



---

WAKE FOREST  
JOURNAL OF BUSINESS AND  
INTELLECTUAL PROPERTY LAW

---

VOLUME 11

2010 - 2011

NUMBER 1

---

**THE ROLE OF MARKET INCENTIVES IN KSR'S  
OBVIOUSNESS INQUIRY**

**Timothy J. Le Duc<sup>1</sup>**

**Table of Contents**

<b>I.</b>	<b>INTRODUCTION</b> .....	34
<b>II.</b>	<b>KSR's FLEXIBLE AND EXPANSIVE APPROACH</b> .....	35
<b>III.</b>	<b>MARKET FORCES AS THE MOTIVATION TO COMBINE</b> .....	37
<b>IV.</b>	<b>MARKET-INCENTIVE OBVIOUSNESS THEORIES</b> .....	38
	A. <i>Predicting Business Trends</i> .....	39
	B. <i>Filling Identified Market Gaps</i> .....	40
	C. <i>Meeting Design Specifications</i> .....	41
<b>V.</b>	<b>SECONDARY CONSIDERATIONS</b> .....	45
	A. <i>Market Demand Versus Commercial Success</i> .....	46
	B. <i>Market Changes Versus Long-Felt Need</i> .....	47
	C. <i>Market Pressure Versus Industry Reaction</i> .....	51
<b>VI.</b>	<b>CONCLUSION</b> .....	53

---

<sup>1</sup> The author, Timothy J. Le Duc, is Of Counsel at Akerman Senterfitt and was previously a Navy nuclear submarine officer, serving on both the USS Aspro (SSN 648) and the USS Tautog (SSN 639). Mr. Le Duc's practice focuses on patent prosecution and litigation in the electrical and computer arts. The opinions expressed herein are those of the author alone and not of Akerman Senterfitt. Mr. Le Duc is admitted to practice in Illinois.

## I. INTRODUCTION

*KSR*<sup>2</sup> was a game changer in the realm of patent law. The decision heightened the standard for patentability by introducing several "common sense"-based obviousness rationales. Under *KSR*'s flexible approach, invalidating patents based upon the concepts of "obvious to try,"<sup>3</sup> "predictable variation,"<sup>4</sup> and just plain common sense<sup>5</sup> have received the bulk of the limelight. However, developing in the background is the jurisprudence espousing *KSR*'s "design trends or market pressure" rationale.

Of course, the underlying premise of the patent bargain is to reward invention. Patent protection provides the financial carrot to research and develop new products.<sup>6</sup> Stated differently, patents are by definition "a market-driven incentive to invest in innovation, by allowing the inventor to appropriate the full economic rewards of her invention."<sup>7</sup> Therefore, the *KSR* Court's emphasis on "design incentives," "market forces," and demands "present in the marketplace" within the obviousness inquiry is arguably contradictory with the rationale behind the patent bargain.<sup>8</sup>

The Court may have intended for the role of market incentives to be rather limited, such as confined to instances in which the patent-in-suit can fairly be characterized as a straightforward combination patent. However, since *KSR*, litigants have expanded the influence of marketplace demands via various successful obviousness arguments.

This paper analyzes decisions ruling claims obvious based upon *KSR*'s design trends or market pressure, and the interplay between market incentives and secondary considerations. As discussed in detail below, there has been a wide spectrum of factual scenarios in which claims have been invalidated as obvious using market incentives. Persuasive market-incentive arguments to date have been premised on, *inter alia*:

- Predicting business trends;

---

<sup>2</sup> *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

<sup>3</sup> *In re Kubin*, 561 F.3d 1351 (Fed. Cir. 2009).

<sup>4</sup> *Boston Scientific v. Cordis*, 554 F.3d 982, 991 (Fed. Cir. 2009).

<sup>5</sup> *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009).

<sup>6</sup> ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 137 (Richard A. Epstein et al. eds., Aspen Books 2d ed. 2000) (1997).

<sup>7</sup> *Id.*

<sup>8</sup> *KSR*, 550 U.S. 398.

- Identifying gaps in the marketplace;
- Market demand;
- Internet-related market pressure;
- Satisfying industry desires;
- Complying with environmental regulations; and
- Meeting customer specifications.

On the bottom of the spectrum, perhaps not all that surprising due to the perceived lack of true innovation, patents directed toward merely complying with new regulations or meeting design specifications have been invalidated. In the middle of the spectrum are decisions that primarily focus on gradual market changes, without any specific triggering event, such as government marketplace intervention. On the top of the spectrum are the more interesting decisions finding obviousness based upon the identification of market needs and prediction of business trends. The wisdom of these latter decisions may be questionable as arguably being counter intuitive in view of the purposes of the patent bargain.

The post-*KSR* decisions discussed herein further reveal that during litigation, patentees should now be mindful that secondary indicia of non-obviousness may also support a market-incentive obviousness theory. Specifically, courts have discounted evidence of actual commercial success—or even turned the tables on the patentee, using commercial success as an implicit admission that the claimed invention is an obvious solution to a consumer demand. Similarly, evidence indicating that the claimed subject matter remedies a long-felt need or received praise by the industry has been readily dismissed.

