e-commerce exacerbates this problem.

E-commerce and counterfeiting problems

The International AntiCounterfeiting Coalition, Inc (IACC) identifies four specific problems that arise from intellectual property theft in general and readily apply to the specific case of brand names. These are: (1) economic impact of counterfeiting and piracy; (2) the public health and safety risks; (3) links to organized crime; and (4) links to terrorism

and terrorist organizations (IACC 2005). While the focus of this article is on the first problem, we briefly outline the other problems before turning our focus to the economic impact of brand name problems.

Public health and safety risks of counterfeiting

The increasing availability of substandard counterfeit products poses health and safety risks to the public. Pharmaceutical counterfeiting is a worldwide public health problem, with antibiotics—among the most widespread drugs, being particularly targeted by counterfeiters (Gaudiano et al. 2008). The problem has particularly become acute with e-commerce because websites and online pharmacies offering discount medicine have become widespread. The U.S. Food and Drug Administration (FDA) estimated in 2004 that there were as many as 1,000 Internet pharmacies (Fernandez et al. 2008).

The World Health Organization (WHO) estimates that counterfeit drugs account for 10% of all pharmaceuticals in the market, and sometimes as high as 60% in developing countries (IACC 2005). Moreover, 16% of counterfeit drugs contain the wrong ingredients and 17% contain incorrect amounts of the proper ingredients, posing public health problems (Broussard 1999; Pasternak 2001). China is widely regarded as the world leader in terms of the manufacture and export of counterfeit products (Goodman 2002). According to the Shenzhen Evening News (a Chinese government owned newspaper), approximately 192,000 people died in China in 2001 because of fake drugs. Since 2001, Johnson & Johnson has established 38 criminal cases against factories that copied its products in China (IACC 2005). Moreover, lack of robust information regarding the prevalence of fake drugs, globally or in any country remains a common obstacle in the fight against drug counterfeiting (Fernandez et al 2008).

Counterfeiting of auto/aviation parts and consumer products poses public safety risks. For instance, a failure of a counterfeit bearing seal spacer in flight could result in total engine failure. In a federal case in California, the court determined the defendant sold counterfeit helicopter parts that caused several helicopters to crash resulting in injuries and death (Rakoff and Wolf 1982). In the summer of 2004, Ralph Michael Cooper pleaded guilty in federal court to selling bogus Black Hawk and Sea Hawk helicopter parts to the United States military, and admitted that the bogus parts he sold posed risk of death or serious bodily injury (Hernandez 2004). The U.S. Federal Aviation Authority (FAA) estimates that 2% of the 26 million airline parts installed each year are counterfeit (Stern 1996).

Counterfeiting and links to organized crime

Since counterfeiting carries far lighter penalties than traditional crime syndicate activities, such as trafficking

drugs, it is a growing enterprise controlled by organized criminals. Moreover, the anonymity of the Internet makes it relatively easy for organized criminals to engage in counterfeit trade with less likelihood of detection. These criminals take advantage of the Internet and the same trade routes used for trafficking drugs, arms and human beings for the distribution of counterfeit goods (Barry 2007). For example, in July 2002, three individuals were arrested when police stumbled upon 5,000 fake Rolex watches and Mont Blanc pens and \$1 million in cash during a raid of a Flushing (Queens), New York home in connection with a drug operation. Prosecutors stated that the defendants used the sale of counterfeit items to launder drug money (Shifrel 2002).

Counterfeiting and links to terrorism

The increased level of international pressure and actions taken against terrorist groups have restricted their traditional sources of funding, such as drug trafficking. Consequently, these groups have sought other sources of funding, such as counterfeiting pharmaceuticals that can easily be tendered for sale over the Internet (GlobalOptions 2003). Moreover, counterfeiting can be more lucrative than activities such as drug trafficking and, in general, carries a lower penalty (Bosworth 2006).

Economic impact of counterfeiting

While the above outlined problems of counterfeiting are equally significant, the main focus of this paper is on the economic impact of counterfeiting. In a sense, even the above problems can have both direct and indirect economic impacts. In an economic sense, counterfeiting is tantamount to theft for profit of a branded firm's reputation and product through the use of deception (Landes and Posner 1987). Brand name companies lose significant revenue to counterfeit trade. For example, between 2005 and 2008, computer manufacturer HP conducted 4,620 counterfeit investigations that lead to seizures of counterfeit electronics products worth nearly \$800 Million (Bailey 2010). Besides decreasing the revenues of brand name companies and making it harder for legitimate retailers to compete in the marketplace, the sale of counterfeit products also adversely impacts national/regional economies at the macro level. For example, it is estimated that the U.S. economy loses yearly tens of millions of dollars in tax revenue and tens of thousands of jobs (IACC 2005).

Table 1 summarizes e-commerce related brand name curses. Counterfeiters today are successful in part because they do not incur research and development costs; therefore, they can undersell legitimate companies. Counterfeiters also can cut corners on quality and safety to produce their fakes because they are not concerned about

establishing reputation and goodwill with the customers. Internet exacerbates these problems because the cost of duplicating a branded product's logo or trademark and of displaying it on the Web is small as digital economics takes effect (Grover and Ramanlal 2004). For example, rich colors can be displayed on the Web without the additional cost associated with traditional print media. Moreover, the incentive to incur this cost will be greater with a stronger brand name that can generate greater benefit (coupled with the negative association between customer search intensity and brand name strength). Thus, the counterfeiter will, at a little cost, capture some of the profits associated with a strong brand name because some consumers will not be able to distinguish a counterfeit from the genuine product. It is also easy to produce product impressions on the Web to enhance product diagnosticity (Jiang and Benbasat 2007). The net effect of these practices is that they devalue the information capital embodied in a brand name.

