Rational Design Rights Ignorance

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I. INTRODUCTION

Consider the following commercialization scenario. A consumer electronics company prepares to develop and launch a new portable media device. Various departments within that electronics firm will strive to develop unique innovations with respect to the product’s design, all of which may be secured under different intellectual property regimes.¹

The firm’s departments, research and development and marketing, for example, will rationally seek to maximize the value of their innovation-related activities. In the process, however, the various departments routinely forfeit the ability to exploit coordinated design-related intellectual property rights. This coordination failure, defined in this article as rational design rights ignorance (RDRI), occurs whenever there is potential for optimal design rights integration, which nonetheless fails due to persistent organizational barriers and rational decision making.

Rational decision making that leads to suboptimal performance has been researched in the fields of innovation and economics.² One well-known and comprehensive study observed how meeting the needs of existing customers can result in a firm’s failure to anticipate the displacing effects of disruptive technologies.³ The present research, in a similar spirit,

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¹This article examines product shape designs secured under federal statutes.


³Christensen, supra note 2, at 69–87.

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explores how established innovation practices generate suboptimal legal rights, particularly product design rights. The prevalence of RDRI in the marketplace presents a paradox, because established law and economics theory predicts that firms would generate multiple and integrated categories of design rights. A recent study, however, empirically verified that very few companies secure federal rights to product shapes through the trademark regime even though these trademarks were found to positively impact shareholder value.4

The broader issue of integrated intellectual property rights has been studied in legal and management research, particularly because intangible assets are a source of value to firms. Researchers have explored various conceptual challenges such as why intangible assets are oftentimes mismanaged if they are increasingly important. In their search for an answer, researchers have identified the complex nature of intangibles and the organizational challenges associated with managing these assets.5 This article suggests that an explanation, within the context of design rights, is attributed to organizational challenges that hinder the development of linkages between different categories of design rights. A major challenge arises due to a coordination failure among various value-creating activities. This approach to the issue complements and builds on research that extends our understanding of legal doctrine from the perspective of the firm’s decision makers.6

This study shares some characteristics with a body of research that examines the endogeneity of law. Endogenous variables are those that are predicted by other variables within a model. The firm’s ability, for example, to competitively shape the property rights landscape is recognized as an important competitive strategy in uncertain environ-

4See Alexander A. Krasnikov et al., Evaluating the Financial Impact of Brand Equity through Trademarks: A Framework and Empirical Evidence, J. MARKETING (forthcoming fall 2009) (manu-
script at 15, 27–28 & 31, on file with author). Although the emphasis of this study was not product shapes, only 49 product shape trademarks were identified among more than 20,000 trademarks that were active during 1995–2005. Federal law defines a trademark as any word, name, symbol, or device, or combination thereof, adopted and used by a manufacturer or merchant to identify his goods and distinguish them from those manufactured or sold by others. 15 U.S.C. § 1127 (2008).


ments. The legal management of property rights, therefore, may be a variable that is impacted by other management variables. An example of a firm endogenously shaping its greater patent rights environment is IBM’s active partnership with the Open Source programming community. IBM willingly donates many of its software patents to the software commons as a method to weaken the property rights of its rivals.

This perspective, where legal outcomes are tied to managerial decision making, draws more broadly from legal realism. Legal realism emphasizes empirically verifiable behaviors as key drivers of legal outcomes. A central question of legal studies in management research is whether observed managerial behavior is guided by knowledge of relevant legal doctrine and whether this knowledge impacts the relative value of managerial governance choices. This approach draws from legal realism as it emphasizes the fact that legal terms and rules are not self-enforcing. As stated by one legal realism scholar, “[u]nless one understands the structures and incentives and interests of the organizations whose agents act on words, one cannot understand or predict the effects of legal enactments.”

Given this major theoretical premise, which forms a continuous backdrop for this research, an argument implied throughout this article is that routine firm practices necessarily impact design rights and lead to varying,

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8 Merges, *supra* note 7, at 191–94. See also Pisano & Teece, *supra* note 7, at 287–88 (discussing case studies where firms such as IBM partner with external communities and organizations to weaken their rivals’ intellectual property positions). Due to the novelty requirement of the U.S. Patent Act, IBM’s disclosures pursued in collaboration with the Open Source community prevent IBM’s rivals from appropriating those strategic technologies.


10 Bagley, *supra* note 6, at 382–83.

oftentimes suboptimal legal outcomes. This is not necessarily due to a conscious disregard of legal doctrine or policy. Rather, in the context of product shapes, design rights are not self-enforcing across property regimes absent legally informed and coordinated managerial action. As will be shown, established firm practices routinely deter coordination.

In light of the theoretical framework discussed above, this research aims to unite legal knowledge of design-related intellectual property doctrine with firm behavior. To achieve this, it examines public legal doctrine and relates it back to management constructs such as the value chain and the new product development process. This analysis will highlight the inherent challenges that RDRI presents. The analysis will also reveal that a firm can make a conscious effort to strengthen its entitlements in one intellectual property regime through practices in an entirely different property regime.

The article is structured as follows: Part II reviews the established intellectual property integration literature, with an emphasis on a prominent study that examines the positive effects of integrating utility patents with trademarks. Part III reviews the policy justifications and legal regimes of utility patents, design patents, and product shape–related trade dress secured via federal trademark. In this section, the intersecting doctrines of nonfunctionality and secondary meaning are discussed by examining the Traffix and Wal-Mart cases. These precedent-setting cases provide fertile opportunities to examine the sources of RDRI. Part IV examines innovation activities within the firm. In this section, management concepts, including the value chain and new product development process, are examined as behaviors that influence design rights, often negatively, and which can be coordinated a priori with legal knowledge. Part IV then syn-

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13Trade dress protection covers the “appearance or image of goods and services as presented to prospective purchasers.” Restatement (Third) of Unfair Competition § 16 (1995). Trade dress is a broader concept than trademark and includes packaging in addition to the overall appearance of the actual product. Jerold A. Jacover & Kathleen E. Brennan, Trade Dress and Product Configuration Law, in Protecting Trade Dress 21, 21–23 (Robert C. Dott & Christopher H. Munch eds., 1992). Throughout this article, product shape–related trade dress is discussed primarily in the context of federally registered shape trademarks.
thesizes these observations into a decision-making framework. This descriptive framework explains why few firms successfully integrate design rights and extends current theory related to design rights integration. Part V discusses implications for overcoming the RDRI challenge. Part VI summarizes and discusses some of the research implications this new analytic framework generates for additional research. Part VI also concludes.