## II. KSR's FLEXIBLE AND EXPANSIVE APPROACH

For nearly fifty years, an evaluation of obviousness has required an inquiry into the four *Graham*<sup>9</sup> factors: (1) the scope of the prior art; (2) the differences between the prior art and the alleged invention; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations. Originally, three factors were regarded as potential secondary considerations: commercial success, long-felt but unsolved needs, and the failure of others.<sup>10</sup> Since *Graham*, additional factors

<sup>9</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

<sup>10</sup> *Geo. M. Martin Co. v. Alliance Mach. Syst. Int.*, 634 F. Supp. 2d 1024, 1029 (N.D. Cal. 2008).

have been considered, including copying, praise of the invention, unexpected results, general skepticism, and simultaneous development.<sup>11</sup>

In 2007, the Supreme Court revisited the obviousness standard in the well-known *KSR* decision.<sup>12</sup> *KSR* gives guidance that the inquiry should be expansive.<sup>13</sup> The Court noted that helpful insights to a proper obviousness analysis do not necessarily require a rigid test.<sup>14</sup> Rather, the distinctions between the need for human invention and the availability of current technology should caution against confining the obviousness analysis to a mandatory formula.<sup>15</sup>

More importantly for the purposes of this analysis, *KSR* laid the framework for a market-incentive type of obviousness theory. *KSR* explains that in many fields, market demand may often drive design trends.<sup>16</sup> A design available in one field can be prompted by “design incentives and other market forces” to adapt for use in another field.<sup>17</sup> According to the *KSR* Court, if there is a design need or market pressure to solve a problem to which there are a finite number of identified, predictable solutions, one of ordinary skill has reason to pursue the known options within his or her technical grasp.<sup>18</sup> If patent protection is granted to minor adjustments in a design that would occur naturally without any true innovation, it can have the two-fold effect of frustrating true design progress and limiting the inherent value in prior inventions.<sup>19</sup>

In *KSR*, a claimed pedal was deemed obvious in view of the market incentive to convert from mechanical pedals to electronic ones.<sup>20</sup> The *KSR* Court stated that the Federal Circuit had considered the issue of motivation to combine too narrowly.<sup>21</sup> Instead, a proper inquiry would have been to determine if a pedal designer of ordinary skill “facing the wide range of needs created by developments in the field” would have perceived an advantage in upgrading a mechanical pedal with an electrical sensor.<sup>22</sup>

---

<sup>11</sup> *Id.* at 1039.

<sup>12</sup> *KSR*, 550 U.S. 398.

<sup>13</sup> *Id.* at 419.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> *Id.* at 417.

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* at 419.

<sup>20</sup> *Id.* at 424.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

In brief, *KSR* developed additional factors that a court may consider relevant to an obviousness inquiry. Although one litigant has argued that *KSR* requires a detailed analysis of twenty-one separate factors, a proper analysis should remain flexible and focus on the considerations pertinent to one's situation.<sup>23</sup> The flexible approach leaves litigants with freedom in crafting obviousness theories. Specific *KSR*-based arguments have characterized the claimed subject matter as nothing more than "common sense" or "obvious to try."<sup>24</sup> While not as prevalent, another off-shoot of *KSR* has been the substantial reliance on *KSR*'s market-incentive rationale in certain cases, either on the part of the accused infringer or the judicial body finding the claim(s) at issue obvious.

### III. MARKET FORCES AS THE MOTIVATION TO COMBINE

Traditionally, the test for obviousness has included an analysis of the motivation to combine multiple prior art references—often with an eye toward an express teaching in the invalidating references themselves. *KSR* has given accused infringers permission to take a broader view of motivation to combine, expressly detailing that to determine whether there was an apparent reason to combine known elements in the way that the patent claims, it will often be necessary to look to at how the demands of the design field or those found in the market affect the need to adapt a design.<sup>25</sup>

Extensive technological development in a hot field may qualify as a market force indicating obviousness. For instance, patents covering internet-related subject matter have been ruled obvious based upon *KSR*'s market-incentive rationale.<sup>26</sup> It is not hard to envision the same rationale being applied in the future to nanotechnology, green technology, or clean technology-related inventions. Additionally, at least one court already has found statements made by the patentee in

---

<sup>23</sup> *Single Chip Sys. Corp. v. Intermec IP Corp.*, 495 F. Supp. 2d 1066, 1078 (S.D. Cal. 2007).

<sup>24</sup> *Id.* at 1080.

<sup>25</sup> *KSR*, 550 U.S. at 418.

<sup>26</sup> *See e.g.*, *Dow Jones & Co., Inc. v. Ablaise Ltd.*, 632 F. Supp. 2d 23 (D.D.C. 2009) *aff'd in part, rev'd in part*, 606 F.3d 1338 (Fed. Cir. 2010); *see also* *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009); *Friskit, Inc. v. RealNetworks, Inc.*, 306 F. App'x 610 (Fed. Cir. 2009); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008) *cert. denied*, 129 S. Ct. 1585 (2009).

the patent itself as a consumer demand type of admission indicating obviousness under *KSR*.<sup>27</sup>

*Dow Jones* is an exemplary decision in which design need and market pressure supplied the motivation necessary to alter the prior art and render the claims obvious.<sup>28</sup> There, the prior art used Hyper Text Markup Language (HTML) tags to affect the *presentation* of content, while the claimed subject matter used HTML tags to affect the *location* of content.<sup>29</sup> Not surprisingly, it was undisputed that HTML tag functionality was well known.<sup>30</sup> At the end of the day, modifying the internet-related prior art to include location-changing HTML tags was found to be obvious in view of market incentives.<sup>31</sup>

In making that determination, the *Dow Jones* court substantially relied upon the evidence proffered by the patentee's own expert, who noted that in the mid-1990s many companies worked with web developers in order to establish themselves on the internet.<sup>32</sup> Both parties acknowledged that personalized formatting already existed in non-web programs.<sup>33</sup> Finally, the patentee did not dispute that, prior to the patent, there was a widespread effort to "bring the established features of various computer programs to the web platform."<sup>34</sup> Design need and market pressure proved to be the main catalysts in the addition of location-changing HTML tags to the prior art—rendering the claims obvious.<sup>35</sup>

#### IV. MARKET-INCENTIVE OBVIOUSNESS THEORIES

In addition to *Dow Jones*, a number of other market-incentive obviousness theories have been successful since *KSR*. Detailed below, prevailing theories have reduced claimed inventions to the successful prediction of a business trend, identification of a gap in the marketplace, or design of a pre-established engineering specification.

---

<sup>27</sup> *Perfect Web*, 587 F.3d at 1329.

<sup>28</sup> *Dow Jones*, 632 F. Supp. 2d at 35-36.