Infringement, a broader concept than counterfeiting, encompasses the use of brand names that are similar, but not necessarily identical to the brand name in question (Wilke and Zaichkowsky 1999). In legal terms, the main characteristic that distinguishes *infringement* from *counterfeiting* is the phrase "likelihood of confusion" to consumers. In the Lanham Act enacted by the U.S. Congress in 1946, to prove infringement, the plaintiff must show that the defendant's use of the trademark is likely to cause confusion as to the source, sponsorship, or approval of the

defendant's goods, service, or commercial activities (Gamez 2006). For example, in 2001 eBay Inc. settled a trademark-infringement lawsuit it brought against BidBay.com, an upstart Internet auction site with a similar look and rainbow-colored logo (Enos 2001). Similarly, Pfizer, facing a tremendous trademark infringement, brand dilution, and unfair competition, decided to react by filing multiple lawsuits aimed at shutting down online sales of generic, counterfeit or fake versions of Viagra. For example, since the year 2000, 45 UDRPs (Uniform Domain name Dispute Resolution Policy) cases about the famous product "Viagra" have been filed at the WIPO (World Intellectual Property Organization-www.wipo.int). Furthermore, in quantitative terms, take for example a Web site with one million visitors per day; just a 1% difference in traffic as a result of failing to register a common variation of a company's domain name can translate to 3.65 million missed visitors per year (Corporation Service Company 2010).

Internet facilitates brand name infringement due to ease of using search-related features such as meta tags, hyperlinks, banner advertising and framing and linking to masquerade as the rightful brand name owner. Through meta tags and hyperlinks, for example, a fraudulent entity can use or link to trademarked words in its web site. Framing and deep-linking takes this to a higher level because the fraudulent entity can superimpose the home page or other pertinent web page of a branded company on its web page (i.e., phishing), or "deep link" directly into

Table 1 E-commerce related brand name curses

Source of curse	Definition	Facilitating internet features	Real-world examples
Counterfeiting	The deliberate use of a fraudulent mark that is identical or substantially indistinguishable from an existing mark	Ease and low cost of duplicating digitized trademarks due to digital economics	In 2004, Pfizer pursued legal action to combat the Internet sales of illegal versions of the anti-impotence drug Viagra. Pfizer also sought to seize the domain names of a number of websites that made unauthorized use of the Viagra trademark.
	The deliberate selling of a fraudulent product that is substantially indistinguishable from a branded product	Ease of listing on the Internet fraudulent branded products by use of rendering (i.e., enhanced product diagnosticity)	
Infringement	The deliberate use by another of a registered trademark that is likely to cause confusion, or deceive consumers, or cause mistake	Ease of masquerading as the rightful trademark owner due to features such as meta tags, hyperlinks, and frames (e.g., phishing)	In Playboy Enterprises, Inc. vs. Asia-focus International, Inc., the court ruled that the defendant's use of the trademarks "Playboy" and "Playmate" in the metatags of its asian-playmates.com site constituted trademark infringement. Finding the defendant's conduct willful, the court awarded maximum statutory damages of \$1 million per trademark.
	The deliberate use by another of a trade name that is substantially similar to that of a branded company that could lead to consumer confusion.	Ease of evaluating company reputations (e.g., through customer ratings) and mimicking the names of successful companies in similar line of business	
Dilution	A reduction in the value of the brand to the owner as a result of use of its trademark by another party	The reach of the Internet makes it easy for the fraudulent entity to gain substantial market share	In 2004, Tiffany & Co succeeded in shutting down 19,000 auctions sites selling counterfeit jewelry with its brand name at eBay, which were costing it millions in lost sales and also devaluing its brand name.

specific content within a genuine brand name web site. Search analytics of top Web sites is done by *alexa.com* through a measure called the query competition index (QCI). This index suggests that the extent to which popular queries relevant to legitimate sites are actively targeted by competitors advertising on search engines tends to be higher for brand name search key words (*alexa.com* 2010).

Infringement may also involve fraudulent capture of a branded firm's Internet domain name with the aim of selling it off later, a practice referred to as *cybersquatting*. In these situations, the legitimate owner of the domain name no longer can control its trademarks or proprietary content of its site. Thus, consumers can easily be deceived into thinking that they are dealing with the genuine brand name owner. Furthermore, frames or links may suggest an association between the framing or deep-linking site and the material that is framed or linked, causing consumers to lose confidence in the genuine site. As a case in point, in 2006 Microsoft filed three lawsuits against cybersquatters who sought to benefit from pay-per-click advertising by registering websites that are nearly identical to those of common sites. Microsoft determined that more than 2,000 sites a day were being registered with faux-Microsoft domains, 75% of which were owned by professional domain name companies (Schneider 2006).

One of the consequences of brand name counterfeiting and infringement is brand name *dilution*, which is a weakening of the association of the brand name with its original source, which ultimately results in reduced sales and profitability of the original brand name owner (Morris and Jacoby 2000). E-commerce facilitates the dilution of a brand name because of the reach of the Internet, which makes it easy for the fraudulent entity to gain substantial market share. For example, Carrie Pollack, who sells jewelry from her home in Sudbury (MA), notes that an authentic Weiss brooch of good quality can command \$150; but the profusion of counterfeits online has diluted the value of such a pin to as little as \$30 (JewelryFacts.Net Inc 2010). Dilution of brand names has economic consequences not only for vendors but also for customers. For example, an individual⁴ anecdotally cited how an initial purchase of a fake faux TAG Heuer watch for his wife for about \$20 from a street vendor in New York's Chinatown (which lasted about a month) wound up costing him \$8,000 after four replacements in an attempt to acquire the authentic watch.

Discussion of the problems

The ultimate effect of a brand name's curse in e-commerce contexts is loss in brand equity and decreased profitability

⁴ We thank an anonymous reviewer for relating this anecdote in the review package.