II. THE LAW AND ECONOMICS OF DESIGN RIGHTS INTEGRATION

Law and economics theory suggests that firms benefit from the integration of various intellectual property regimes. One well-known study by professors Parchomovsky and Siegelman discussed two synergies available to firms that integrate utility patent rights with trademark rights.\(^{14}\) First, a broad patent may reduce the cost necessary to establish a strong brand and related investments in trademarks.\(^{15}\) Second, investments in strong brands and trademarks can extend the value of a utility patent by raising the buyer’s switching costs associated with that product. Exploring this latter effect was the primary emphasis of the study. The study also covers trade dress–related trademarks, which by definition include product shapes.\(^{16}\)

In the combined patent and trademark model, the profit-maximizing patent owner charges less than the monopoly price during the patent exclusivity period and increases output more than would be expected under that patent exclusivity period. The reason is to increase the consumption and value of the patent owner’s brands and trademarks. When the patent expires, the firm is able to capture some of the remaining brand loyal customers, shifting the economic value of the innovation to the longer-lasting trademark regime. Under Parchomovsky and Siegelman’s model, integrating patents and trademarks increases social welfare. Social welfare

\(^{14}\) Gideon Parchomovsky, & Peter Siegelman, Towards an Integrated Theory of Intellectual Property, 88 Va. L. Rev. 1455, 1460–61 (2002) (integrating copyrights and trade secrets as well as patents and trademarks). Trade secrets rarely apply directly to design rights. Copyrights can extend to design rights, but they are not emphasized in the present design rights research for several reasons discussed below.

\(^{15}\) Id.

\(^{16}\) Id.
is achieved because, as the model shows, to optimize the value of the trademark, the patent owner will produce at a lower price and greater amount than indicated by a sole analysis of the patent.\textsuperscript{17} When the utility patent expires, competitors can imitate the functional innovation claimed in the expired utility patent and lower overall price and increase output as competitive economic models predict. Customers brand loyal to the firm that leveraged trademarks with utility patents will pay a higher price after a patent expires, but this is a purely redistributive effect with no social deadweight loss.\textsuperscript{18}

Parchomovsky and Siegelman make a careful distinction for the special case of trade dress. They do not change the fundamental findings of their model but do clarify that their argument applies only to aesthetic design features related to trade dress and not to functional design features such as product configuration. They extend their core argument to aesthetic trade dress elements and support extending trade dress protection to aesthetic design elements as a profit-maximizing and social welfare-maximizing activity within their model.

Additional studies support the theoretical value of integrated intellectual property rights. Landes and Posner’s trademark economics model suggests that firms invest in aesthetic product design features to increase trademark valuation.\textsuperscript{19} Product designs secured as trademarks are described in their work as attractive trademarks and include product features such as colors and shapes.\textsuperscript{20} Under this model, the firm will continue to invest in additional aesthetic product features secured by shape trademarks as long as these attractive trademarks increase the product’s price. This is socially justified, because competitors are not placed at a production cost disadvantage because they can still incur expenditures to make their

\textsuperscript{17}Id. at 1474–81. Social welfare is achieved by increasing output and reducing what economists call a deadweight loss. This loss is caused by the lower output produced by a monopolist. Under monopoly conditions, some consumers must satisfy their demand for the monopolist’s product by substituting goods which cost society more to produce, leading to the so-called deadweight loss. Richard A. Posner, Economic Analysis of Law 284–85 (2007). See also Ian Ayres, & Paul Klemperer, Limiting Patentee’s Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies, 97 Mich. L. Rev. 985 (1999).

\textsuperscript{18}Parchomovsky & Siegelman, supra note 14, at 1479–80.


\textsuperscript{20}See id. at 197–201.
product more aesthetically attractive and increase the value of their own attractive trademarks. The model in Landes and Posner’s study, however, does not allow firms to secure design features as trademarks if they raise competitors’ production costs. The example offered in such a case involves claiming a utilitarian physical attribute as a trademark. A utilitarian physical attribute can be secured with a utility patent, highlighting the need for firms to secure aesthetic innovations through the complementary, yet distinct, trademark regime.

Additional economic studies have theoretically modeled the benefits of integrating multiple regimes of intellectual property. One of the leading academic texts on intellectual property management discusses how an intellectual property portfolio composed of decreasing patent value and increasing trademark value raises the overall level of intellectual property value. A later study similarly models patents and trademarks with an emphasis on technological assets and life cycles. This more recent study discusses the case of Bayer aspirin, in which brand equity allows that company to differentiate its technology even though its underlying technology has long since become publicly available after patent expiry. Although primarily dedicated to the exposition of an analytical and theoretical model, Parchomovsky and Siegelman’s research offers several interesting case studies. These cases highlight firm practices extending the value of utility patents through trademarks. The cases do not apply to product design rights even though their model supported the profit-maximizing integration of aesthetic designs with trademarks.

Despite the sound economic theoretical basis for integrating design rights across property boundaries, a recent empirical study overwhelmingly shows that fully integrated design rights are the rare exception. This empirical trademark research examined, over a ten-year period, the relationship between federal trademark registrations and firm financial performance. The study analyzed more than 20,000 active trademarks for

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24Krasnikov et al., supra note 4, at 19–20.
108 firms across multiple industries from 1995 to 2005. This study found only forty-nine product shape trademarks from a sample of more than 20,000 active trademarks. An answer to why these product shape trademarks are not integrated more fully with other design rights is suggested in the sections that follow, which examine the legal and policy foundations of design rights and firm behavior that impacts their coordination.

III. THE LAW AND POLICY OF PRODUCT SHAPES

A policy objective of the intellectual property regimes is to encourage innovation across distinct domains, namely functional innovations secured by utility patents, aesthetic product innovations secured with design patents, expressive innovations secured by copyright, and source identity innovations procured through trademark. The focus of this research involves product shape–related innovations. To understand the discontinuity postulated by RDRI, it is necessary to explore the doctrinal foundations of the relevant intellectual property regimes.

Because this article examines firm behavior in industries in which product design plays an important role to the end customer, the relevant intellectual property regimes that would be theoretically integrated are the utility patent, design patent, copyright, and shape trademark regimes. Copyright may secure valuable design rights that are broader in scope than just product shapes, such as trade dress rights to packaging. Copyright, however, is excluded from this narrower study of product shapes. First, unlike the other registration-dependent regimes, copyright is automatically granted by law. Copyright therefore does not figure strongly into

25The industries analyzed included: food and beverages, clothing and apparel, electronics equipment, dining establishments, home appliances, jewelry, motor vehicles, packaged foods, perfumes and cosmetics, software, and wine and malt beverages.


the question of design rights coordination with the remaining three registration-dependent design regimes, specifically the postulated source of RDRI. Further, some commentators suggest that copyright is an inappropriate basis for securing product shapes and configurations. The following sections explore the legal policies of the three federal registration regimes most relevant to product shapes, namely, utility patents, design patents, and shape trademarks.

A. Utility Patents

Utility patents serve the policy goal of securing new, useful, and nonobvious inventions in the categories of products, machines, compositions of matter, and methods. The utility requirement is a fundamentally unique aspect of this regime and distinguishes it from the rest. Utility, as required by Section 101 of the U.S. Patent Act, has been defined as requiring the invention to work as intended. The broad rights granted under the utility patent regime are tempered by a limited period of exclusivity, which presently extends to twenty years from the date of application.