<sup>29</sup> *Id.* at 35.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*; see also *Alloc, Inc. v. Pergo, Inc.*, No. 02-C-736, 2008 WL 1968301, at \*10 (E.D. Wis. May 1, 2008) (explaining that market changes and design trends provided the motivation to combine old elements to reach the claimed subject matter).

A. *Predicting Business Trends*

*Friskit v. RealNetworks Inc.*, like *Dow Jones*, is another internet-related decision in which market forces provided the motivation to alter the prior art in order to achieve the claimed invention.<sup>36</sup> In *Friskit*, the dispute focused around a streaming system, which allowed users to search and play online media content.<sup>37</sup> Although the components of the claimed invention pre-dated the patents at issue, their application was restricted to streaming media.<sup>38</sup>

The inventor proposed applying the search-and-playback capabilities to a streaming format.<sup>39</sup> According to the patentee, the new feature of the invention was remote network control of a media player, such as via executable code transferred to the media player from a remote server.<sup>40</sup>

However, conventional browsing with media players demonstrates the difference between remote operation and local user control.<sup>41</sup> With programming tools such as Java, JavaScript, and many others in widespread use, the benefits of remote network control of applications being performed locally, and the methods for implementing such control, were well known at the time of the invention.<sup>42</sup>

The secondary considerations presented were not persuasive. The patentee sought to show a long-felt need for, and that the prior art taught away from, the claimed invention.<sup>43</sup> In particular, the patentee claimed that economic concerns discouraged software developers from creating on-demand media services.<sup>44</sup> Developers of streaming media applications faced challenges such as (1) the risk of copyright infringement with the downloaded material, (2) the diminished sound quality of streaming media over dial-up services, and (3) a market centered on fostering consumer demand through increased compatibility.<sup>45</sup> But none of the evidence suggested that anything

---

<sup>36</sup> *Friskit, Inc. v. RealNetworks, Inc.*, 91 U.S.P.Q.2d (BNA) 1417, 1423 (Fed. Cir. 2009) (nonprecedential).

<sup>37</sup> *Id.* at 1421.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.* at 1422.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.* (“Real touted the expanded functionality of its media player . . . [Real] noted that media content providers interested in offering “music on demand” over the Internet would be able to “plug their own interface” into the media player, [and] “embed instructions” into the data stream . . .”).

<sup>43</sup> *Id.* at 1423.

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

more than ordinary skill in the art was required for the patentee's approach once the market forces shifted and created demand for streaming media applications.<sup>46</sup>

Rather, streaming media became a practical alternative soon after copyright owners recognized the substantial consumer demand for digital media content, and slow dial-up modem connections (along with their bandwidth limitations) gave way to high-speed internet connections.<sup>47</sup> These market forces rendered the claims obvious. According to the *Friskit* court, the patentee's ability to predict a business trend that had potential profitability was not sufficient to overcome the strong showing of obviousness present in the case.<sup>48</sup>

### B. *Filling Identified Market Gaps*

In *Rothman v. Target*, an apparent gap in market offerings motivated the inventor to develop a nursing garment identified by the inventor.<sup>49</sup> Following the birth of her first child, the inventor desired a nursing garment that would offer easy nursing access, conceal her stomach, and provide support.<sup>50</sup> After determining that those requirements would not be met by any of the typical nursing bras on the market, the inventor embarked on designing her own garment.<sup>51</sup>

The inventive process lasted a couple of weeks,<sup>52</sup> after which the inventor stitched together a prototype.<sup>53</sup> The starting materials included an off-the-shelf tank top and nursing bra.<sup>54</sup> The inventor combined these off-the-shelf products with additional fabric to arrive at a prototype.<sup>55</sup>

In the Court of Appeals' view, the evidence demonstrated that one of ordinary skill in the nursing garment industry would have been motivated to combine a tank top with a nursing bra.<sup>56</sup> During the late 1990's, pregnant and nursing mothers had transitioned from relatively

---

<sup>46</sup> *Id.*; see Section V herein, for a discussion of other decisions in which market forces also trumped evidence indicative of a long-felt need under the rationale of *KSR*.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Rothman v. Target Corp.*, 556 F.3d 1310, 1315 (Fed. Cir. 2009).

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at 1319-20.

sedentary lifestyles and a preference for loose-fitting clothing to a more active lifestyle.<sup>57</sup> Pregnant women were now exercising more frequently, exercising when they were nursing, and importantly, they were much more likely to want to show off that they were exercising.<sup>58</sup> As a result, the market demanded apparel like the claimed invention.<sup>59</sup>

Testimony was proffered to the effect that an ordinary nursing garment artisan would routinely look at design trends.<sup>60</sup> An ordinary artisan would strive to provide his or her customers with products similar to those already on the market, but that also included any adaptations specifically made for nursing.<sup>61</sup> In sum, the *Rothman* court found that the evidence of design trends and market demand provided the motivation to combine necessary to sustain the jury's obviousness verdict.<sup>62</sup>

### C. Meeting Design Specifications

In addition to *Friskit's* predicting business trends and *Rothman's* identifying market gaps rationales, successful market-incentive obviousness theories have been premised on achieving pre-determined design specifications. After *KSR*, decisions have found an implicit motivation<sup>63</sup> or outside impetus<sup>64</sup> to alter the prior art to achieve the claimed invention. The courts in the cases mentioned below found claims obvious in view of market incentives associated with (a) amendments to industrial codes, (b) new environmental regulations, and (c) customer requested design changes.

#### i. Industrial Codes

In *Atlantic Works*, the Supreme Court enunciated the various policy concerns underlying the patent laws. The Court stated that the patent laws are designed to incentivize innovation, which moves technology forward. However, the Court also noted that the patent system is not intended to extend monopoly power to inventions that do

---

<sup>57</sup> *Id.* at 1320.

