Is It Worth Anything? Using Surveys in Intellectual Property Cases

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1. Introduction

A consumer survey is an instrument used to directly gather data on the beliefs and attitudes of consumers towards products, concepts, or names. These data are gathered through a variety of means, including consumer queries through shopping malls, telephone contacts, and the internet. Consumer surveys have long been held in high esteem by both courts and commentators in the context of intellectual property disputes. Specifically, surveys are considered to have both widespread acceptance and vital influence in trademark infringement cases, and have been relied upon by courts in such matters for decades. Courts have on occasion even faulted litigants for not conducting a survey[1] and have reminded litigants that while not necessarily required, a consumer survey is the most direct method of showing a likelihood of confusion among consumers in trademark infringement cases.

Increasingly, courts have also begun to suggest that consumer surveys are important to evaluating damages in patent infringement matters and to determine brand value in trademark disputes.[2] In such circumstances, survey experts might be able to reveal the value of an allegedly patented feature by utilizing established and tested survey methodologies aimed at the relevant populations of existing and prospective customers of a product-at-issue. The recent high-profile smartphone litigations involving technology firms such as Apple, Samsung, Oracle, and Google illustrate some of the ways consumer surveys can be used in patent damages matters.

In this paper, we discuss the relevance of surveys in both trademark and patent infringement matters. We begin by briefly discussing the role of consumer surveys in trademark infringement matters and the prevalence of their use.[3] We then explore the increasing presence of consumer surveys in patent infringement matters, with a focus on the use of conjoint-based methodologies to assess the value of patents.

2. Surveys in Trademark Cases

Brand equity can be one of the most important assets in a firm's portfolio – with millions, perhaps billions, of dollars at stake in the value of a brand – but it is also an asset that is uniquely vulnerable to harm. Not only is brand equity vulnerable to the actions of the trademark owner, but it is also vulnerable to the actions of competitors. For example, if one firm uses another's famous brand in a way that would confuse consumers, the value of the brand to its established owner would suffer. In such circumstances, the owner of the brand could sue the challenger for trademark infringement in violation of the Lanham Act, which prohibits an unauthorized user of

[1] *Gimix, Inc. v. JS&A Group*, 1982 WL 52164 at * 1066 (N.D. Ill. Jan. 13, 1982).

[2] Cass W. Christenson, *A New Frontier In Reasonable Royalties: Market Research*, Law360, June 20, 2012, accessed at http://www.law360.com/articles/351377/a-new-frontier-in-reasonable-royalties-market-research.

[3] For more details of their use in federal trademark cases, see Robert C. Bird & Joel H. Steckel: *The Role of Consumer Surveys in Trademark Infringement Cases: Evidence from the Federal Courts*, University of Pennsylvania Journal of Business Law, Vol. 14, Issue 4, Summer 2012, 1013-1054.

a trademark from using it in a way that "is likely to cause confusion, or to cause mistake, or to deceive."[4]

A. The Lanham Act

A trademark is a word or design used on an article of merchandise to identify it as the product of a particular manufacturer and distinguish it from others. Trademarks are said to facilitate the transmission of accurate information and protect the consumer from confusion as to the source of a given product. Trademarks establish a product's distinctiveness from its competitors, signal quality or other positive attributes, and serve as promotional tools. In doing so, trademarks contribute to economic efficiency by reducing consumer search costs. Consumers often look to trademarks as shorthand indicators of quality, prestige, or product attributes. Sellers benefit because they can invest in building goodwill with the confidence that others will not appropriate it.

The statute most responsible for protecting trademarks against confusion is the Lanham Act of 1946. The act prohibits the unauthorized use of a registered mark in a fashion that is "likely to cause confusion, or to cause mistake, or to deceive."[5] Trademark owners who can successfully prove their case in court can obtain an injunction against the infringer to prevent the use from continuing.

B. Expert Testimony in Trademark Litigation

Litigants protecting their marks have traditionally presented three different types of evidence to prove a likelihood of confusion by a rival in court.[6] Expert witnesses may testify about their beliefs regarding confusion; litigants may also make visual comparisons between marks; and a consumer survey may be used to provide direct evidence about consumer perceptions of the marks. Such surveys are used to convince a court that consumer confusion is likely to exist (or not) between trademarks in lawsuits alleging trademark infringement and other legal claims.