The legal title to a patented invention mainly resides in the language of the utility patent’s claims. For product inventions, the claims may extend to design-related elements pertaining to a product configuration. An example of overreaching is when a firm claimed product configuration elements in a utility patent and later obtained design patents and shape trademarks for the same product. In this example, Black and Decker filed utility patents for its product, the Snake Light flashlight. In its utility patent


ents, the flashlight’s configuration and shape proportions were claimed. The utility patent partially states:

A flashlight having a total length formed by a base housing, a working end housing and a flexible core assembly comprising: said base housing forming a power end for said flashlight and having a longitudinally extending bore capable of housing at least one battery, said base housing further characterized by having a longitudinal dimension that is between about 15% and about 30% of the total length . . . said flexible core assembly connecting said base housing in operative relationship with said working end housing, flexible core assembly further characterized by having a longitudinal dimension between about 50% and about 65% of the total length of said flashlight; said flexible core assembly further comprising an outer resilient sleeve surrounding an inner flexible spine.\(^\text{32}\)

This is an example of overreaching, because subsequent design patent and shape trademark registrations visually depict the above proportions and configuration, including the flexible core and base housing. As other examples discussed later demonstrate, once the firm chooses to secure the product design configuration under the utility patent regime, it largely forecloses the ability to subsequently secure those product design elements under the design patent and shape trademark regimes.

Functionality, as mentioned above, is a likely bar to trademark registration.\(^\text{33}\) In *Traffix Devices, Inc. v. Marketing Displays, Inc.*,\(^\text{34}\) the Supreme Court considered whether trade dress could be secured for product features on a dual-spring-mounted sign that had been previously claimed in a utility patent. In the Court’s view, consumers do not associate functional aspects of a product as a source identifier, and therefore trademark rights should not issue for functional innovations. Another argument the Court relied on heavily is that functional shape designs are meant to be secured, as a policy matter, under the utility patent regime.\(^\text{35}\) To allow a potentially indefinite monopoly for utility patents via subsequent trademark rights would contravene existing policy.\(^\text{36}\)

\(^{32}\)U.S. Patent No. 5,521,803 (filed Aug. 5, 1994).

\(^{33}\)15 U.S.C. §§ 1052(e)(5), 1052(f), 1091(c), 1064(3) & 1115(b) (2008) (providing the statutory basis for denying trademarks for functional product features).

\(^{34}\)532 U.S. 23 (2001).


\(^{36}\)But cf. Parchomovsky & Siegelman, supra note 14, at 1465–73 (discussing an economic rationale that criticizes the Traffix Court’s sharp doctrinal distinction between intellectual property regimes).
by the Court, the existence of a utility patent coextensive with the product’s trade dress elements imposes a substantial burden that has to be overcome:

A utility patent is strong evidence that the features claimed therein are functional. If trade dress protection is sought for those features the strong evidence of functionality based on the previous patent adds great weight to the statutory presumption that features are deemed functional until proved otherwise by the party seeking trade dress protection.37

After *Traffix*, legal commentators widely believe that it is virtually impossible to secure product shape trademarks if the shape elements were the subject of a prior utility patent.38 Factors other than utility patents, however, may also impact a functionality determination.

Product shapes can be primarily aesthetic and therefore nonutilitarian. In other cases, they may be primarily functional, utilitarian, and unsuitable for trade dress or design patent registration. In most cases, product shapes are a combination of the two, or as the Supreme Court recognized, “product design almost invariably serves purposes other than source identification.”39 The courts have struggled, however, to answer if and when product shapes are primarily functional and therefore barred from trademark registration. To answer this question, the courts generally reason that a feature is functional as a matter of law if it is “essential to the use or purpose of the [product] or if it affects the cost or quality of the [product].”40

This broad test was offered additional guidance in *In re Morton-Norwich Products, Inc.*41 In this case, the Court of Appeals for the Federal Circuit decided whether a spray bottle was correctly denied a shape trademark due to functionality by the trademark examiner and the U.S. Patent and Trademark Office’s (USPTO) Trademark and Appeals Board.42 As that court mentioned, the core determinant is not the mere existence of

37 *Traffix*, 532 U.S. at 29–30.
42 *Morton–Norwich*, 671 F.2d at 1334–35.
utility, but the degree of utility.\textsuperscript{43} To determine this degree, the following four factors, now commonly known as the Morton-Norwich factors, were articulated:

(1) the existence of a utility patent that discloses the utilitarian advantages of the design sought to be registered;\textsuperscript{44}

(2) advertising by the applicant that touts the utilitarian advantages of the design;

(3) facts pertaining to the availability of alternative designs; and

(4) facts pertaining to whether the design results from a comparatively simple or inexpensive method of manufacture.\textsuperscript{45}

The USPTO’s examiners routinely cite the Morton-Norwich factors in trade dress applications that raise functionality questions. The USPTO’s trademark manual of examination and procedure also specifically cites the Morton-Norwich factors as legal authority to guide the trademark examiner’s inquiries.\textsuperscript{46}

B. Design Patents

New, original, and ornamental designs for an article of manufacture, that is, a product, can be legally secured with design patents.\textsuperscript{47} Design patents last fourteen years from the date of issuance. If the design sought to be registered is dictated primarily by functional or mechanical requirements, and any aesthetic effect is an inadvertent by-product, the design cannot stand on legal

\textsuperscript{43}Id. at 1338.

\textsuperscript{44}This factor anticipated the Traffix decision. Also, the presence of third-party utility patents may provide an examiner with justification to reject a trade dress application under the functionality test. U.S. Trademark Manual for Examination Procedure (2007), § 1202.02(a)(v) et seq.

\textsuperscript{45}Morton-Norwich, 671 F.2d at 1334–41.

\textsuperscript{46}USPTO Trademark Manual for Examination Procedure, §1202.02(a)(v) (5th ed. 2007), “Evidence and Considerations Regarding Functionality Determinations.” The manual provides trademark examining attorneys with a reference work on the practices and procedures with respect to applications to register trademarks in the USPTO.

ground. Indeed, the only legal claim to the aesthetic design innovation under this regime is an image of the product as illustrated in the registration.

The test for establishing design patent infringement is called the ordinary observer test, and it requires that in the eye of an ordinary observer the two designs appear substantially the same, after taking the prior art into consideration. Design patent infringement can lead to significant monetary damages, and like any intellectual property right, it offers the owner the right to request a preliminary injunction.

The design patent regime can intersect with the utility patent and trademark regimes, as illustrated by the following two cases. The two cases respectively deal with the doctrines of functionality and secondary meaning, specifically acquired distinctiveness. Design patents may play a role in the functionality test outlined by the Supreme Court in Traffix. As the USPTO’s Trademark Manual for Examination Procedure states, “[a] design patent is a factor that weighs against a finding of functionality, because design patents by definition protect only ornamental and nonfunctional features.” Parties cannot, however, rely solely on the presence of a design patent to escape the functionality restriction, because ownership of a design patent does not in itself establish that a product feature is nonfunctional and can be outweighed by other evidence supporting the functionality determination. Under this test, and taking the Snake Light case as an example, that product’s design patents would likely have been nullified by the prior utility patents, which claimed overlapping design elements.