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> *Oatey Co. v. IPS Corp.*, 665 F. Supp. 2d 830, 871 (N.D. Ohio 2009).

<sup>64</sup> *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, No. 03 C 7713, 2008 U.S. Dist LEXIS 82991, at \*20-21 (N.D. Ill. Aug. 27, 2008).

not advance the useful arts or those that would be obvious to someone skilled in that art. Such a broad extension of monopolies would hinder the progress of technology rather than enhance it, as innovators would be hesitant to move forward lest they become encumbered in “concealed liens” and “unknown liabilities to lawsuits.”<sup>65</sup> The flexible analysis of *KSR* hearkens back to the fundamental principles of *Atlantic Works*.<sup>66</sup>

In *Oatey*, the claimed subject matter related to washing machine outlet boxes—which typically include faucets and drains.<sup>67</sup> The *Oatey* court found that the “obvious to try” doctrine was not inappropriate in this situation<sup>68</sup> because the inventor was not randomly combining prior art possibilities.<sup>69</sup> The court reasoned that the inventor’s rearrangement of faucet and drain ports in a washing machine would not require that he “vary all parameters” or try numerous combinations without any guidance from the prior art.<sup>70</sup>

Instead, the rearrangement of faucets and drains was intended to solve the problem posed by amendments to the plumbing codes, which required the use of elements of prior art and recognized norms.<sup>71</sup> The court stated that while regulations establishing industry standards did not automatically make certain methods of compliance obvious,<sup>72</sup> those methods might be obvious if the regulation inevitably led to them.<sup>73</sup>

The above reasoning of *Oatey* relied heavily upon the Federal Circuit’s *Erico* decision.<sup>74</sup> In *Erico*, a substantial question of obviousness existed based on the combination of the prior art and the relevant industry standards.<sup>75</sup> The claimed invention related to a hook for hanging telecommunications cables, and the Electronics Industries Alliance (EIA) had established certain spacing standards for such

---

<sup>65</sup> *Oatey*, 665 F. Supp. 2d at 875 (citing *Atl. Works v. Brady*, 107 U.S. 192, 200 (1883)).

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 865.

<sup>68</sup> *Id.* at 871 (citing *In re Kubin*, 561 F.3d 1351, 1358-60 (Fed. Cir. 2009)).

<sup>69</sup> *Id.* (“[R]e-arranging the pertinent elements in the [washing machine outlet box] was not an exploratory exercise in a ‘promising field of experimentation.’” (quoting *In re Kubin*, 561 F.3d at 1359)).

<sup>70</sup> *Id.* (citing *In re Kubin*, 561 at 1359).

<sup>71</sup> *Id.* (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007)).

<sup>72</sup> *Id.* (citing *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1352 (Fed. Cir. 2008)).

<sup>73</sup> *Id.* (citing *Erico Intern. Corp. v. Vutec Corp.*, 516 F.3d 1350, 1356 (Fed. Cir. 2008)).

<sup>74</sup> *Erico*, 516 F.3d 1350.

<sup>75</sup> *Id.* at 1356.

hooks.<sup>76</sup> The *Erico* court found that the industry standards supported obviousness because they would implicitly guide someone of ordinary skill in the art to achieve the claimed subject matter.<sup>77</sup>

Similarly, in *Oatey*, the pertinent plumbing standards required independent drain ports.<sup>78</sup> As a result, the *Oatey* court likened the situation to that of *Erico*, finding that the amendments to the plumbing codes would provide the implicit motivation to identify the efficiency of combining the waste water that flowed through each drain port and to use a funnel method already developed to address that need.<sup>79</sup>

## ii. Environmental Regulations

In *Baldwin Graphic*, the claimed subject matter involved reduced air content cleaning fabric.<sup>80</sup> All of the elements of the asserted claims were available in the prior art.<sup>81</sup> In addressing whether it was obvious to combine them in the manner asserted, both parties agreed to an assertion of the adverse affects of highly volatile solvents on air quality.<sup>82</sup> Prior to the patent-in-suit, in response to environmental regulations limiting the release of highly volatile solvents, companies had begun experimenting with low volatile organic compound (VOC) solvents on existing systems for cleaning printing presses.<sup>83</sup> The patentee asserted that the experiments had little success because of the long evaporation time of the solvents.<sup>84</sup> This reduced the quality of the printing because the excess moisture caused fogging and dripping in the press.<sup>85</sup>

Discounting this theory, the *Baldwin Graphic* court held that the stricter environmental regulations supplied the motivation necessary to find the claimed invention obvious.<sup>86</sup> The introduction of strict regulations was an outside impetus for those in the field to begin using the claimed solvents to clean printing presses.<sup>87</sup> An identified

---

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> *Oatey*, 665 F. Supp. 2d at 871.

<sup>79</sup> *Id.*

<sup>80</sup> *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, No. 03 C 7713, 2008 WL 4083145, at \*1 (N.D. Ill. Aug. 27, 2008).

<sup>81</sup> *Id.* at \*6.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

problem needed a solution, and every part of the solution that was ultimately embraced was already known.<sup>88</sup>

Therefore, the *Baldwin Graphic* court found that it was simply a matter of time until each of the pieces was combined in the manner claimed.<sup>89</sup> It should be noted that the “only a matter of time” rationale relied upon by the *Baldwin Graphic* court is reminiscent of *KSR* itself. For instance, the *In re Omeprazole* court characterized *KSR* as involving a design that was simply a natural solution to a problem that would have been discovered eventually because of the need and the limited number of solutions.<sup>90</sup>

### iii. Engineering Design Changes

In *Sparton*, enhanced manufacturing efficiencies contributed to the market forces<sup>91</sup> deemed necessary to provide the motivation to modify a prior art Navy sonobuoy.<sup>92</sup> There, the only design step required to reach the claimed invention was to re-position various components, such as a weakened hinge line and parachute anchor slots.<sup>93</sup> According to the *Sparton* court, the necessary specifications of the release plates for the Navy sonobuoys and the examples provided by the prior art made placement of these components an easier task.<sup>94</sup> The patentee was so confident that its design change would be successful, it submitted an aggressive seven and a half month schedule to the Navy in which to both test the design at sea, and then manufacture hundreds of units.<sup>95</sup>

In an effort to maintain reduced component complexity, and facilitate simpler production, the *Sparton* court concluded that it would

---

<sup>88</sup> *Id.*

<sup>89</sup> *Id.* at \*7.