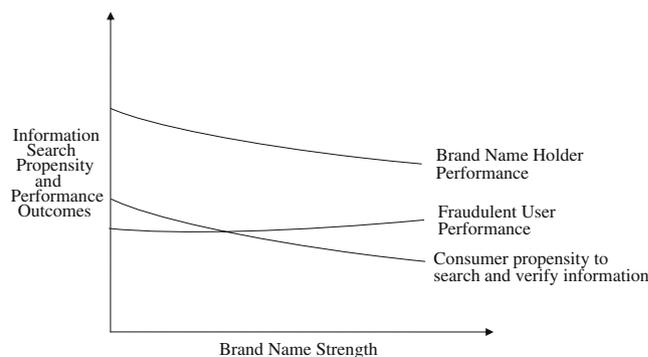


Fig. 1 The relationship between customer information behaviors, brand name strength and performance of brand name holder and fraudulent user

of the authentic brand name producer. This is summarized in Fig. 1. Since brand names are information conduits, or channels that signal product and vendor quality, consumer's propensity to perform extensive information search and verification before making a purchase decreases as the strength of the brand name increases. Limited information search and verification makes it easy for fraudulent activity to go on with little notice by consumers, and thus the performance of the fraudulent user increases as the strength of the brand name increases. Rightful brand name owners suffer consequently, and their performance decreases as the strength of the brand name increases (Shapiro 1982).⁵

In e-commerce, counterfeiting is more common than infringement. Tiffany, for instance, has complained and even filed a law suit against eBay claiming that counterfeiting of Tiffany's brand name products on eBay has cost the company several millions of dollars (Hafner 2006). This is the classic problem of "lemons" observed by George Akerlof several decades ago (Akerlof 1970). To understand this problem, let's consider a situation where some of the products sold at eBay are "authentic" and some are "counterfeit". Both customers and traders are rational and value products conditional on their own information. Since in the Internet marketplace customers cannot distinguish between the two types of products *ex ante*, traders with counterfeit products will try to claim that their products are as valuable as the authentic products. Realizing this possibility, customers will value both authentic and counterfeit products at the average level. The loss to the authentic brand name producer arises from two sources. First, the marketplace will rationally undervalue some good products (e.g., Tiffany's authentic products could end up being undervalued). Second, the counterfeiter captures

⁵ Counterfeiting may benefit legitimate brand name owners if it enhances the "snob effect" (in which elite consumers seek products that distinguish themselves from non-elite consumers) and counterfeit products are noticeably inferior.

some of the market share by “free-riding” on a brand name like Tiffany’s (see Fig. 1).

The undervaluing of authentic products arises because of the loss in brand equity. Consumers are willing to pay higher prices for lower search costs and greater assurance of consistent quality by a brand name product. Since counterfeiting undermines the assurance of consistent quality, customers end up undervaluing brand name products (Klein and Leffler 1981). This problem is faced by rational consumers who do not like buying counterfeit products. Although we do not anticipate the extreme case of Gresham’s law whereby bad products completely drive out the good ones from the market (because they sell at the same price), it is possible that the “black” market for counterfeit products will co-exist with the market for authentic products (Akerlof 1970).

This is fueled by the second problem that arises mainly due to “aspirational” customers who don’t mind having a counterfeit brand name product.⁶ Due to this problem, eliminating the market for counterfeit products would be hard even if consumers were fully informed. This is somewhat reflected in the high ratings of vendors selling counterfeit products on eBay.

Counterfeiting that is sustained by indifferent consumers is particularly a serious problem for branded products in the e-commerce environment. This is because detection in this market is relatively less likely than detection in other counterfeit markets. Since normally consumers would have an incentive to avoid counterfeits and would also be in a position at least to examine all goods sold (even if they were not experts in detecting counterfeits), this examination might have had some effect in reducing counterfeiting. Additionally, consumers who detected counterfeiting after purchase would have had an opportunity to complain. However, in markets in which the purpose of the brand is to impress observers rather to guarantee quality to consumers, there is less effort from consumers at detection and avoidance of counterfeit goods and therefore a relatively greater return from counterfeiting. In the general case, unanticipated counterfeiting (less informed consumers) would reduce consumer welfare. However, in the case of indifferent consumers, counterfeiting is anticipated (consumers are well informed), so counterfeiting mainly reduces the value of the brand name product and the profits of the brand name holder. In sum, the two points being made in this paragraph are: firstly, that recourse might be possible in physical markets where the consumer can possibly return to the retailer’s site. This recourse is far tougher in online

markets. Secondly, indifferent customers may not even seek recourse and therefore a greater return from counterfeiting.

In the next section, we discuss the approaches, both legal and economic, that can be employed to deal with brand name problems. Legal approaches incline toward curing the problem, while the economic approaches are more geared toward preventing the problem.

Solutions to brand name counterfeiting in e-markets

The solutions we suggest here are mainly focused on redressing the problems faced by brand name companies. As such, we do not suggest solutions to consumer problems. This does not imply that such problems are not important; rather, we feel that the issues discussed here are often approached from the consumer perspective while little has been done from the perspective of the brand name companies. Of course, consumer-focused solutions, such as general education of consumers, could be beneficial to the brand name companies as well. We first discuss the often-advocated legal measure of policing of e-markets. Then we suggest three less apparent solutions: information syndication, pricing of e-markets services, and vendor malpractice insurance. Table 2 summarizes the proposed measures.

Policing of e-markets

Policing of e-markets is required to determine whether counterfeiting or brand name infringement has occurred by monitoring the authenticity of the traders and products tendered for sale. A contentious issue here is about who should do the policing. For example, when Tiffany filed a law suit against eBay in 2004, it claimed that eBay should be responsible for policing its auction Web site. On the other hand, eBay contended that it has no expertise to certify authenticity of items sold at its marketplace. Table 3 presents polar views on e-commerce and brand protection from the U.S. and French perspectives. As can be seen, the U.S. perspective places greater burden on brand name companies to police e-markets, while the French perspective places greater burden on e-markets makers or brokers such as eBay (Alcalde 2008).