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48 See Barofsky v. General Electric Corporation, 396 F.2d 340, 344 (9th Cir. 1968); Bentley v. Sunset House Distributing Corp., 359 F.2d 140 (9th Cir. 1966). I thank Ross Petty for pointing out these cases.

49 See Egyptian Goddess, Inc. v. Swisa Inc., 498 F.3d 1354 (Fed. Cir. 2007) (rejecting the point of novelty test which had made it easier for competitors to design around the patentee’s design). Legal commentators believe that the Egyptian Goddess case greatly strengthened design patent rights. See, e.g., Perry J. Saidman, Egyptian Goddess Exposed!: But not in the Buff(er), 90 J. Pat. & Trademark Off. Soc’y 859, 884–85 (2008).


51 Secondary meaning is also discussed in Part III.C. infra.


53 Id.

54 See supra Part III.A.
Design patents are a factor used to establish distinctiveness in shape trademark applications. For example, if a firm fails to register design patents on its unique product shape, a competitor may register similar design patents. These design patents filed by third parties may then be retrieved by a trademark examiner and used as a basis to deny a shape trademark application. This occurred in the case of In re Pacer Technology, in which the Court of Appeals for the Federal Circuit affirmed the USPTO examiner’s position. In this case, competitors owned design patents that trumped the applicant’s desire to obtain a trademark on the ornate shape of their glue dispenser. The logic behind the trademark examiner’s decision was that the existence of similar design patents offers rebuttable evidence that the applicant’s shape was not unique and, therefore, had not obtained secondary meaning. Secondary meaning is obtained when the primary significance of the product design or shape is to identify the source of the product rather than the product itself. The issue of whether or not the competitor was using the design in commerce was deemed irrelevant.

The design patent regime largely precludes functionality and requires novelty, along with aesthetic attributes. It can, therefore, provide the basis for design rights that have not been embodied in a utility patent and which merit shape trademark security. Design patent rights prevent imitation by competitors, independent of the associations the consumer has with respect to the product design’s source. Firms that want to preclude imitation and build brand equity in the product shape will seek to obtain shape trademarks.

C. Product Shape Trademarks

Trade dress law coexists with federal trademark law. Federal law defines a trademark as “any word, name, symbol or device, or combination

55.338 F.3d 1348 (Fed. Cir. 2003). A Lexis search conducted on September 26, 2008, reveals that this case has been cited seventeen times and followed six times in published opinions issued by the USPTO’s Trademark Trial and Appeal Board (TTAB). The TTAB decides appeals from the decisions made by trademark examiners.


57. A leading brand equity framework in the marketing literature includes product attributes such as shapes as a component of brand equity. See Kevin Lane Keller, Conceptualizing, Measuring, and Managing Customer-Based Brand Equity, 57 J. Marketing 1, 4 (1993).

58. MITCHELL ET AL., supra note 28, at 23–27.
thereof, adopted and used by a manufacturer or merchant to identify his goods and distinguish them from those manufactured or sold by others." 59 Trademarks have been long recognized under common law. The Federal Trademark Act of 1946, known as the Lanham Act, provided important guidelines for the precise definition and eligibility requirements under federal law. 60 For example, the Act provides a federal cause of action for the owners of both registered and unregistered marks. 61 The Lanham Act also expanded the category of trademarks that may be secured under federal registration, including a broad range of signifiers 62 such as colors, shapes, scents, sounds, architecture, motion, and, in some cases, even flavors. 63 As stated by the Supreme Court in the Qualitex case, when it referred to the symbol or device elements of the Lanham Act’s trademark definition,

human beings might use as a symbol or device almost anything at all that is capable of carrying meaning, this language, read literally, is not restrictive. The courts and the Patent and Trademark Office have authorized for use as a mark a particular shape (of a Coca-Cola bottle), a particular sound (of NBC’s three chimes), and even a particular scent (of plumeria blossoms on sewing thread) . . . . If a shape, a sound, and a fragrance can act as symbols why, one might ask, can a color not do the same? 64

Because product shapes can be secured with trademarks, this area of trademark law intersects with design patents and utility patents. Trademark law, however, may be abused by firms wishing to extend the monopoly lifetime of utility patents. 65 The courts have thus rejected attempts by firms to obtain potentially indefinite trademark rights for innovations

60 MITCHELL ET AL., supra note 28, at 5–6.
62 It is useful to discuss signifiers as potential trademarks because the domain of signifiers corresponds to the broad domain of trademark subject matter such as words, images, colors, shapes, sounds, scents, and motion. For an analysis of trademark law from a semiotic perspective, see Barton Beebe, The Semiotic Analysis of Trademark Law, 51 UCLA L. REV. 621 (2004).
65 MITCHELL ET AL., supra note 28, at 129.
which were at one time secured under the utility patent regime. Firms may, under current law, obtain design patents to comply with the nonfunctionality doctrine and later obtain trademark rights on the subject of their design patent. This is because the policy justification for obtaining design patent rights extends to aesthetic, specifically nonfunctional design innovation. In this way, design patent policy coexists with trademark policy.

Trademark doctrine has, therefore, heightened legal requirements for firms seeking shape trademarks. Under the traditional trademark test, the classical line of inquiry turns on the distinctiveness of the signifier, that is, the potential mark, in relation to the public stock of signifiers. To answer the important question of distinctiveness, the well-known Abercrombie framework laid out by Judge Friendly has endured. In Abercrombie & Fitch Company v. Hunting World, Inc., the five categories of distinctiveness listed by increasing distinctiveness are: generic, descriptive, suggestive, arbitrary, and fanciful. The latter three categories of marks, because their intrinsic nature is to identify a particular product source, are deemed inherently distinctive and are entitled to trademark status.

Signifiers of the generic category can never be secured as trademarks. These are signifiers that fall within the genus category of a product or service. For example, the term aspirin was once registered by Bayer as a trademark for its compound acetyl salicylic acid. Due to the term’s popularity and frequent use, it eventually became the genus category for that broad category of pain reliever and thus became a generic term for this type of medication and Bayer lost all rights to the word aspirin.

A descriptive mark is one that consists merely of words descriptive of the qualities, ingredients, or characteristics of the goods or services related to the mark. Descriptive marks, which can include personal

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66 Id. at 130.
67 537 F.2d 4 (2d Cir. 1976).
68 Id. at 9.
70 Abercrombie, 537 F.2d at 9.
71 See Bayer Co. v. United Drug Co., 272 F. 505, 510 (S.D.N.Y. 1921).
72 Id. at 515–16.
names, may be trademarked only upon a showing of secondary meaning. To establish secondary meaning, a firm must show that, in the minds of the consuming market, the primary significance of a product feature or term is to identify the source of the product rather than the product itself. Issues of distinctiveness and secondary meaning with respect to trade dress were dealt with twice by the Supreme Court.