<sup>90</sup> *In re Omeprazole Patent Litigation*, 490 F. Supp. 2d 381, 534 (S.D.N.Y. 2007).

<sup>91</sup> *See also* *First Years, Inc. v. Munchkin, Inc.*, 575 F. Supp. 2d 1002 (W.D. Wis. 2008) (noting that altering a product to reduce manufacturing costs was obvious). At issue was whether creating a drinking container covered by the patent-in-suit to weigh less than a certain amount was patentable. Expert opinion was provided to the effect that it would have been obvious “to make the container weigh as little as possible in order to conserve material and reduce manufacturing costs.” *Id.* at 1026. Although this view could have been further developed, the *Munchkin* court found that it did identify market forces that would drive a common-sense design approach. *Id.*

<sup>92</sup> *Sparton Corp. v. U.S.*, 89 Fed. Cl. 196 (2009).

<sup>93</sup> *Id.* at 236.

<sup>94</sup> *Id.*

<sup>95</sup> *Id.*

have been obvious to use a sonobuoy with a weakened hinge line.<sup>96</sup> The overriding driving force of the claimed invention was the Navy's interest in obtaining a sonobuoy that could detect deeper submarines.<sup>97</sup> Thus, the design demands of developing sonobuoys for the Navy substantially reinforced the case of obviousness presented.<sup>98</sup>

With respect to secondary considerations, any failure by the patentee's competitors was not a failure nearly as much as the patentee asserted.<sup>99</sup> In addition to the patentee, the Navy also awarded Engineering Change Proposals (ECPs) to two other companies.<sup>100</sup> While the design of each competitor was never approved for full-scale production, the *Sparton* court found that it was hardly accurate to say that neither competitor had actually failed to develop a design.<sup>101</sup> The patentee was wrong to suggest that the Navy's rejection of a design was the same as its competitors' failure to develop one in the first place.<sup>102</sup>

## V. SECONDARY CONSIDERATIONS

Depending upon one's perspective, facts that have historically favored non-obviousness may now also potentially be part of a market-incentive obviousness theory. Since *KSR*, evidence of commercial success, long-felt need, and industry reaction have been discounted in certain circumstances. The decisions discussed herein suggest that *KSR* may have severely diminished the impact of any secondary indicia during an obviousness inquiry, at least in the so-called predictable mechanical and electrical arts.<sup>103</sup>

---

<sup>96</sup> *Id.* at 237.

<sup>97</sup> *Id.* at 241.

<sup>98</sup> *Id.* at 238.

<sup>99</sup> *Id.* at 240.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Cf. In re Kubin*, 561 F.3d 1351, 1360 (Fed. Cir. 2009) (indicating that the obviousness standard must be the same for all of the arts, and that there should be no differentiation between so-called predictable and non-predictable arts—"This court also declines to cabin *KSR* to the 'predictable arts' (as opposed to the 'unpredictable art' of biotechnology) . . . this court cannot deem irrelevant the ease and predictability of cloning the gene that codes for that protein. This court cannot, in the face of *KSR*, cling to formalistic rules for obviousness, customize its legal tests for specific scientific fields in ways that deem entire classes of prior art teachings irrelevant, or discount the significant abilities of artisans of ordinary skill in an advanced area of art.").

---

A. *Market Demand Versus Commercial Success*

Over the years, commercial success has been viewed as the primary indicator of non-obviousness. The rationale being, at least in part, that a truly novel and worthwhile invention will contribute substantially to the arts, and presumably be met with an appropriate level of commercial success in the marketplace, as implicitly recognized long ago in *Atlantic Works*.<sup>104</sup> Recently, some courts have downplayed the significance of commercial success, or even suggested that such evidence is indicative of obviousness under *KSR*, rather than non-obviousness under *Graham*.

Two of the recent decisions previously mentioned are illustrative. In *Oatey*, the patentee, while arguing commercial success, submitted evidence demonstrating that soon after it began marketing its product covered by the patent, customers of a competitor started demanding a similar design.<sup>105</sup> This garnered the exact opposite reaction than that intended by the patentee. The *Oatey* court stated that although such a reaction by customers shows the effect of market demand on design trends, objective proof indicating these trends would not have evolved in the ordinary course of business was lacking, and thereby did not overcome obviousness in view of *KSR*'s rationale.<sup>106</sup>

In *Baldwin Graphic*, the commercial success of the patented product was undisputed.<sup>107</sup> Evidence was also proffered indicating industry skepticism once the product was introduced.<sup>108</sup> Further, it was the success of the patentee's product itself that prompted the accused infringer to enter the market in the first place.<sup>109</sup> Still, in light of the new environmental regulations, there was a market need for the claimed invention.<sup>110</sup> Thus, the *Baldwin Graphic* court found that the market need was not a longstanding one. It was a need created by the new regulations, making its subsequent fulfillment obvious.<sup>111</sup>

---

<sup>104</sup> See *Atl. Works v. Brady*, 107 U.S. 192, 200 (1883) ("The design of the patent laws is to reward").

<sup>105</sup> *Oatey Co. v. IPS Corp.*, 665 F. Supp. 2d 830, 873 (N.D. Ohio 2009).

<sup>106</sup> *Id.*

<sup>107</sup> *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, No. 03 C 7713, 2008 WL 4083145, at \*7 (N.D. Ill. Aug. 27, 2008).