Following the U.S. perspective, we argue from an economic point of view that policing can be more efficiently carried out by the victimized brand name owners because cases pertain to specific infringement on their property rights and therefore, they have a stake at apprehending violators. If policing responsibility is vested entirely on e-market brokers such as eBay, the costs of policing would be prohibitive because it would be nearly impossible for the company to police a site that now has about 180 million members and 60 million items for sale at

⁶ Aspirational consumers are non-elite consumers who seek items that imitate elite consumers.

Table 2 Proposed solutions to e-commerce brand name problems

Measure	Description
Policing of e-Markets	<p>The monitoring of e-commerce transactions to detect whether counterfeiting or brand name infringement has occurred.</p> <p>The market mechanism should be employed to ensure that this is done in an efficient and effective manner.</p> <p>Through the market mechanism, victims hire third-party agents to do the monitoring at a cost.</p>
Information Syndication	<p>The interleaving of information from multiple sources to assure its authenticity, accuracy and credibility.</p> <p>Trusted third-parties could serve as information syndicators changed with the responsibility of verifying the authenticity of items tendered for sale and the credibility of the sellers.</p>
Pricing of e-Markets Services	<p>Differential pricing of services provided by e-markets brokers (such as eBay and Amazon) based on the reputation of the online vendor.</p> <p>Appropriate pricing of brokered e-commerce services would minimize fraudulent activity in e-markets because non-reputable vendors would be punished with higher fees and might exit the market.</p>
Vendor Malpractice	<p>This is the extension of insurance policy to safeguard risky online transactions.</p> <p>By requiring all online vendors to purchase insurance policy, fraudulent behavior could be deterred since violators would be punished with higher premiums.</p>

any one time. If eBay is obliged to cease all auctions of counterfeit Tiffany products (say), then it may be forced to shut down all auctions of any Tiffany products (authentic or counterfeit). While this may please a company like Tiffany in the short-run, in the long-run it may lead to a general scaling down of the overall transactions that occur over the Internet. So, policing primarily by e-markets brokers such as eBay is not the optimal solution.

Policing should be vested in the hands of victimized brand name companies since they are the ones who largely bear the costs of violation, while vesting such responsibility upon market brokers such as eBay would be analogous to policing a commons. For example, during 2003 and 2004, Tiffany had several employees devote substantial time policing eBay's auction sites, which resulted in a removal of over 19,000 auctions selling counterfeit Tiffany goods. In a similar vein to Becker and Stigler (1974), we argue that policing by victims is optimal since if they are paid the amount they suffered in damages (excluding their policing costs and taking into account their probability of success) equivalent to fines levied on convicted violators, their gains from policing would be the same as the penalty to the violators. Thus, in effect, violators compensate victims. Since most victims might transfer policing to intermediaries such as lawyers, private investigators, and other specialized policing firms to gather evidence and argue their cases, free competition among these firms would ensure that policing was provided at a fair cost as normal market forces take effect. Allowing policing to be done through the market mechanism would be more efficient and more effective since rules in themselves often provide neither the slightest hint of where to look for violations nor the incentive to convict violators. We stress that efficiency is realized when

Table 3 E-commerce and polar views on brand protection

Particulars	U.S. scenario	French scenario
Responsibility for policing	Policing of e-markets is the responsibility of the brand name company	Policing of e-markets is the responsibility of the market maker (or broker)
Illustrative case	In Tiffany vs. eBay case, the U.S. District Court Southern District of New York dismissed Tiffany's case against eBay, concluding that trademark owners, not e-commerce sites like eBay, carry the burden of ensuring that their intellectual property rights are not being violated.	In an LVMH (a conglomerate of some of the world's leading luxury brands, including Louis Vuitton Malletier and Christian Dior Couture) vs. eBay, the Paris commercial ruled against eBay, citing that eBay is a broker and not a host; and order it to pay US\$60.8 million in damages to LVMH
Implications for e-markets	The U.S. court strongly defends secondary markets in authentic trademarked goods and eBay's right to promote such sales.	The French court places a burden on e-commerce sites such as eBay to ensure the legitimacy of goods sold and whether trademark owners have authorized such sales.
Implications for brand name companies	The U.S. court decision implies that branded companies have to police their own trademarks in e-commerce and pursue enforcement against individual infringers who use sites like eBay.	The French court strongly defends brand name companies; a move eBay said would restrict consumer choice through anticompetitive business practice.

the costs of policing are equal to the penalty incurred by the violators. Otherwise, the companies doing self-policing will end up passing the cost to consumers in the form of higher prices.

Moreover, there are now technical solutions that automate policing of e-markets, which alleviates the need to employ many people to carry out "manual" policing. For example, MarkMonitor offers technical solutions to organizations consisting of domain management, online trademark protection and antiphishing solutions (MarkMonitor Inc. 2009a, b). For instance, UBS has deployed these MarkMonitor solutions for its online intellectual property protection initiative. By doing so, UBS's intellectual property group eliminated a significant administrative burden associated with manual tracking of online fraud activity while protecting company revenues, customer trust and brand equity (MarkMonitor Inc. 2009b). MarkMonitor Solutions also helped luxury goods manufacturer block auctions of counterfeits totaling \$6 million annually (MarkMonitor Inc. 2009a). Similarly, Melbourne IT Digital Brand Services offers advanced technology and analysis for Internet brand monitoring with a suite of brand surveillance solutions to help track, prioritize, and manage online brand abuse. A key component of Melbourne IT Digital Brand Services' solution is the Internet crawling and analysis technology, which provides a comprehensive view of brand and trade mark infringement/dilution, domain name abuse, traffic diversion, claimed affiliations, unauthorized/counterfeit sales, association with offensive content and other important abuses by crawling billions of web pages, domain names, images, online discussions, search engine listings, metatags, spam and auction sites (Melbourne IT Digital Brand Services 2010).