In *Two Pesos, Inc. v. Taco Cabana, Inc.*, the Supreme Court had to decide whether Section 43(a) of the Lanham Act allowed the claimant of unregistered trade dress the right to obtain relief against an infringer without having to prove secondary meaning. The Court decided it was possible as long as the trade dress was inherently distinctive under the *Abercrombie* classification. The Court reasoned that trade dress is:

> capable of identifying products or services as coming from a specific source and secondary meaning is not required. This is the rule generally applicable to trademarks, and the protection of trademarks and trade dress under § 43(a) serves the same statutory purpose of preventing deception and unfair competition. There is no persuasive reason to apply different analysis to the two. The “proposition that secondary meaning must be shown even if the trade dress is a distinctive, identifying mark, [is] wrong . . . .”

In *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, the Supreme Court partially reversed its position under *Two Pesos* and held that consumers do not view product shapes separate from the product and therefore do not identify shape design as an independent source identifier. As a result of this case, product shapes can never legally achieve inherent distinctiveness, irrespective of the distinctive merits of the shape design. Commentators have argued that part of the justification for the Court’s categorical distinction of product shape trademarks lies in the danger that the trademark regime may extend the monopoly lifetime granted by the utility patent regime, given cases of overreaching such as the Snake

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78 Id. at 773 (quoting Blau Plumbing, Inc. v. S.O.S. Fix-It, Inc., 781 F.2d 604, 608 (7th Cir. 1986)).

The Court’s explicit reasoning was that, in its view, consumers do not regard product shapes as a distinct basis of source identity. That empirical question, under Wal-Mart, therefore was subsumed as a question of law. The Wal-Mart rule now requires firms to devote advertising and marketing resources to build secondary meaning.

Under the post-Traffix and Wal-Mart frameworks, product designs can achieve federal trademark status as long as they pass the nonfunctionality and secondary meaning gauntlets. The lack of secondary meaning does not preclude trademark rights altogether. Common law rights may exist and registration of these rights may occur in the USPTO’s supplemental register. These rights, however, are significantly more limited in geographic reach. Supplemental registration is important to establish notice, prevent registration of federal trademarks that are similar, and build secondary meaning for descriptive marks ineligible for registration in the primary register.

If the nonfunctionality and secondary meaning hurdles are overcome, the shape trademarks are included in the USPTO’s principal register. This provides the registrant firm with a number of federal rights, including: nationwide protection for marks; exclusive right to use the mark in commerce; incontestability of the mark after five years, subject to certain specified limitations; and the right to have the Bureau of Customs seize and confiscate imports bearing marks that would infringe upon the registered mark. Distinctive product shape trademarks may achieve fame and offer the trademark owner antidilution rights. All of the above rights make trademarks valuable intellectual property assets. Trademark rights may also remain the exclusive property of the owner for a potentially indefinite period of time.

To illustrate, there are several examples of successful product shapes currently secured by shape trademarks. Among the most iconic are: Hershey’s chocolate kiss, Apple’s iPod media device, Coca-Cola’s bottle,

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80 See Mitchell et al., supra note 28, at 129.
82 See Nabisco, Inc. et al. v. PF Brands, Inc., 191 F.3d 208 (2d Cir. 1999) (upholding a federal dilution claim made by Pepperidge Farm, owner and producer of the famous yellow goldfish cracker).
Haggerty Enterprise’s Lava Lamp, Astra Zeneca’s purple pill, Weber’s grill shape, Ohio Art’s Etch-a-Sketch, the Volkswagen beetle, and the Zippo lighter casing.84

IV. FIRM BEHAVIOR AND RDRI

A. Overview

From a legal realism perspective, divorcing firm behavior from legal design rights creates a challenge. This is because one cannot understand or predict legal outcomes unless one understands the structures, incentives, and interests of the organizations whose agents act on these legal rights.85 As discussed in the previous section, there is a doctrinal basis for firms to secure design rights across utility patents, design patents, and shape trademarks. Law and economics theory predicts their integration as an efficient and social welfare–enhancing activity.86 Empirical evidence, however, suggests this rarely occurs.87 The goal of this section is to examine firm behavior and find a solution to this paradox.

To model a firm’s activities, the management discipline makes widespread use of a value chain. Under that abstraction, every firm is a collection of value-creating activities that are performed to design, produce, market, deliver, and support a product or service.88 Intellectual property becomes a resource to secure these activities if innovation and differentiation are competitive strategies employed by the firm.89

84U.S. Trademark Serial No. 71/190, 926 (filed Jan. 17, 1924); 78/952, 932 (filed July 10, 2006); 73/088, 384 (filed May 25, 1976); 73/761, 875 (filed Nov. 4, 1988); 76/103, 792 (filed Aug. 4, 2000); 73/236, 009 (filed Oct. 22, 1979); 75/238, 251 (filed Feb. 7, 1997); 74/651, 998 (filed Mar. 27, 1995); 75/304, 294 (filed June 6, 1997).
85Gordon, supra note 11, at 95.
86See supra Part II.
87See generally Krasnikov et al., supra note 4.
88PORTER, supra note 12, at 33.
89As defined by Porter, there are three strategies a firm can choose to engage in: cost leadership, differentiation, or a niche focus. Id. at 11. Differentiation is expensive and the importance of securing that difference becomes paramount. Id. at 127. Intellectual property law encourages and secures investments in differentiation, given its frequent references to “novel,” “unique,” “non-obvious,” “fanciful,” and “original.”
Although these value-creating activities are components of competitive advantage, the chain is not a collection of independent activities.90 Value-creating activities are related by linkages within the chain that create competitive advantage by optimizing and coordinating value among discrete activities.91 These linkages provide a rare and valuable resource that is tacit, hard to replicate, and likely to be sustainable.92 Although useful to illustrate the potential for linkages among discrete activities over the long term, overreliance on the value chain heuristic may lead to a serial view of activities that proceed in linear and sequential order. Such a view is an inaccurate and simplified view of the firm’s activities.

A complementary approach examines product design right integration at a stage when value-creating activities are coordinated iteratively during the innovation and new product development stage. The goal of this section is to tie in legal knowledge of design rights with the value-creating activities defined by that new product development process.