In judicial opinions, courts have specifically noted the importance of such survey research in likelihood of confusion cases. Courts have called consumer surveys some of the most direct and persuasive evidence available to establish trademark infringement.[7] Surveys have been used in trademark litigation to test secondary meaning, genericness, functionality, and dilution.[8]

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[4] 15 U.S.C § 1114 (2006).
[5] 15 U.S.C. § 1114 (1)(a) (2006).
[6] McCarthy, *supra* note 8, at § 23:2.50.
[7] *McNeil Nutritionals, LLC v. Heartland Sweetners LLC*, 566 F. Supp. 2d 378, 392 (E.D. Pa. 2008); *Checkpoint Sys., Inc. v. Check Point Software Techs., Inc.*, 269 F.3d 270, 283 n.10 (3d Cir. 2001); *Vision Sports, Inc. v. Melville Corp.*, 888 F.2d 609, 615 (9th Cir. 1989).
[8] See, e.g., *Bristol-Myers Squibb Co. v. McNeil-P.P.C., Inc.*, 973 F.2d 1033, 1043 (2d Cir. 1992) (providing general discussion on how trademarks are used to assess secondary meaning). *Ty Inc. v. Softbelly's, Inc.*, 353 F.3d 528, 531 (7th Cir. 2003);

It has been suggested that surveys can be among the most critical pieces of evidence in a trademark dispute. One commentator canvassing court cases remarked that when a plaintiff chooses not to bring a consumer survey, the owner of the trademark may be perceived as "less than deadly serious about its case."[9] Another stated that "selecting and performing a consumer survey for use as evidence in a trademark dispute represents one of the most important decisions made by trial counsel."[10] Still another called surveys "all but indispensable" in successfully demonstrating that a trademark is worthy of protection.[11]

Such commentaries would seem to suggest that surveys would be universally employed in trademark matters and that courts have universally embraced them. In fact, research by Robert Bird and Joel Steckel indicate that surveys were mentioned in less than 17 percent of federal trial court judge opinions in trademark cases in the United States involving confusion between 2000 and 2006.[12] Furthermore, judges have not been reluctant to discount consumer surveys if they conclude that they are methodologically flawed. Consumer surveys in court undergo an aggressive examination for methodological flaws by experts hired by the opposing party.

Legal treatises present elaborate guidelines for devising and assessing a survey's effectiveness.[13] Guidelines exist on survey design, population definition and sampling, data entry methods, interview techniques, and survey question structure in order to elicit accurate and unbiased results.[14] In general, these guidelines conform to those in marketing theory and practice.[15] Given the relevance of direct measures of consumer confusion regarding marks in some cases, the careful application of such guidelines in the design and implementation of surveys should serve to increase their accuracy and improve their chances of being accepted by courts.

OddzOn Prods. v. Just Toys, 122 F.3d 1396, 1405 (Fed. Cir. 1997); and *ETW Corp. v. Jireh Publ'g, Inc.*, 332 F.3d 915, 919 (6th Cir. 2003).

[9] McCarthy, *supra* note 8, at 32:195.

[10] Robert H. Thornburg, *Trademark Surveys: Development of Computer-Based Survey Methods*, 4 J. Marshall Rev. Intell. Prop. L. 91, 91 (2004).

[11] Joshua M. Dalton & Ilisa Horowitz, *Funny When you Think About it: Double Entendres and Trademark Protectibility*, 88 J. Pat. & Trademark Off. Soc'y 649, 652 (2006).

[12] Robert C. Bird & Joel H. Steckel: *The Role of Consumer Surveys in Trademark Infringement Cases: Evidence from the Federal Courts*, University of Pennsylvania Journal of Business Law, Vol. 14, Issue 4, Summer 2012, 1013-1054, at 1035.

[13] *E.g.*, Benoît Gauthier, *Assessing Survey Research: A Principled Approa*ch (Mar. 3, 2003), available at, http://www.circum.qc.ca/textes/assessing_survey_research.pdf.

[14] Shari Seidman Diamond, *Reference Guide on Survey Research*, *in* Reference Manual on Scientific Evidence 229, 236-69 (Joe Cecil & Dean Miletich eds. 2000).