Despite the position taken by eBay in the Tiffany case, we do not imply that e-markets brokers such as eBay and Amazon should play no role in the policing of e-markets. In fact, they already do so to some extent. For example, eBay has created Verified Rights Owner (VeRO) Program to enable intellectual property owners to easily report listings that infringe their rights. After eBay receives reports of intellectual property infringement, it removes such listings from its web site. Furthermore, eBay provides potential vendors with a comprehensive list of guidelines for creating legally compliant listings, as well as information on the potential consequences of counterfeiting and intellectual property infringement. Amazon.com has created a restricted category of items, including apparel and accessories, beauty, jewelry and watches, industrial and scientific equipment that require a special approval by Amazon for listing. For vendors doing business online without going through e-markets brokers, other Internet Service Providers (ISPs) such as Web hosting providers, should play a greater role. To ensure that such ISPs do not cut corners, they could

be required to have membership in pertinent international agencies such as World Intellectual Property Organization (WIPO) and World Wide Web Consortium (W3C) for harmonization of regulations and standards.

In sum, we contend that efficiency and effectiveness in policing of e-markets will be achieved by vesting greater responsibility on the brand name companies through the market mechanism.

Information syndication

A significant challenge to policing of e-markets is that some vendors are able to change their profiles and hop Internet sites for listing their merchandise. This can be a serious problem if the markets are fragmented and information is not integrated across markets. We propose information syndication as a potential mechanism to mitigate this problem. Information syndication is relatively easy in online environments due to the capabilities of the Internet to facilitate integration of information from multiple sources. Under conditions of uncertainty in which the authenticity of information from one or a few sources is not guaranteed, syndicating information from multiple sources is valuable. For example, information syndication is often practiced in the process of hiring new employees. To corroborate the claims in a candidate's resume or curriculum vitae, potential employers often consult a number of references from where the candidate has previously worked. Furthermore, information syndication has the capacity to integrate and harmonize information across fragmented markets.

While online information syndication has tended to focus on news feeds, some companies are beginning to recognize the potential of information syndication in B2B and B2C e-markets, and corporate intranets and extranets (Pack 2001). Many different types of companies have begun competition in the syndication marketplace with offerings ranging from end-to-end solutions that supply content from thousands of sources to do-it-yourself syndication software. Online syndication probably will become even more ubiquitous over the next few years as different companies form partnerships with syndicators to reach new customers and new markets. For example, several companies have joined to form the *Content Syndication Council*, which seeks to raise the profile of syndication businesses online (Shields 2007). This is made possible by the Information Content and Exchange (ICE) protocol, which provides organizations with an XML-based common language and architecture to facilitate the automatic exchange, update, supply, and control of digital assets. The ICE provides an easy way for partners and affiliates to build syndicated publishing systems, Web stores, online reseller channels, and knowledge management systems.

With growing capabilities for information syndication (especially end-to-end solutions that supply content from thousands of sources), we anticipate that information syndication will begin to be used to certify the authenticity of online transactions as fragmented online markets become unified and harmonized. Trusted third parties could assume the role of content brokers and clearinghouses for online transactions, which would be a form of information-oriented policing for e-markets. Information clearinghouses could then issue some form of digital certificates to certify the credibility of vendors and the authenticity of their merchandise. Trusted third parties have already played a significant role in other aspects of e-commerce. For example, third parties (e.g., PayPal and VeriSign) have been effective in securing online credit card payments. Moreover, as a market mechanism, the vendors would pay a fee to register with the third party and therefore would directly defray the costs of the service.

In principle, even some of the technologies we gave as examples under e-markets policing above could apply to information syndication. For example, Melbourne IT Digital Brand Services' Internet crawling and analysis technology by crawling billions of web pages, domain names, images, online discussions, search engine listings, metatags, spam and auction sites has the capacity to syndicate and verify information from various sources on the Internet (Melbourne IT Digital Brand Services 2010). Furthermore, technical solutions akin to authentication of online payments have begun appearing in the market for authentication of brand name products. For example, AlpVision—a French company, has developed Cryptoglyph covert security solution which can be identified by taking a picture with a mobile phone and then sending it via a security server on any mobile phone network. The security server authenticates whether the product is genuine by decoding the ciphered information embedded in the photo of the product, instantly identifying the batch or serial number of the product as well as other information contained in the security data base. After decoding the information, the security server sends an SMS back to the camera phone to confirm whether the product is genuine or fake (Pitman 2006). AlpVision's technology is currently being employed by millions of products and documents on a global basis, making it an authentication clearinghouse just as VeriSign acts as a clearinghouse for secure online payments and exchange of confidential information.

Pricing of e-markets services

For vendors that would require the services of e-markets brokers such as eBay, Amazon.com, etc to be able to sell products online, these services could effectively be priced to reduce counterfeiting behavior. This could be imple-

mented in the form of differential pricing. Right now, e-markets brokers charge uniform fees, which consist of a fixed fee and a per unit fee. Analytical research examining contracts involving other types of intellectual property (notably patents) has shown that in industries where imitation is not costly and is likely to take place, firms may prefer to use fixed fee contracts only, as opposed to royalty (*ad valorem*) and two-part tariffs (both fixed fee and *ad valorem*) (Rockett 1990). By appropriately varying the fixed fees, imitation can be discouraged since these fees serve as sunk costs for the imitator.