B. New Product Development Activities

Knowledge creation and innovation often occurs during the new product development process.93 The principal behavioral construct for understanding a firm’s innovation activities related to new product development is a multistage development process. Typically this takes the form of an iterative algorithm defined by five stages: opportunity identification and selection, concept generation, concept evaluation, development, and commercial launch.94 The new product development process is an interdisciplinary activity that relies heavily on marketing, design, and manufacturing capabilities.95 An important issue to consider when discussing

90 Id. at 48.
91 Id.
92 Resources that are rare, valuable, inimitable, and nonsubstitutable fit within the resource-based view of the firm. See Jay Barney, Firm Resources and Sustained Competitive Advantage, 17 J. MGMT. 99, 105–12 (1991). Tacit resources are those which are not easily identifiable and imitable by competitors. See David J. Teece, Managing Intellectual Capital (2000).
95 Ulrich & Eppinger, supra note 12, at 12.
these activities during new product development is that each activity faces multiple and oftentimes conflicting goals.96

1. Research and Development

A company’s research and technology department helps identify new product development opportunities.97 This activity takes on a critical role if the commercialization strategy is based on technology leadership.98 During these activities, utility patents take a predominant role over other intellectual properties. In fact, utility patents tend to dominate intellectual property discussions throughout the new product development literature. One leading textbook on new product development has a chapter devoted to intellectual property. That chapter focuses almost entirely on utility patents. Only in passing does it mention design patents and trademarks.99

Under the Traffix functionality doctrine, however, applying for utility patents with product configuration elements can foreclose further product design rights. It is during this critical and early stage when irreversible mistakes may occur. The driver behind this is research and development’s rational desire to obtain broad utility patents to secure the emerging technology.100 An example of the rational desire to claim design elements in a utility patent occurred in the Black and Decker Snake Light case. Another example occurred when the small, innovative firm, Loggerhead Tools, attempted to secure a product configuration trademark for its Bionic Wrench.101

In the Loggerhead Tools case, the image of the wrench in the trademark application included the wrench handles and head. The USPTO examiner issued an office action that denied the application based on

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96Id. at 211.
97Id. at 37.
98Id. at 38.
99Id. at 287–307.
101Interview with Dan Brown, President of Loggerhead Tools, L.L.C., in Houghton, MI. (Nov. 5, 2008).
functionality. The examiner cited Loggerhead Tools’ pending and registered utility patents and used Traffix as the precedent for rejecting the application under the functionality doctrine. In Loggerhead Tools’ patent documents, the handle and head portions of its wrench were claimed to serve a functional purpose. The examiner’s functionality objections were never overcome, and LoggerHead Tools eventually abandoned its shape trademark application.

In a different case, Honda (Japan) attempted to secure a shape trademark for its popular generator engine. The application was denied and the trademark examiner cited several of Honda’s utility patents as evidence that the generator’s shape included several primarily functional elements. One utility patent stated that, because the fuel tank and muffler were mounted side by side above the generator and engine, the unit could be constructed compactly into a cube-like shape that would minimize space, contribute to a lowered center of gravity, and minimize exhaust roar.

2. Industrial Design and Prototyping

As technologies migrate along the new product development cycle, innovation opportunities are narrowed down by managers to those which show greatest promise. At this stage, the firm increasingly commits to projects that are feasible and achieve organizational goals. This entails not only securing functionality through utility patents, but also

102 The USPTO examiner stated: “The proposed mark comprises a wrench handle and head and the goods are wrenches. The head functionally conforms to the utility portion so that the head is not larger than necessary to enable the wrench to be used in tight spaces. Furthermore, the handles serve as a necessary functional feature of the wrench.” USPTO Office Action (June 26, 2007) for trademark application serial no. 78,745,268 (on file with author).

103 See supra Part III.A.

104 The USPTO examiner specifically cited claim 1 of the utility patent: “1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising: a first element and a second element connected for relative angular movement which generates movement of at least one gripping element . . . .” U.S. Patent No. 6,889,579 (filed Jan. 23, 2004).

developing prototypes and testing alternate designs.\textsuperscript{108} It is typically the role of the industrial designers, as part of the new product development team, to engage in the activities that transform a set of product requirements into a configuration of materials, elements, and components.\textsuperscript{109} Industrial design activities contribute to the new product development process by enhancing the product’s customer interface, including ease of use, capabilities, and appearance.\textsuperscript{110} Two product aspects largely influenced by industrial designers are aesthetics and ergonomics.\textsuperscript{111}

Product designs have the potential to become important elements of competitive advantage.\textsuperscript{112} This is because, as behavioral economic research suggests, consumers do not base their purchases on a purely rational calculus.\textsuperscript{113} Consumers, rather, base some purchases on impulses and psychological responses triggered by marketing efforts along the lines of messaging, imagery, and aesthetic designs.\textsuperscript{114} Research empirically confirms a positive association between industrial design investments and financial performance.\textsuperscript{115} Studies show that design cues prompt purchasing behavior\textsuperscript{116} and increase shareholder value.\textsuperscript{117} Innovative designs also may result in praise from third parties and design awards that can be leveraged by the marketing department to build and differentiate the product’s brand.

Design patents are used during the industrial design and prototyping phase to secure the emergent aesthetic designs the firm is committed to


\textsuperscript{111} Gemser & Leenders, supra note 109, at 30.


\textsuperscript{113} See, e.g., Ariely, supra note 2, at 38–39.

\textsuperscript{114} Berkowitz, supra note 112, at 274–81.

\textsuperscript{115} Gemser & Leenders, supra note 109, at 34–35; Hertenstein et al., supra note 110, at 17.

\textsuperscript{116} Berkowitz, supra note 112, at 276.

\textsuperscript{117} Krasnikov et al., supra note 4, at 22.
taking to market. Given the relatively low cost and ease of prosecution, experienced firms seek multiple design patents to block rivals from entering their design space. Various design patents can, therefore, secure a core design concept. The development team behind Black and Decker’s Snake Light, discussed above, employed this strategy. In this way, design patents can offer some level of security while the firm builds up the marketing capabilities to build secondary meaning, as required by Wal-Mart. Prior to making an irreversible design commitment, however, the firm often solicits input from the manufacturing activity.

3. Manufacturing

The manufacturing engineering activity is a key stakeholder in new product design decisions. This is because manufacturing costs are a key determinant of a product’s economic success and design plays an important role in manufacturing costs. Concerns held by the manufacturing and assembly functions often relate to reducing production costs and increasing process efficiency. One leading manufacturing and design text discusses the virtues of a design process that takes into account the needs of the manufacturing and assembly processes. The benefits from such an approach include: reduction in assembly and manufacturing time, reduction in part counts and cost, time to market improvements, and improvements in quality and reliability.

119 For example, Apple, Inc. has for its iPod portable media device filed some nineteen design patents related to the basic design concept to date. See, e.g., U.S. Patent D472,245 (filed Aug. 2, 2002).
121 See, e.g., the discussion supra at Part III.B.ii.
123 Ulrich & Eppinger, supra note 12, at 211; Boothroyd et al., supra note 108, at 5.
124 Boothroyd et al., supra note 108, at 5.
125 Id. at 21.
An emphasis on such an approach is to achieve overall savings in manufacturing costs.126

These goals often conflict with the goals of industrial design and marketing during the new product development process. For example, industrial designers almost always add geometric complexity to a product to create visual and aesthetic interest.127 Studies have shown that increased industrial design complexity correlates with higher manufacturing costs.128 This may generate conflicting objectives, such as choosing standardized versus custom-made parts to reduce costs or keeping product design attributes as uniform and simple as possible.129 The tension between manufacturing process efficiency and industrial design can therefore negatively impact the rationale for securing design patents and shape trademark rights.