[15] *E.g.* David A. Aaker, V. Kumar & George S. Day, Marketing Research (2009); Donald R. Lehmann, Sunil Gupta & Joel H. Steckel, Marketing Research (1998).

3. Surveys in Patent Damages

While most intellectual property litigators are familiar with the use of surveys in trademark matters, the use of surveys in patent disputes is relatively novel.[16] As case law developed, it emphasized a rule that one should consider the value of an allegedly patented feature in the context of the overall demand for a product. "When a patentee seeks damages on unpatented components sold with a patented apparatus, courts have applied a formulation known as the 'entire market value rule' to determine whether such components should be included in the damage computation, whether for reasonable royalty purposes, or for lost profits purposes."[17] This entire market value rule (EMVR) "permits recovery of damages based on the value of a patentee's entire apparatus containing several features when the patent-related feature is the basis for customer demand."[18] In other words, if there is convincing evidence that a specific characteristic or attribute of a product constitutes the main reason for its purchase, then the complete product – and not just the patent-related feature – provides the basis for damages claims. The question that arises from the EMVR is how one can determine reliably that a certain product feature is indeed an important or even the most important reason for consumers' purchase decisions.

The answer – as so often is the case in litigation matters – is not straightforward. In some instances, transaction data may be sufficient to evaluate the effects of patented features on demand. In others, evidence of value may be limited or compromised due to the timing of infringement or feature introduction, correlated feature introduction, measurement limitations, or numerous other external factors. Under such circumstances, surveys have been used to evaluate the effect of an allegedly patented feature on customers' purchase decisions; the share of sales attributable to patented features; the value of allegedly patented features relative to the value of the entire product; and the use of patented features by consumers. Except for the direct measure of feature usage, these questions have one thing in common: they require an understanding of consumer decision making. Consequently, scholars often employ conjoint analysis, a methodology that relies on a widely accepted model of human decision making. Conjoint analysis has been shown to predict consumers' choices very well and has been employed in high-profile product investment and design decisions for more than three decades.

A. Conjoint Analysis in Light of the EMVR

To understand why conjoint analysis may be useful in the context of patent valuation, it is helpful to consider the theoretical aspects of a purchase decision process. Marketing theory assumes that consumers of high-involvement products go through a series of steps before they finally make their purchase decision.[19] First, they recognize a need; second, they begin to search

[16] *Lucent Techs. Inc. v. Microsoft Corp.*, No. 07-CV-2000 H (CAB), 2011 U.S. Dist. LEXIS 130571, at *36, *45 (S.D. Cal. Nov. 10, 2011).; *Apple, Inc. v. Motorola Inc.*, No. 1:11-cv-08540 (N.D. Ill. May 22, 2012) (Opinion and Order regarding challenges to damages experts).

[17] *Rite Hite v. Kelley*, 56 F.3d 1538 (1995).

[18] *Rite Hite v. Kelley*, 56 F.3d 1538 (1995).

for information on a product; third, they evaluate brands and products based on the information that they have gathered; and last, they commit to a purchase. Each of these steps demands a specific amount of time and effort from consumers, depending on their personal knowledge, their decision making style, and the product itself. For example, consider smartphones, which have been the target of a number of high-profile law suits.

For pedagogical reasons, we focus this discussion on the value of a patented feature to the ultimate product selection in a litigation context. As such, we assume that our exemplar consumer has already determined the need to get a new phone, has searched for information by using the internet, sought advice from friends, and talked to a sales person in a store. Such a consumer would now evaluate the information collected and compare the available phones and brands until she has created for herself a manageable set of smartphones that go into a final round of decision making. At this point of the decision making process, conjoint analysis may prove to be an extremely valuable tool for predicting which product would ultimately be selected.

Consumers compare products in high involvement categories by making trade-offs. Our exemplar consumer might look for a smartphone with a large, bright screen, high-resolution camera, 4G connectivity, long battery life, compact measurement, and extremely light weight. However, she will learn during her search and evaluation phases that smartphones of lighter weight might not have the best battery life, and that smartphones with a large screen might not be as compact and small as she had hoped. As a consequence, she needs to trade-off the benefits of long battery life and the benefits of a lightweight device, or of having a big screen and fitting the device in her bag.