Currently, online market makers use a mixed fee structure. For example, based on information from Amazon.com's Website, the company uses a two-part fee structure in which it charges vendors selling through its web site a monthly membership fee of \$39.95 and a per unit fee which depends on the type and value of item. eBay on the other hand charges sellers listing items for auction a listing fee which varies by the value of item and *ad valorem* tariff (percent of the sale price) after the item is sold. As in the case of patents, by adopting online fixed fees schedules and properly manipulating these fees, counterfeiting could be deterred. Instead of charging flat fees for e-commerce services by e-markets brokers, a pricing scheme that is based on the reputation of the vendor could be implemented (this is already employed in other areas such as consumer credit whereby customers applying for credit usually realize different interest rates based on their credit score or rating). For instance, eBay and Amazon both collect vendor ratings from their web sites. A similar rating scheme could be developed that is focused on rating vendors on their credibility and authenticity of their merchandise based on customer complaints.⁷ With such specialized ratings, specific fees to be paid by each vendor could be determined. Vendors with lower ratings would obviously pay higher fees. That way, vendors would strive to garner reputation, and the higher fees charged to non-reputable vendors could discourage those inclined to make a quick buck through counterfeiting and high fees may also drive them out of e-markets. International agencies such as WIPO, in collaboration with e-markets brokers, ISPs, and other pertinent parties could play a role in defining and enforcing fees.

⁷ For example, a customer left the following complaint: "I bought Sony memory sticks from *emartcentral.com*. When I got them they were clearly marked Sony. They didn't work. After calling, the company formatted the sticks. That didn't work so I called Sony. Sony told me to send in the sticks for an exchange. I did. They called me and told me that they were fakes. I contacted the company. They didn't seem to care." With rating mechanism in place, such complaints could be leveraged.

Vendor malpractice insurance

Since the above measures are not likely to solve entirely brand name curse problems, we also suggest using vendor malpractice insurance as supplementary device. When behavioral uncertainty exists in the market, insurance can be used to effectively deter fraudulent behavior. For example, the medical field requires practicing doctors to pay medical malpractice insurance. Financial statement insurance has also been proposed to combat fraudulent practices in auditing (Cunningham 2006). In the case of auditing, such insurance is expected to promote strategic detection and deterrence of auditing malpractice. We propose that a similar arrangement could be used in the e-markets context. All vendors listing products for sale on the Internet would be required to pay malpractice insurance.

If an infringement of some company's brand name occurs, the victim could be compensated with funds from the insurance policy of the violator. Thus, the violators would be directly compensating the brand name holders if counterfeiting is detected. Moreover, this could be effective in deterring counterfeiting since violators would be punished with higher insurance premiums. Appropriate insurance premiums could be determined with proper ranking of vendors based on customer complaints as suggested above. Again, international agencies such as WIPO, in collaboration with e-markets brokers, ISPs, and other pertinent parties could play a role in defining and enforcing insurance policies. In practice, a growing number of insurers are now offering cyberspace liability insurance. For example following the February 2000 attacks on Internet giants Amazon.com and Yahoo, the number of companies inquiring about the insurance skyrocketed, according to insurance consultant Marsh Inc (Cavanaugh 2000). Cyberspace liability coverage by Marsh Inc. goes up to \$200 million policy, with customers ranging from a small start-up that's paying \$30,000 a year for \$5 million in coverage, to a large online retailer, which is paying hundreds of thousands of dollars a year for the maximum coverage (Cavanaugh 2000). If such insurance policies were initiated for counterfeiting, hefty premiums could discourage counterfeiters inclined toward making a quick buck.

Conclusion

The reach of the Internet and the low cost of selling products online have made it possible for anybody to participate in the online market. Unfortunately, this has also made practices such as counterfeiting of branded products and infringement of brand names to thrive due to the ease of reproducing trademarks, as well as the anonymity of the Internet. Counterfeiting in particular, has become a serious

problem in e-markets. In markets with uncertainties and information asymmetries, brand names serve as information conduits and signals of the authenticity of products tendered for sale and credibility of the sellers. By playing this role, brands economize on consumer search costs. However, counterfeiting and infringement devalue the information capital embodied in a brand name. The end result is that these practices dilute brand names and reduce sales and profits of the brand name holders.

We have identified that brand names are *cursed* in e-commerce in a couple of ways: (1) the reputation embedded in the brand name is devalued by counterfeiting (because genuine elite consumers lose trust in the brand), undermining the sunk investments brand name companies undertook to build such reputation over time, and (2) counterfeit products cut into brand owner's market share (because aspirational consumers are indifferent about buying counterfeits), resulting in lost revenue.

Given that a brand name's curse is a serious problem in e-markets, we have proposed market-oriented measures for dealing with this problem. We have argued that market mechanisms are more efficient and more effective in dealing with brand name problems in e-markets since rules in themselves often provide neither the slightest hint of where to look for violations, nor the incentive to convict violators. Furthermore, since achieving complete monitoring to deal with fraudulent behavior is not possible under uncertainty and asymmetric information conditions, we have suggested some market mechanisms such as pricing of e-markets services and vendor malpractice insurance that could be effective means to reduce fraudulent behavior in e-markets. As a result of these mechanisms, potential violators could face higher transactions costs to participate in e-markets, which would serve as a disciplining device. These market mechanisms could be defined and enforced by international agencies such as WIPO, in collaboration with e-markets brokers, ISPs, and other pertinent parties in respective countries.

While discussion of "curse" in online contexts is often associated with "winner's curse" in auction markets, we have drawn attention here to a different type of "winner's curse," that associated with counterfeiting and infringement of brand names of reputable "winners" in the marketplace. We hope our positional contribution will stir interest to look into this serious problem and extend our suggestions by developing other innovative mechanisms to assure the authenticity of online transactions.

References

- Abel, A. B. (1990). Asset prices under habit formation and catching up with the Joneses. *American Economic Review*, 80(2), 38–42.