<sup>108</sup> *Id.*

<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

Whether the *KSR* Court intended for the lower courts to go this far during an obviousness inquiry<sup>112</sup> is a question that the Federal Circuit may desire to address in the not too distant future—perhaps not only to provide for more consistency during patent litigation,<sup>113</sup> but to also ensure that commercially successful ideas that are patented receive their just rewards. It should be noted that since *KSR*, the number of patent applications being filed in the U.S. has substantially decreased due to a variety of reasons, including the *KSR* decision itself, as well as the economic downturn.

### *B. Market Changes Versus Long-Felt Need*

Similar to commercial success, evidence of long-felt need can play two differing roles.<sup>114</sup> First, long-felt need may be evidence of non-obviousness. Second, if the other factors support obviousness, the presence of “market pressure to solve a problem” may indicate obviousness where there are a fixed number of possible solutions.<sup>115</sup> The decisions discussed directly below illustrate the interplay between *KSR*'s market pressure and the secondary consideration of long-felt need. In both decisions, arguments that the claimed inventions provided enhanced efficiency, among other things, were unavailing.

#### *i. Industry Development*

In *Perfect Web*, the patent claimed a method of managing bulk e-mail distribution to groups of targeted consumers.<sup>116</sup> There, the Federal Circuit found the patent-in-suit itself to include several implicit admissions related to industry development which contributed to the market-incentive obviousness finding.

In particular, the patent application was filed in early 2000, when the Internet was experiencing rapid development.<sup>117</sup> The patent

---

<sup>112</sup> In *KSR*, the Court noted that the district court had discounted the commercial success of the patented pedal. *KSR Int'l Co., v. Teleflex Inc.*, 550 U.S. 398, 413 (2007).

<sup>113</sup> See, e.g., *LizardTech v. Earth Res. Mapping*, 433 F.3d 1373, 1381 (Fed. Cir. 2006) (noting that various dissents from the denial of rehearing *en banc* lamented the inconsistencies between certain Federal Circuit decisions related to the written description requirement, leaving district courts in the difficult position of attempting to reconcile the inconsistencies).

<sup>114</sup> *Shuffle Master, Inc. v. MP Games LLC*, 553 F. Supp. 2d 1202, 1225 (D. Nev. 2008).

<sup>115</sup> *Id.* (citing *KSR*, 550 U.S. at 421).

<sup>116</sup> *Perfect Web Tech. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009).

<sup>117</sup> *Id.* at 1326.

further recognized that e-mail is a frequently used element of the Internet.<sup>118</sup> The patent described “opt-in, bulk e-mailing” as a service where distributors access lists of customers who indicated a preference for specific types of commercial e-mail.<sup>119</sup>

The claimed invention compared the number of successful e-mail message deliveries in a single delivery to a particular desired quantity.<sup>120</sup> If the number of e-mails delivered did not reach the desired quantity, the invention repeatedly selected and e-mailed a group of customers until the desired number of successful deliveries was achieved.<sup>121</sup>

When addressing secondary considerations of non-obviousness, the patentee argued that the invention solved a long-felt need and identified unique problems with conventional systems.<sup>122</sup> Marketers were hit with unreimbursed expenses from sending additional e-mail messages to recipients and customers often opted out of e-mails because of these unnecessary messages.<sup>123</sup> Of course, the repeated sending of e-mails was inefficient, costly, and counter-productive.<sup>124</sup>

The *Perfect Web* Federal Circuit found that the patentee had failed to show that these problems were sufficiently long-felt or unmet to satisfy non-obviousness.<sup>125</sup> Specifically, the patentee had failed to provide evidence regarding the issues of when the problem initially arose and how long the need had been felt.<sup>126</sup> The evidence also failed to show that the patent met any such long-felt need.<sup>127</sup> Instead, the patentee had merely asserted the patent’s efficiency over and above the previous systems.<sup>128</sup> No data was proffered supporting the assertion that the patent reduced the superfluous costs and customer attrition that the patentee identified as both long-felt and unmet.<sup>129</sup>

---

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> *Id.* at 1332.

<sup>123</sup> *Id.*

<sup>124</sup> *See id.*

<sup>125</sup> *Id.*

<sup>126</sup> *Id.* (citing *Tex. Instruments v. Int’l Trade Comm’n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993)).

<sup>127</sup> *Id.*; *see also Agrizap Inc. v. Woodstream Corp.*, 520 F.3d 1337 (Fed. Cir. 2008) (stating that despite a long-felt need for electrical rat traps, solving the problem was obvious under *KSR*).

<sup>128</sup> *Perfect Web Tech.*, 587 F.3d at 1333.

<sup>129</sup> *Id.*

## ii. Industry Desire

In *Hitachi Koki Co., Ltd. v. Doll*, a patent was issued covering a tiltable saw that performed certain kinds of cuts, including miter, bevel, and compound cuts.<sup>130</sup> Two years later, the patentee surrendered the patent and filed a related re-issue application, which was finally rejected as being obvious—first by the Patent Office examiner, and then by the Board of Patent Appeals and Interferences.<sup>131</sup> The patentee sought review by the D.C. District Court.<sup>132</sup>

The patent described a desire to improve upon the low efficiency of the admitted prior art by redesigning the saw to prevent the motor from hitting the base while tilting the saw.<sup>133</sup> However, the accused infringer provided testimony indicating that there had been an industry desire for a desktop saw that could make bevel cuts and pivot 45 degrees in either direction.<sup>134</sup> The holder of the patent for a prior art reference voiced similar concerns about the conventional single-bevel design.<sup>135</sup> Given these two instances of testimony indicating the inadequacy of the current art, one of ordinary skill would have likewise perceived a design need to alter a pre-existing saw assembly to reach the claimed invention.<sup>136</sup>

The patentee asserted that its design solved a longstanding industry need for a dual-bevel desktop miter saw.<sup>137</sup> In response, the *Hitachi* court noted that a market demand or need for an invention, by itself, does not indicate non-obviousness.<sup>138</sup> To the contrary, market demand and need can lead to obvious improvements on current technology under *KSR*.<sup>139</sup>

Further, non-obviousness cannot be met solely because time has passed without the invention.”<sup>140</sup> The correct standard is whether the need is both long-felt and unsolved.<sup>141</sup> If a need is long recognized, it permits the inference that artisans over time attempted to solve the

---

<sup>130</sup> *Hitachi Koki Co., Ltd. v. Doll*, 620 F.Supp.2d 4, 7 (D.D.C. 2009).