If one were to ask this consumer directly whether longer battery life is important to her, she would likely answer yes. If one were to present her with a scale from one to five and were to ask her to rate the importance of battery life, chances are that she would rate the importance at five; that is "very important." If one were to ask the same direct question regarding the importance of weight, one would likely get similar answers. According to the preferences of our exemplar consumer, light weight is important and chances are that she rates this characteristic also as "very important." We can learn two things from this: either all features are equally important, or asking direct questions leads to answers that do not reveal the true preferences of the consumer. Not surprisingly, most market research scholars and professionals believe the latter.

Coming back to patent litigation and patent valuations, a survey with questions that directly ask about the importance of specific features will likely imply that the majority of features are important and therefore no feature or combination of features stand out in a way that is crucial for the purchase decision. Hence, direct questioning may not provide an accurate basis

[19] High-involvement products can be characterized as products that create interest in and concern with the product class around the time of purchase.

for evaluating what drives consumer demand. As a next logical step, one might ask why we would not ask for a direct ranking of features and therefore avoid the problem of the perceived equal importance of features. This idea certainly holds value, and it would likely provide information on which feature is the most important, the second most important, and so on. Based on such a study, we may then deduce that battery life – given that is was ranked most important by our example consumer and other respondents in a survey – is the "basis for customer demand." If that were true, an infringing technology which enhances battery life may then be considered a demand driver.

However, a simple ranking task also has two shortcomings. First, it does not reveal the extent to which the most important feature exceeded the importance to the runner-up feature. For example, a hiker who goes on two-day hiking trips on weekends might perceive battery life to be four times as important as screen size. For a different hiker who considers the weekend as a sanctuary from business life and turns on his smartphone only for short periods in the morning and in the evening, battery life may still be the most important feature of his smartphone, but barely more important than the screen size, which makes reading maps on the smartphone easier. Whatever this relationship of perceived importance between two or more features is, a simple ranking exercise may not provide enough information to quantify it.

The second drawback of ranking exercises is that they may not discern between feature performance with and without access to a particular patented technology. Let's assume that an infringing technology allows for a smartphone's standby battery life to increase from a standard 90 hours to 180 hours. While battery life might be most important for a consumer, and 40 to 60 hours of standby time would not be sufficient, 90 hours might be good enough. In such a case, the infringing technology would create an extra benefit that is not necessarily a driver of demand for the product, but would be reflected as very important in a ranking exercise. Again, a ranking exercise might be insufficient to assess the importance of certain features and lead to results that do not reflect consumer preferences or values accurately.

To address these limitations, marketing scholars and behavioral scientists developed conjoint analysis methodology to simulate the trade-off characteristics of consumers' typical decision making by asking consumers to make choices between products as part of a survey.

B. Conjoint Analysis as Part of a Survey Instrument

As noted, conjoint analysis, first developed in 1964, has been widely used by academics and marketing practitioners to gain insight into consumer choice behavior for decades. It is based on the notion that consumers "*consider jointly*" the attributes or characteristics of a product when making their purchase decisions. A respondent participating in a conjoint survey may be asked to rank, rate, or choose among multiple products or services that are defined by a *specific bundle of attributes.* In contrast to a simplistic ranking task of product features, the ranking of or choosing bundles of attributes allows the surveyor to capitalize on respondents'

joint consideration of the various attributes for specified products. The researcher is therefore able to analyze the response data to evaluate consumer preferences and valuations for individual product attributes, combinations of product attributes, and particular products.

There are several different types of conjoint studies. In most recent market research projects, as well as the smartphone litigation cases mentioned above, choice-based conjoint (CBC) analysis is used to measure the valuations of particular product features. A respondent in a CBC study is presented with an exercise that asks her to perform repeated "choice tasks." Each choice task requires a respondent to choose from among a "choice set" of products. Products within a choice set are described by profiles of bundled attributes. For example, a conjoint exercise involving bottled water might contain attributes such as flavor, label color, carbonation, and bottle shape. Each attribute is further defined by a set of characteristics that are known as "levels." The flavor attribute, for example, would have multiple, mutually exclusive potential levels, such as lemon, lime, and orange. One must carefully select the attributes and "levels" of performance to evaluate.