- Abrahams, D., & Granof, E. (2002). Respecting brand risk. *Risk Management*, 49(4), 40–48.
- Achenreiner, G. B., & John, D. R. (2003). The meaning of brand names to children: a developmental investigation. *Journal of Consumer Psychology*, 13(3), 205–219.
- Akerlof, G. (1970). The market for 'Lemons': quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3), 488–500.
- Alcalde, L. (2008). E-Commerce and brand protection: a two-way street. Accessed March 10, 2010 from <http://www.ecommercetimes.com/story/64104.html?wlc=1268075442>.
- Alexa.com (2010). The Top 500 Sites on the Web. Accessed March 10, 2010 from <http://www.alexa.com/topsites>.
- Assael, H. (1998). *Consumer Behavior and Marketing Action*. Cincinnati, OH: South-Western.
- Bailey, B. (2010). HP says stolen components found in ink cartridges sold online, *San Jose Mercury News*, March 8.
- Bakos, J. Y. (1991). A strategic analysis of electronic marketplaces. *MIS Quarterly*, 15(3), 295–310.
- Bakos, Y., & Brynjolfsson, E. (1999). Bundling information goods: pricing, profits, and efficiency. *Management Science*, 45(12), 1613–1630.
- Barry, C. (2007). UN ties counterfeits to organized crime. *USA Today*, accessed March 10, 2010 from http://www.usatoday.com/news/world/2007-12-14-3540393732_x.htm.
- Basdeo, D. K., Smith, K. G., Grimm, C. M., Rindova, V. P., & Derfus, P. J. (2006). The impact of market actions on firm performance. *Strategic Management Journal*, 27(12), 1205–1219.
- Becker, G. S., & Stigler, G. J. (1974). Law enforcement, malfeasance, and compensation of enforcers. *The Journal of Legal Studies*, 3(1), 1–18.
- Bosworth, D. (2006). Counterfeiting and piracy: the state of the art. Intellectual Property in the New Millennium Seminar, Oxford Intellectual Property Research Centre, St. Peter's College.
- Broussard, P. (1999). Dangerous fakes. *World Press Review*, 44(1), 36.
- Carroll, B. A., & Ahuvia, A. C. (2006). Some antecedents and outcomes of brand love. *Marketing Letters*, 17(2), 79–89.
- Cavanaugh, M.Y. (2000). Online attacks boost sales of hacker insurance. Accessed online March 10, 2010 from http://articles.techrepublic.com.com/5100-10878_11-5033083.html?tag=content;leftCol.
- Chaudhuri, A. (2002). How brand reputation affects the advertising-brand equity link. *Journal of Advertising Research*, 42(3), 33–43.
- Chaudhuri, A., & Holbrook, M. V. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing*, 65, 81–93.
- Collins-Dodd, C., & Louviere, J. J. (1999). Brand equity and retailer acceptance of brand extensions. *Journal of Retailing and Consumer Services*, 6(1), 1–13.
- Corporation Service Company (2010). Research identifies the most infringing terms within domain names. Accessed March 10, 2010 from <http://www.prweb.com/releases/2010/03/prweb3698134.htm>.
- Cunningham, L. A. (2006). Too big to fail: moral hazard in auditing and the need to restructure the industry before it unravels. *Columbia Law Review*, 106(7), 1698–1748.
- De Alessi, L., & Staaf, R. J. (1994). What does reputation really assure? The relationship of trademarks to expectations and legal remedies. *Economic Inquiry*, 32(3), 477–485.
- Dyer, J. H., & Singh, H. (1998). The relational view: cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), 660–679.
- Enos, L. (2001). eBay Sues BidBay for Trademark Infringement. Accessed March 10, 2010 from <http://www.ecommercetimes.com/story/12388.html>.
- Fernandez, F. M., Green, M. D., & Newton, P. N. (2008). Prevalence and detection of counterfeit pharmaceuticals: a mini review. *Industrial Engineering and Chemistry Research*, 47, 585–590.
- Gamez, A. (2006). WhenU.com, Inc. & Google Inc.: parsing trademark's use requirement. *Berkeley Technology Law Journal*, 21(403), 403–424.
- Gaudiano, M. C., Di Maggio, A., Antoniella, E., Valvo, L., Bertocchi, P., Manna, L., et al. (2008). An LC method for the simultaneous screening of some common counterfeit and sub-standard antibiotics: validation and uncertainty estimation. *Journal of Pharmaceutical and Biomedical Analysis*, 48(2), 303–309.
- Inc, Global Options. (2003). *An analysis of terrorist threats to American medicine supply*. Gaithersburg: Signature Book Printing.
- Goodman, P. S. (2002). China's killer headache: fake pharmaceuticals. *Washington Post* (August 30).
- Gompers, P. A. (1996). Grandstanding in the venture capital industry. *Journal of Financial Economics*, 42(1), 133–156.
- Grover, V., & Ramanlal, P. (2004). Digital economics and the e-business dilemma. *Business Horizons*, 47(4), 71–80.
- Grover, V., Lim, J., & Ayyagari, R. (2006). The dark side of information and market efficiency in e-markets. *Decision Sciences*, 37(3), 297–324.
- Hafner, K. (2006). Seeing fakes, angry traders confront eBay. *The New York Times* (Jan 29).
- Harlam, B.A., Krishna, A., D. R., & Mela, C. (1995). Impact of bundle type, price framing and familiarity on purchase intention for the bundle. *Journal of Business Research*, 33(1), 57–66.
- Hernandez, J. (2004). Hollywood man sold fake parts to military; guilty plea brings two year sentence, *Sun-Sentinel* (Fort Lauderdale, FL), August 25, at 1B.
- Higgins, R. S., & Rubin, P. H. (1986). Counterfeit Goods. *Journal of Law and Economics*, 29(2), 211–230.
- Hill, C. W. L. (1995). National institutional structures, transaction cost economizing, and competitive advantage: the case of Japan. *Organization Science*, 6(1), 119–131.
- The International Anticounterfeiting Coalition (2008). Get real—the truth about counterfeiting. Retrieved June 2 2008 from <http://www.iacc.org/counterfeiting/counterfeiting.php>.
- The International Anticounterfeiting Coalition–IACC (2005). The negative consequences of international intellectual property theft. White Paper, the IACC, Washington D.C.
- International Authentication Association (2010). Counterfeit Statistics. http://internationalauthenticationassociation.org/content/counterfeit_statistics.php.
- Jennings, J. S. (1989). Trademark counterfeiting: an unpublished crime. *The Journal of Criminal Law and Criminology*, 80(3), 805–841.
- JewelryFacts.Net, Inc. (2010). Jewelry news: ebay users fed up with fakes. Accessed March 10, 2010 from http://www.jewelryfacts.net/ebay_users_fed_up_with_fakes.asp.
- Jiang, Z., & Benbasat, I. (2007). The effects of presentation formats and task complexity on online consumers' product understanding. *MIS Quarterly*, 31(3), 475–500.
- Klein, B., & Leffler, K. B. (1981). The role of market forces in assuring contractual performance. *Journal of Political Economy*, 89(4), 615–641.
- Klein, B., Crawford, R. G., & Alchian, A. A. (1978). Vertical integration, appropriable rents and the competitive contracting process. *Journal of Law and Economics*, 21(2), 297–326.
- Kotler, P. (1997). *Marketing management* (7th ed.). Englewood Cliffs: Prentice Hall.
- Landes, W. M., & Posner, R. A. (1987). Trademark law: an economic perspective. *Journal of Law and Economics*, 30(2), 265–309.
- Lau, G. T., & Lee, S. K. (1999). Consumers' trust in a brand and the link to brand loyalty. *Journal of Market-Focused Management*, 4(4), 341–370.
- Lwin, M. O., & Williams, J. D. (2006). Promises, promises: how consumers respond to warranties in internet retailing. *Journal of Consumer Affairs*, 40(2), 236–260.

