UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

DISNEY ENTERPRISES, INC.; LUCASFILM LTD. LLC; TWENTIETH CENTURY FOX FILM CORPORATION; WARNER BROS. ENTERTAINMENT INC.; MVL FILM FINANCE LLC; NEW LINE PRODUCTIONS, INC.; and TURNER ENTERTAINMENT CO., Plaintiffs, v. VIDANGEL, INC., Defendant.	Case No. 16-CV-04109-AB (PLAx) EXPERT REPORT OF DR. WILLIAM DUCKWORTH Judge: Hon. André Birotte Jr. Trial Date: June 11, 2019

ATTORNEYS' EYES ONLY

SUBJECT TO PROTECTIVE ORDER

EXPERT REPORT OF DR. WILLIAM DUCKWORTH

I. Assignment

I have been retained in this litigation by Defendant VidAngel, Inc. ("VidAngel") to render opinions falling into four categories: (1) the differences between the business practices typical of start-up companies, including, in particular, those that offer a type of service or product unfamiliar to most consumers, and the business practices typical of established companies; (2) whether VidAngel's business practices during 2015-16 were consistent with those of a start-up company offering a service largely unfamiliar to its target consumers; (3) the extent to which VidAngel's motion picture filtering service increased the market for motion pictures, thereby providing a potential benefit to motion picture studios and motion picture copyright owners; and (4) what conclusions can be derived from the data concerning the effect of motion picture filtering on consumers' enjoyment of motion pictures and consumers' perceptions of motion picture directors.

I am being compensated at the rate of $350 per hour plus expenses for my work.[1] My compensation is not contingent upon my findings, the testimony I may give, or the outcome of this litigation.

II. Qualifications

In 1991, I earned a Bachelor of Science degree in mathematics and statistics and Phi Beta Kappa key from Miami University in Oxford, Ohio. In 1993, I earned a Master of Science degree in statistics, also from Miami University. In 1996, I earned a second Master of Science degree in statistics from the University of North Carolina at Chapel Hill, North Carolina. In 1998, I earned a Doctor of Philosophy degree in statistics from the University of North Carolina at Chapel Hill. I additionally completed SAS Enterprise Miner training in 2013 at Creighton University in Omaha, Nebraska in the use of data mining software to create accurate predictive and descriptive models for large volumes of data.

During 1992-93, I worked as a teaching assistant for the Miami University Department of Mathematics and Statistics. During 1993-97, I worked in the same capacity for the University of North Carolina at Chapel Hill Department of Statistics. During 1995-97, I additionally worked as a technical employee for the SAS Institute in Cary, North Carolina. During 1997-98, I served as a

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[1] To help my children learn about investing, our family maintains a small investment pool. As a family, we discuss how we want to invest the pool assets. In October 2016, we decided to use pool assets to purchase 1,460 shares of VidAngel common stock. That investment is not material to my family or me and I am otherwise disinterested in the outcome of this litigation.

temporary instructor of statistics for Department of Statistics of Iowa State University in Ames, Iowa. From 1997 to 2005, I held the title of assistant professor of statistics for Department of Statistics of Iowa State University and during 2005-06, I was awarded tenure and promoted to the rank of Associate Professor of Statistics. In 2006, I was named Associate Professor of Statistics & Analytics at the Heider College of Business at Creighton University, and was awarded tenure at Creighton University in 2009. I have remained employed in that capacity ever since.

In my career, I have authored or co-authored eight monographs and books concerning generally the use of statistics and analytics in business and business market research. I have additionally co-authored seven articles published in refereed journals and eight articles published in non-refereed journals. As a business school professor, I have taught numerous classes in business analytics and statistical analysis.

A true and correct copy of my current *curriculum vitae* is attached as **Appendix A.**

III. Documents and Information Relied Upon

To arrive at the conclusions I have formed in this matter, I conducted my own research and statistical analysis and additionally relied upon the following:

- "Filtering Films: An Empirical Study of What Consumers would Mute and Excise from Hollywood Fare if Only They Could," by Professor Doug Lichtman and Dr. Benjamin Nyblade (working draft dated July 4, 2018).
- B. Nalebuff and I. Ayres, *Why Not?: How to Use Everyday Ingenuity to Solve Problems Big and Small* (Harvard Business School Press, 2003).
- Declaration of Neal Harmon in Support of VidAngel, Inc.'s Opposition to Plaintiffs' Motion for Partial Summary Judgment dated December 28, 2018.
- Extensive discussions with VidAngel's CEO, Neal Harmon, as well as less extensive conversations with VidAngel's CFO, Patrick Reilly, and VidAngel attorney David Quinto.
- Information gained from numerous, in-depth discussions with other business school professors concerning their research and learning; the study of numerous books, treatises, and papers in the field of business; working closely with other members of the business faculty at both Iowa State University and Creighton University to develop courses for graduate and undergraduate students; and my personal experience working with two very close relatives in founding a successful startup business in Ames, Iowa, Duck Worth Wearing, https://www.duckworthwearing.com.