In each choice set, the respondent is presented with a number of products and asked to select the one that she would choose if those were the only options available to her. For particularly complex products, a researcher should carefully weigh respondents' cognitive efforts against receiving more information. Consequently, survey experts often design conjoint analyses with a limited number of products per choice set and a manageable number of attributes per product. Using smartphones, Figure 1 shows a hypothetical example of a conjoint analysis choice set with three products that are described by seven attributes:

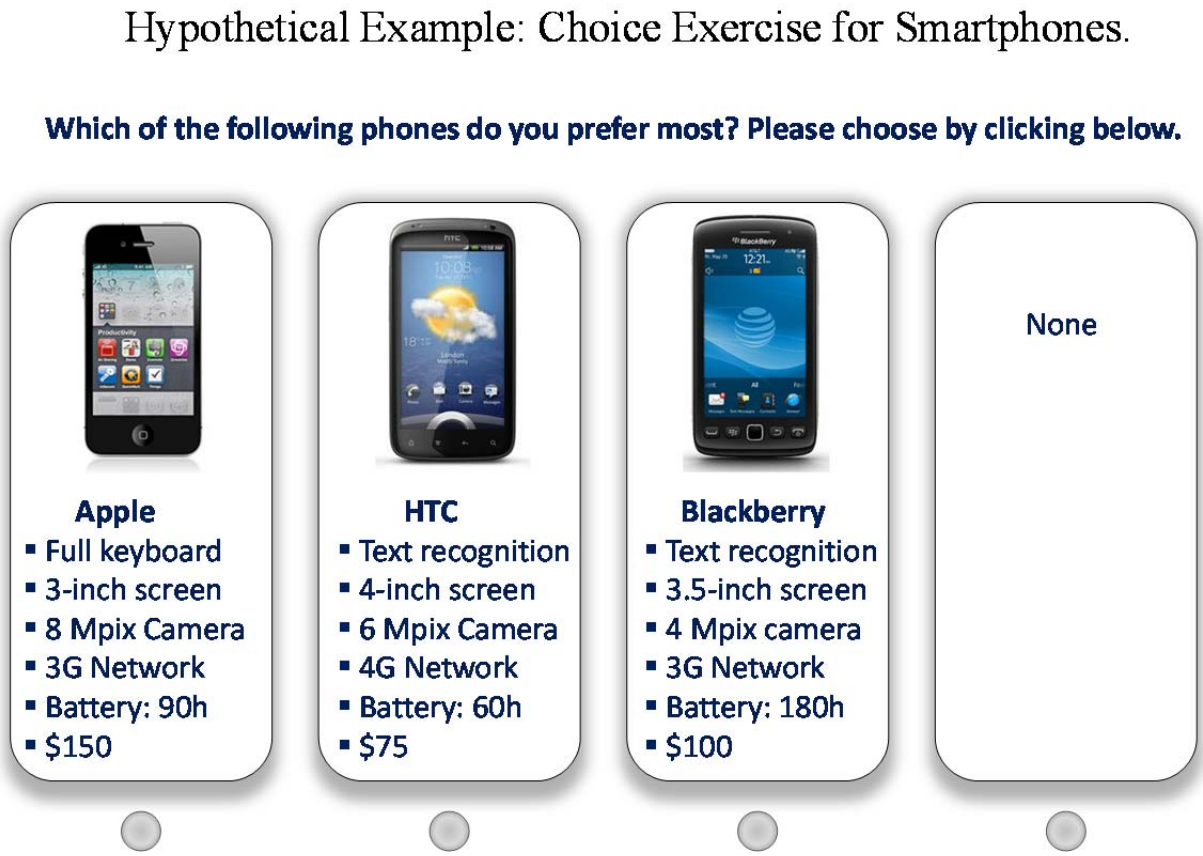

Figure 1: A choice task related to smartphone preferences.

In general, respondents are shown a total of 12 to 20 such choice tasks depending on the complexity of the product. Increasing the number of choice tasks asked of each respondent generates additional data from which to estimate preferences, but it will also increase respondent fatigue and the tendency to err in their choices.