The manufacturing manager’s desire to achieve production and process efficiencies is rational from their perspective. Yet these goals conflict with the aesthetic product design possibilities. This tension can ultimately have a negative impact on the legal coordination of design rights. For example, the last two Morton-Norwich factors, which are used to help determine functionality, directly relate to manufacturing. One factor pertains to whether the method of manufacture was chosen because it is the most efficient one.130 Manufacturing engineers routinely favor the most efficient manufacturing methods. The other Morton-Norwich factor asks whether alternate designs are available. If the manufacturing activity advocates standardized product parts and attributes, the case is weakened for the firm to argue that there are alternate designs. Both of these choices, which are rational from a manufacturing perspective, would be used by a

126Id. at 22.
127Ulrich & Pearson, supra note 122, at 362. Other design features which may increase manufacturing costs include surface finishes and rich colors. Ulrich & Eppinger, supra note 12, at 195. But cf. Ulrich & Pearson, supra note 122 (discussing how in certain circumstances industrial design may actually lower manufacturing costs).
128Boothroyd et al., supra note 108, at 363–64 (discussing surface segment complexity to calculate tooling costs); Ulrich & Pearson, supra note 122, at 362 (discussing how increased geometric complexity increases tooling costs and tooling lead time).
129See Ulrich & Eppinger, supra note 12, at 222 (discussing standardized parts); Boothroyd et al., supra note 108, at 372–74 (discussing a case where the material thickness of a product should be uniform to reduce costs).
trademark examiner to determine that the product shape is functional and therefore ineligible for trademark protection.

4. Marketing

Research over the past thirty years shows that consumers employ readily identifiable cues such as price, sounds, color, packaging, and brands to infer quality when they have difficulty assessing quality directly.\textsuperscript{131} The American Marketing Association defines a brand as a “name, term, design, symbol, or any other feature that identifies one seller’s good or service as distinct from those of other sellers.”\textsuperscript{132} Marketing theorists have asserted that the value of a brand resides in the equity it enjoys among consumers.\textsuperscript{133}

As the product commercialization stage approaches, the firm attempts to build brand awareness and associations. It is typically the marketing activity’s responsibility to build the secondary meaning legally required to obtain trademarks for product shapes under the heightened Wal-Mart test. The marketing department is the appropriate department to request budgets and develop an advertising strategy. The advertising strategy will rationalize among advertising channels and may be informed by the decision to generate secondary meaning. This implies building, in the consumer’s mind, the association of the product shape with the brand or source. Visual media, therefore, can be prioritized among print, television, billboard, and online ads.

The following marketing-related evidence used to build secondary meaning has been presented in prior cases to the trademark examiner: advertising budgets, consumer surveys, descriptions of the media channels employed, and affidavits of marketing managers attesting to a premeditated advertising strategy to build secondary meaning.\textsuperscript{134} Praise by inde-

\textsuperscript{131}Berkowitz, supra note 112, at 274.


\textsuperscript{133}See David A. Aaker, Managing Brand Equity: Capitalizing on the Value of a Brand Name 16 (1991). This can be observed as the premium a consumer is willing to pay over a generic equivalent.

\textsuperscript{134}See Jacover & Brennan, supra note 13, at 34.
Firms employ a range of approaches to secure secondary meaning. A reactive approach is to wait until secondary meaning is established, perhaps serendipitously due to the absence of imitation by competitors and effective advertising. This is apparently the dominant, albeit risk-prone, approach. Many marketing departments, in their rational quest to tout the product, fail to take heed of the second Morton-Norwich factor. This factor precludes trademark registration for ads that tout the functional advantages of a particular design.

C. Analytical Framework

The previous section examined how a new product development team needs to integrate and manage distinct value-creating activities. It is expected that such cross-functional teams will work together during the new product development process. Industrial designers, for example, are expected to work with individuals from research and development, manufacturing, and marketing. These various individuals appear to behave rationally from their own perspectives. Their collective behavior, however, often precludes design right integration due to competing interests and goals.

The rational behavior of each department, in synthesis, occurs as follows. Initially, the research and development department desires the broadest possible utility patent to cover the greatest number of product configuration attributes, which risks violating the Traffix requirement of

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135Presently, there is little, if any, empirical data on the advertising strategies employed by firms with the goal of creating secondary meaning. This may be due to the wide gulf between the marketing and legal functions within the firm. For example, one study mentions that, "despite the interrelatedness of interests and mutual goals, marketers and lawyers frequently do not communicate, even within a firm." Peterson et al., supra note 132, at 256.

136 See supra Part III. A.ii.

137Hertenstein et al., supra note 110, at 5–6. See also Ulrich & Eppinger, supra note 12, at 13 (describing marketing, design and manufacturing as the key activities involved in the new product development process).

138 See Ulrich & Eppinger, supra note 12, at 211. Interestingly, similar competing goals and lack of coordination are manifested in the technology development process. The new product development community and literature routinely warn against an "over the wall" approach where teams rarely speak to one another. The term originated from the "we design it, you build it" approach in which designers sitting on one end of a room throw their designs over a wall to manufacturing engineers on the other end. See Boothroyd et al., supra note 108, at 7.
Figure 1. Decision-Making Under the Constraints of RDRI.
nonfunctionality. The design team has the incentive to create a novel and aesthetic industrial design, but will not depart radically from preexisting designs, because the manufacturing department rationally wants to minimize production costs through standardization and minimization of product shape complexity. \(^{139}\) Finally, the marketing department will often extol the product’s utilitarian attributes in advertising or fail to develop an advertising campaign intended to meet the secondary meaning requirements under *Wal-Mart*. \(^{140}\) Each activity, although rational from each department’s perspective, has significantly eroded the possibility of design rights integration. Figure 1 provides an integrated decision-making process that visually illustrates the RDRI dilemma.

As can be appreciated, conquering RDRI is a complex task that requires organizational coordination, managerial leadership, and knowledge of the legal aspects of multiple sources of design rights. The precise managerial methods and organizational structures that allow firms to overcome RDRI are discussed next.

V. OVERCOMING RDRI

A. The Role of Legal Counsel

Legal counsel’s role is to inform the new product development manager of RDRI’s costs and the opportunities to overcome it. If legal counsel is not part of the new product development process, a strong case can be made that it should be, given that legal decisions have important implications for continuing activities. As part of a new product development team, legal counsel may facilitate and coordinate relevant legal knowledge among business functions, such as research and development, marketing, manufacturing, and industrial design. An area where legal counsel can contribute significantly is with a cross-functional discussion of the prior art, in terms of utility patents, design patents, and trademarks. The ability to overcome RDRI depends on a differentiated product shape. Knowledge of the prior art in terms of utility patents, design patents, and trademarks

\(^{139}\)See Ulrich & Eppinger, supra note 12, at 211; Hertenstein et al., supra note 110, at 3 & 5.