<sup>131</sup> *Id.* at 8-9.

<sup>132</sup> *Id.* at 6-7.

<sup>133</sup> *Id.* at 28.

<sup>134</sup> *Id.*

<sup>135</sup> *Id.*

<sup>136</sup> *Id.*

<sup>137</sup> *Id.* at 29.

<sup>138</sup> *Id.* at 30.

<sup>139</sup> *Id.*

<sup>140</sup> *Id.* (quoting *In re Kahn*, 441 F.3d 977, 990-91 (Fed. Cir. 2006)).

<sup>141</sup> *Id.* (citing *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 884 (Fed. Cir. 1998)).

problem, but were ultimately unsuccessful.<sup>142</sup> If there is actual documentation of these artisans' failed attempts, such documentation would strongly support the inference that the patent shows "ingenuity beyond the compass of the routiner."<sup>143</sup> Thus, one attempting to prove non-obviousness must look beyond the mere existence of a need, and instead focus on how long the need has presented itself without any resolution to the problem.<sup>144</sup>

The *Hitachi* court found that the patentee did indeed establish a six or seven year gap<sup>145</sup> between the commercial introduction of single-bevel saws and the design of dual-bevel saws.<sup>146</sup> Nonetheless, the patentee had failed to convincingly show that the power tool design industry had a long-felt but unsolved need for a dual-bevel saw.<sup>147</sup> The testimony indicated that the power tool design industry failed to see "any articulated need" for a dual-bevel saw at Emerson Electric, one of the world's largest manufacturers of power tools.<sup>148</sup> During Emerson's monthly product planning meetings, there was never any discussion of a project or a proposal for the development of a double bevel saw.<sup>149</sup>

As a result, the *Hitachi* court found that the patentee's evidence did not meaningfully rebut the testimony proffered by the accused infringer that an "industry desire" for a dual-bevel saw existed prior to the patent.<sup>150</sup> Any perceived long-felt need for the dual-bevel saw was seriously undermined because the patentee's single-bevel design was still commercially available.<sup>151</sup>

In fact, the evidence demonstrated that the single-bevel saw was still commercially viable and not necessarily made obsolete by a dual-

---

<sup>142</sup> *Id.* (citing *Dickey-john Corp. v. Int'l Tapetronics Corp.*, 710 F.2d 329, 346 (7th Cir. 1983)).

<sup>143</sup> *Id.* (quoting *Kirsch Mfg. Co. v. Gould Mersereau Co.*, 6 F.2d 793, 794 (2d Cir. 1925)).

<sup>144</sup> *Id.*

<sup>145</sup> *Id.* at 31; *see also* *Oatey Co. v. IPS Corp.*, 665 F.Supp.2d 830, 872 (N.D. Ohio 2009) (noting that evidence indicated that the problem had lingered for a decade between the first amendment to the plumbing codes and patent issuance. However, plumbing supply distributors are loyal to a single manufacturer due to economic incentives at play—this, in turn, slows industry response time to problems that arise.).

<sup>146</sup> *Hitachi Koki Co. Ltd.*, 620 F.Supp.2d at 31.

<sup>147</sup> *Id.* at 31 (citing *Orthopedic Equipment Co., Inc. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1382 (Fed. Cir. 1983)).

<sup>148</sup> *Id.* at 31.

<sup>149</sup> *Id.* at 31.

<sup>150</sup> *Id.* at 31.

<sup>151</sup> *Id.* at 31-32.

bevel design.<sup>152</sup> Tool reviewers had a hard time picking a “winner” from among the saws tested. All of the saws worked well, and which particular model a customer selected depended entirely upon the customer’s individual budget and cutting requirements.<sup>153</sup>

In sum, a mere “industry desire” under *KSR* was viewed as not rising to the level of a long-felt need traditionally recognized by patent law jurisprudence as indicative of non-obviousness. The *Hitachi* court apparently viewed the lack of discussion of the claimed subject matter at production meetings with the lack of a long-felt need for the claimed subject matter—the absence of a long-felt need not negating the obviousness case presented.

On the other hand, the *Alloc* court equated a discussion of the subject matter during various production meetings as an industry “movement” toward the claimed invention, indicating obviousness.<sup>154</sup> There, evidence of a long-felt need morphed into the market-incentive rationale of *KSR*. Viewed together, it appears that a patentee would be wise to think twice before rushing into presenting any alleged long-felt need evidence, for any such evidence may be viewed as indicative of a seven-year industry desire for (*Hitachi*), or a movement towards (*Alloc*), the claimed invention.

### C. Market Pressure Versus Industry Reaction

In *Ex parte Jellá*, the Board of Patent Interferences and Appeals downplayed evidence of favorable industry reaction to the patented invention.<sup>155</sup> The claimed subject matter related to garage doors, and at issue was a claim reciting a layer of sheet metal with a twenty-eight inch finished height.<sup>156</sup> The Board found that the claimed door section height was simply the substitution of one element commonly known in the field for another.<sup>157</sup> The Board reasoned that there was suitable market pressure in the garage door industry to initiate design updates for the purpose of increasing sales.<sup>158</sup> Numerous declarations submitted by the applicant acknowledged that the appearance of a garage door is a matter of great concern to customers and design professionals alike who wanted garage doors with appearances that

---

<sup>152</sup> *Id.* at 32.

<sup>153</sup> *Id.*

<sup>154</sup> *See Alloc, Inc. v. Pergo, Inc.*, No. 02-C-736, 2008 WL 1968301, at \*3, \*10 (E.D. Wis. May 1, 2008).