C. Results from Conjoint Analyses and the Construction of a But-For World

Using a statistical estimation technique, conjoint analysis provides so-called utility values for each level of all attributes by respondent. Based on these individual utilities, one can calculate relative importance measures that indicate the influence of a certain feature on the purchase decision expressed as a percentage of the influence of all features together. For example, if conjoint analysis uses smartphones that are described using seven attributes, one can infer how much more important battery life is in comparison to screen size. One can also infer the economic value of the attribute to a consumer.

Besides relative importance rankings, conjoint analysis provides the ability to calculate preference share estimates that can be understood as hypothetical market shares; however, it is

important to note that preference shares are based on preference functions of respondents while market shares are determined by various factors in addition to consumer preference, competitive behavior, situational factors, and marketing activities for example. Preference shares result from so-called market simulations that can be useful for assessment of damages in patent infringement matters because of the flexibility that is inherent to these simulations.

Similarly, conjoint analyses allow for a monetary valuation of infringing technologies. For example, by examining the tradeoff between an allegedly infringing attribute and price, one can see how much a price would have to be reduced to compensate a respondent for the loss of the feature in question.

D. Example Cases Employing Conjoint Analysis

In two recent patent disputes, at least one side has brought forward arguments based on the results of this methodology. In the Oracle v. Google case, Judge Alsup concluded that "Consumer surveys are not inherently unreliable for damages calculation. See Lucent Technologies, Inc. v. Gateway, Inc., 580 F.3d 1301, 1333-34 (Fed. Cir. 2009). Google's own damages expert has written that conjoint surveys are appropriate for damages calculation in litigation (Dkt. No. 738 at Exh. I)." While Judge Alsup struck parts of the conjoint expert's opinion, he also confirmed that "the conjoint analysis' calculation of the relative preference between 'application startup time' and 'availability of applications'" was reliable.[20] In essence, Judge Alsup accepted that relative importance rankings produced by conjoint analysis can serve as an input to damages calculations.

In another recent high-profile case, Apple and Samsung faced each other in court over a variety of patents brought forward by both sides. Apple presented evidence based on conjoint analyses and relied on its experts' willingness-to-pay estimates to support its valuations for the allegedly infringing features in its trial outline. Specifically, Professor Hauser's conjoint survey shows that Samsung's customers value the features covered by Apple's utility patents between $90 and $100 for a smartphone and tablet respectively.[21]

On the other hand, when answering Apple's request for a preliminary injunction against Samsung, Judge Lucy H. Koh, who presided over the case, did not consider the results from this specific conjoint analysis as it did not establish that the features-at-issue drive demand generally: "[The conjoint survey] does not address the relationship between demand for a feature and demand for a complex product incorporating that feature and many other features. To establish a causal nexus, Apple would need to show not just that there is demand for the patented features, but that the patented features are important drivers of consumer demand for the infringing

[20] "Order Granting in Part and Denying in Part Google's Daubert Motion to Exclude Dr. Cockburn's Third Report," *Oracle America, Inc., v. Google Inc.*, Case No. 3:10-cv-03561-WHA, United States District Court, Northern District of California, San Francisco Division, March 13, 2012, p. 16.

[21] Apple Trial Brief, p. 16, signed by Michael Jacobs of Morrison & Foerster LLP.

products."[22] In theory, conjoint analysis can contribute to establishing a causal nexus as well as estimating the demand-side willingness-to-pay; however, it is easier to specify a survey when one can focus on one of these two objectives.

4. Concluding Remarks

Surveys are increasingly cited in IP matters, and have been widely recognized to provide value in trademark infringement cases. Recently, surveys have also received remarkable attention in cases involving patent infringement claims. While all of these surveys have been developed specifically for each case using tailored techniques, surveys in general are subject to specific guidelines to be allowed to contribute to the evidence in a litigation matter. Therefore, it is important that an expert with profound knowledge in survey methodologies conducts a survey in accordance with best practices to ensure that results are reliable and valid with respect to the characteristics of the specific litigation matter.

[22] "Order Denying Motion for Permanent Injunction," *Apple, Inc., v. Samsung Electronics Co., Ltd.*, Case No. 5:11-cv-01846-LHK, United States District Court, Northern District of California, San Jose Division, December 17, 2012, p.12.