\(^{140}\)For an example of the former, see Robert C. Dorr, *Patent, Trademark, and Copyright Protection and Procedure*, in *Protecting Trade Dress* 105 (Robert C. Dorr & Christopher H. Munch eds., 1992) (discussing a case in which a bottle manufacturer made promotional statements such as “Perfect by Design . . . Easy to Open. Easy to handle. Easy to pour. Easy to store.”).
may prove instrumental in the new product development process. Armed with this knowledge, the product development manager will then be in a better position to decide what level of design rights integration to pursue based on existing resources and valuations.\textsuperscript{141}

A product development manager who integrates design rights knowledge into a firm’s decision-making process may develop a rare and valuable legal astuteness capability for the firm.\textsuperscript{142} To arrive at this capability, however, the new product development manager and cross-functional team may have to invest time and resources to attain the sufficient level of legal literacy and understanding of legal tools, such as utility patents, design patents, copyrights, and trademarks.\textsuperscript{143} This has been known to present challenges, because managers, engineers, and lawyers use distinct mental models.\textsuperscript{144}

Some specific legal issues that legal counsel may raise with the new product development team and external counsel include: (a) the dangers of claiming product configuration design elements in utility patents, (b) the requirement of aesthetic design attributes to secure design patents, (c) the counterintuitive benefits of design attributes that raise manufacturing costs, (d) the benefits of departing from standard designs, (e) the risks of advertising copy that describes the product’s functionality in relation to the product design, and (f) the virtues of a premeditated marketing strategy designed to build secondary meaning.

Legal counsel can also organize and store any of this relevant and historical data so it can later be presented to a trademark examiner when prosecuting the shape trademark. The compiled data may include information related to marketing budgets, marketing strategies used to build secondary meaning, and investments in manufacturing that departed from a pure cost-efficiency determination. These same documents can be used as evidence if a competitor infringes on any of the design rights. This evidence can include media articles praising the distinctive and aesthetic de-

\textsuperscript{141}See Bagley, supra note 6, at 380 (discussing how managers are ultimately responsible for managing the legal aspects of the business).

\textsuperscript{142}See id. at 378 (defining legal astuteness as the ability of a top management team to communicate effectively with legal counsel and work together to solve complex problems).

\textsuperscript{143}See id. at 382–83 (discussing how managers must, to become legally astute, attain a degree of legal literacy and learn the application of legal tools).

sign, customer letters, consumer testimony, sales figures, figures relating to
the higher expense of the chosen manufacturing method, and the exist-
tence of alternate designs. With a well-differentiated design and a well-
organized case history, the design owner can file suit and increase its
chances of obtaining a timely preliminary injunction.

B. Case Study—The Apple iPod

One firm that has conquered RDRI in its new product development pro-
cess is Apple, Inc. The company invests significant resources to build brand
equity into its products through an integration of engineering, design,
marketing, and legal resources. It has applied legal knowledge of design
rights in a way that allows it to integrate valuable utility patents, design
patents, and federally registered shape trademarks.

On January 8, 2008, a shape trademark was granted to Apple for its
iPod brand of media players. The trademark registration is for a “design of a
portable and handheld digital electronic media device comprised of a rect-
angular casing displaying circular and rectangular shapes therein arranged
in an aesthetically pleasing manner.” The “aesthetically pleasing” qualifier
is essential to avoid any claims of functionality for the device’s circular touch-
pad, which is a distinctive identifier for this product design. Apple’s product
development team encouraged aesthetic design elements for the touchpad
that would later avoid the functionality issues under Traffic.

The high priority placed on unique design corresponds with Apple’s
overall strategy to rely on design as a major differentiating factor for its
products. In its trademark application, Apple submitted evidence from
third parties that referred to the iPod’s design as “distinctive” and “un-
cluttered.” Such praise was used to convince the trademark examiner that
the design was aesthetic and not primarily functional. Aesthetic design in-
vestments are often presented as evidence of higher manufacturing costs
and departure from existing designs, both of which mitigate functionality
concerns under the third and fourth Morton-Norwich factors.

145Dorr, supra note 140, at 161–62.
146Id. at 160.
147U.S. Trademark Serial No. 78,925,932 (filed July 10, 2006).
Apple also secured multiple design patents for the iPod. One account in 2008 found that the company had secured nineteen design patents relating to the iPod’s core design concept.\textsuperscript{149} Apple’s marketing department also played an instrumental role in helping to overcome RDRI. The marketing department developed an advertising campaign that specifically avoided touting the iPod’s functionality. As mentioned in the trademark application, the premeditated advertising strategy was designed to minimize ad information content and instead prominently display the iPod shape to build secondary meaning.\textsuperscript{150} This advertising strategy generated secondary meaning, as attested to by several affidavits Apple submitted to the USPTO trademark examiner.\textsuperscript{151}

VI. CONCLUSION

Organizations that sustain competitive advantage are theoretically regarded as a set of discrete and linked activities. Various and distinct intellectual property rights, in theory, are similarly expected to yield advantage through linkages. In practice, however, this seldom occurs. To examine and explain this paradox, this research examines firms experiencing RDRI. The conclusion is that various value-creating activities, acting independently, negatively impact the firm’s ability to secure complimentary product design rights. Each department behaves rationally from its own perspective. In the process, property rights are forfeited due to the inability to bridge the intersecting doctrines of nonfunctionality and secondary meaning as broadly defined in \textit{Traffix} and \textit{Wal-Mart}.

This research, through its descriptive analysis, has normative implications for firm decision makers. For one, new product development managers should examine whether RDRI is a risk. An opportunity pursued with legal counsel may arise to develop a legal astuteness capability with regard to design rights. An appreciation of the costs of RDRI may lead to adjustments in routine practices such as outsourcing of legal work, adver-

\textsuperscript{149} Id.

\textsuperscript{150} Id.

\textsuperscript{151} Letter in Response to Office Action by Marie C. Seibel on behalf of Apple, Inc., to the USPTO (Aug. 2, 2007) (on file with the author). The letter was in reference to trademark application serial no. 78,925,932. Id.
tising, manufacturing, and design. Correcting RDRI internally and among external partners involved in any of these activities may generate tacit resources and capabilities that result in a rare and valuable source of sustainable advantage.

Several important studies have examined the impact of industrial design on firm performance. This study complements that research and may lead to additional research that examines the financial impact of firm capabilities that secure design innovations through intellectual property integration. The analytical framework provided is suitable for empirical testing and modeling given the existence of intellectual property registration data in public databases or through survey-based research. Future design-related research can examine the effects of design rights integration beyond the scope of product shapes, such as product colors, packaging, and interfaces that are also known to impact firm performance. The effect of outsourcing on RDRI is another area that can benefit from examination. Also, the emphasis on the behavioral aspects of managerial decision making in relation to law may extend to larger questions within legal studies in management. RDRI may, in fact, be symptomatic of a larger phenomenon currently perceived as a gap between the management and legal functions within firms. A goal of this study is to advance such inquiries grounded in the decision making of individuals whose behaviors routinely shape a firm’s entitlements.