<sup>155</sup> *Ex parte Jellá*, 90 U.S.P.Q.2d 1009, 1016 (B.P.A.I. Nov. 3, 2008).

<sup>156</sup> *Id.* at 1010.

<sup>157</sup> *Id.* at 1014.

<sup>158</sup> *Id.*

differed from conventional doors.<sup>159</sup> The inventor himself acknowledged that there was a market pressure for a new garage door.<sup>160</sup>

Based on these unintended admissions, changing a conventional garage door from a four-panel section door to a three-panel section door was simply a predictable modification fueled by design incentives, with the expectation that the new appearance would increase sales.<sup>161</sup> Of import, the Board held this to be an explicit demonstration of a design trend driven by market demand, relying expressly upon *KSR*'s warning against granting patent protection to minor advances that would occur in the natural progression of things.<sup>162</sup>

With respect to secondary considerations,<sup>163</sup> declarations were submitted that the response to the new door had been "enthusiastic", and provided comments touting "how uniquely different" it looked from other garage doors.<sup>164</sup> The applicant further declared that the twenty-eight inch panel sections achieved the unexpected and desired results of improved aesthetics, easier and lower cost installation, and increased moisture resistance.<sup>165</sup> The *Jellá* Board responded that evidence of non-obviousness for a utility patent cannot be shown by industry reaction to the aesthetic appearance of the claimed invention.<sup>166</sup>

---

<sup>159</sup> *Id.*

<sup>160</sup> *Id.* The inventor testified that the "garage door is a highly visible feature of a home. In many cases, the garage door comprises more than 60% of the homes [sic] front elevation. As such, its appearance is a matter of great concern for architects, developers, home designers, city planners, builders, and ultimately, the end user, for the entire life of the garage door. As steel overhead doors have flooded the industry, the need has arisen for a deviation from existing garage door designs. In other words, a garage door that looks different from the traditional raised panel steel garage doors that are currently inundating the market." *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> *Id.*

<sup>163</sup> *Id.* at 1015 (indicating that members of the garage door industry "attested that they were skeptical that a steel garage door product with a twenty-eight inch section height would work satisfactorily because the size of the sections would be too big to move smoothly on the door tracks, and that they were surprised at how smoothly the door moved . . ." However, the evidence of skepticism was held to have no connection to the claim language and was discounted).

<sup>164</sup> *Id.* at 1016.

<sup>165</sup> *Id.*

<sup>166</sup> *Id.* The ornamental appearance of a product is the purview of design patent law. To allow secondary considerations to be based on industry reaction to the ornamental appearance of the claimed invention would be blurring the distinction between design and utility patent protection. For a utility application, objective evidence of secondary considerations should be tied to the functional aspects of the

## VI. CONCLUSION

Under *KSR*, it has arguably become easier to invalidate patents, especially in the predictable mechanical and electrical arts. Of note, a number of litigants have successfully argued market-incentive obviousness theories. As discussed herein, claims have been found obvious in view of a wide spectrum of market-incentive based theories, including:

- *Dow Jones*' internet-related design needs;
- *Friskit*'s business trend prediction;
- *Rothman*'s market gap identification;
- *Oatey*'s industry standards;
- *Baldwin Graphic*'s environmental regulations;
- *Sparton*'s customer specifications;
- *Perfect Web*'s industry developments;
- *Alloc*'s market changes;
- *Hitachi*'s industry desire; and
- *Jellá*'s market demand.

Certain holdings may be characterized as being less controversial under *KSR*. For instance, judicial bodies have viewed inventions that reduce operational costs or solve manufacturing waste as being the result of *KSR*'s strong financial incentives at work, not flash of genius. We have seen courts readily dismiss arguments that the claimed invention provided enhanced operational efficiency in both *Perfect Web* and *Hitachi*. Likewise, arguments of enhanced manufacturing and installation efficiency have been discarded, such as in *Munchkin* and *Jellá*.

More problematic from a policy standpoint may the Federal Circuit decisions in which claims have been ruled obvious as being a business trend prediction (*Friskit*) or a market gap identification (*Rothman*). Given that patents are a market-based incentive to develop new products, in the author's view, those visionaries that saw a market need and delivered a solution should be rewarded for their efforts with the limited monopoly that a patent brings, not denied patent protection.

Also difficult to reconcile with traditional patent law underpinnings are the decisions in which actual commercial success has been deemed indicative of *KSR*'s design trends or market

---

claimed invention. See *Cable Elec. Prod., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985).

pressure, such as in *Oatey* and *Baldwin Graphic*. More recently, now-Chief Judge Rader wrote a strong dissent in *Media Tech Licensing*, opining that “significant objective indicia of non-obviousness” was ignored because the subject matter of the patent—celebrity trading cards—was non-technical.<sup>167</sup> Further, in *Hitachi*, evidence of a seven-year gap in the upgrade of commercial saws was coined a mere industry desire indicating obviousness, not a long-felt need.

In sum, *KSR*'s market-incentive rationale has been expanded to foreclose patent protection to those who identify future needs (*Friskit*) and exploit untapped niche markets (*Rothman*). Moreover, evidence of secondary considerations of non-obviousness has been either completely ignored (*Media Tech*) or transformed into indicia of obviousness (*Oatey*, *Baldwin Graphic*, *Hitachi*). If the goal is truly a strong U.S. patent system that promotes economical development and protects financially successful innovation, as the Court recognized in *Atlantic Works*, then perhaps in the near future, either the Court or the Federal Circuit will attempt to resolve some of the inherent inconsistencies of the expansive application of *KSR*'s market-incentive rationale with traditional notions of both patentability and secondary considerations.

---

<sup>167</sup> *Media Tech Licensing v. Upper Deck Co.*, 596 F.3d 1334, 1339-40 (Fed. Cir. 2010) (Rader J., dissenting).