- MarkMonitor, Inc (2009a). Luxury goods manufacturer blocks auctions of counterfeits totaling \$6 million annually. Accessed March 10, 2010 from http://www.emarkmonitor.com/download/cs/cs_luxurygoods.pdf.
- MarkMonitor, Inc (2009b). UBS employs holistic approach to online brand protection with markmonitor. Accessed online from http://markmonitor.com/download/cs/cs_ubs.pdf.
- Melbourne IT Digital Brand Services (2010). Online brand infringement: peace of mind that your valuable online brands are monitored, protected and secure. Accessed March 10, 2010 from <http://www.melbourneitdbs.com/online-brand-infringement/online-brand-surveillance.php>
- Morrin, M., & Jacoby, J. (2000). Trademark dilution: empirical measures for an elusive concept. *Journal of Public Policy and Marketing*, 19(2), 265–276.
- Pack, T. (2001). Syndicators turn to the enterprise. *EContent*, 25(2), 32–37.
- Pasternak, D. (2001). Knockoffs on the pharmacy shelf, counterfeit drugs are coming to America, *U.S. News & World Report* at 26 (June 11).
- Pitman, S. (2006). New technology developed to fight counterfeiting. Accessed March 10, 2010 from <http://www.cosmeticsdesign-europe.com/Packaging-Design/New-technology-developed-to-fight-counterfeiting>.
- Pitta, D. A., & Katsanis, L. P. (1995). Understanding brand equity for successful brand extension. *Journal of Consumer Marketing*, 12(4), 51–64.
- Rakoff, J. S., & Wolf, I. B. (1982). Commercial counterfeiting and the proposed trademark counterfeiting act. *American Criminal Law Review*, 20, 145–226.
- Ridgway, W. E. (2006). Revitalizing the doctrine of trademark misuse. *Berkeley Technology Law Journal*, 21(4), 1547–1588.
- Rockett, K. E. (1990). Choosing the competition and patent licensing. *Rand Journal of Economics*, 21, 161–172.
- Rozek, R. P. (1982). Brand identification and advertising: the case of a generic trademark. *Applied Economic*, 14, 235–248.
- Schneider, J. (2006). MS fights back against online trademark infringement. Accessed March 10, 2010 from <http://www.geek.com/articles/law/ms-fights-back-against-online-trademark-infringement-20060825/>.
- Shapiro, C. (1982). Consumer information, product quality, and seller reputation. *Bell Journal of Economics*, 13(1), 20–35.
- Shapiro, C. (1983). Premiums for high quality products as returns to reputations. *Quarterly Journal of Economics*, 98(4), 659–680.
- Shield, M. (2007). Web publishers, agencies forming content council. *MediaWeek*, 17(38), 4.
- Shifrel, S. (2002). 3 Charged in money laundering. *Daily News* (New York), July 11, at 4.
- Stern, B. (1996). Warning! bogus parts have turned up in commercial jets. Where's the FAA? *Business Week*, June 10, at 90.
- Tsao, H. Y., Pitt, L. F., & Berthon, P. (2006). An experimental study of brand signal quality of products in an asymmetric information environment. *Omega*, 34(4), 397–405.
- Vetter, W., & Hill, C. J. (2006). Marketing and the law: the hunt for online trademark infringers: the internet, gray markets, and law collide. *Journal of the Academy of Marketing Science*, 34(1), 85–87.
- Viguerie, R., Keaty, A., & Srivastava, R. (2006). Marketing and the law: the world wide reach of the internet: can a company protect itself from the jurisdiction of foreign courts? *Journal of the Academy of Marketing Science*, 34(1), 87–88.
- Völckner, F., & Sattler, H. (2006). Drivers of brand extension success. *Journal of Marketing*, 70(2), 18–34.
- Wilke, R., & Zaichkowsky, J. L. (1999). Brand Imitation and its effects on innovation, competition, and brand equity. *Business Horizons*, 42(4), 9–18.
- Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. New York: The Free Press.
- Yan, J. (2007). The brand attitude of automobiles. Accessed June 17 2008 from <http://www.allaboutbranding.com/index.lasso?article=230>.