IV. **<u>First Opinion: Differences Between Business Practices Typical of Start-Up Companies Offering Service or Product Unfamiliar to Consumers, and Business Practices Typical of Established Companies</u>**

Most new businesses fail within a relatively short time. Those that succeed are typically founded by an entrepreneur with a well-defined vision who can inspire others with his or her passion and vision while also organizing the company's employees to accomplish goals and milestones quickly and within tight budgetary constraints, all the while reacting nimbly to changing business conditions.

Although those are common attributes of successful start-up companies, maintaining an adequate cash reserve or generating an adequate cash flow and identifying a market need are *sine qua nons* of success. A new business incurs expenses immediately to pay employees and other operating costs while developing a product or service, marketing that product or service to consumers, and scaling the business up to an efficient size.

A common type of start-up business is a restaurant. Before the owner sees any revenue, the owner incurs expenses to rent a location for the restaurant; purchase or rent stoves, ovens, freezers, refrigerators, washing machines, tables, chairs, pots, pans, silverware, and more; decorate the dining area to create an agreeable ambiance; hire and train chefs, washers, and waitstaff; and make consumers aware of the restaurant and its cuisine. But even after customers start buying meals, the owner's cash reserves will continue to dwindle until the restaurant is able to sell so many meals that its daily revenues at least equal the owner's daily expenses for food, rent, salaries, insurance, taxes, breakage, and other unavoidable expenses.

In the foregoing example, the restaurant owner was able to take as a given that there was a market for food and therefore had only identify a type of cuisine that would draw enough consumers away from other restaurants or to choose going out to eat rather than opting for a home-cooked meal. An entrepreneur who offers a product or service that is unfamiliar to consumers faces a greater challenge. The entrepreneur's marketing must advise consumers not only of the availability of the product or service and its qualities, but must educate consumers as to what it is, how it operates, and what it costs. Consumers might be less willing to risk buying an unfamiliar product or service and might be intimidated by having to learn how to operate it. To overcome doubts and concerns that cannot be sufficiently allayed through marketing efforts, companies that hope to sell an unfamiliar product or service frequently offer it to consumers on some type of "risk-free" basis, which might include offering free samples, trying the product or service for a short time at no charge, or providing a "money back" guarantee if the consumer is dissatisfied.

In contrast, established businesses rely to a much smaller extent on giveaways and gimmicks and typically have more profitable pricing structures, calculated to maximum profits as a product or service nears market saturation. The nature of their marketing changes, as well, when they no longer need to introduce, explain, and demonstrate their product or service. Their marketing targets other objectives, such as associating their brand with quality, prestige, sex appeal, elegance, sophistication, or other attributes.

V. <u>Second Opinion: VidAngel's Business Practices During 2015-16 Were Consistent with Offering a Service that Was Largely Unfamiliar to Consumers</u>

VidAngel faced various challenges when it commenced business operations in 2014. It had obtained a small amount of money from early investors that it could use to pay operating expenses, including the salaries of software engineers and programmers, while getting its movie filtering business going, but the first three filtering technologies and business models it attempted to use all required the acquiescence of Google's YouTube subsidiary or Google's cooperation. VidAngel evidently received various expressions of interest from Google suggesting that Google recognized the market potential of filtered content and wanted to work with VidAngel to capture that market, before reversing course unexpectedly and informing VidAngel that for "legal reasons" it was required to withdraw its support for filtering. At that point, VidAngel had been using its cash reserves for a year and still did not have a marketable service.

In January 2015, VidAngel began testing its fourth filtering model with a very small number of consumers. That model required that VidAngel access the content of DVD or Blu-ray discs to "tag" it wherever language or scenes that might offend its target consumers were found. Doing so was highly labor intensive because each movie had to be watched and manually tagged by a number of taggers operating independently of one another, and the finished product had to be watched by others to verify that the tags performed properly. And, of course, VidAngel had to tag numerous movies to offer a selection sufficient to attract customers.

Because VidAngel's business model required that consumers own a copy of any movie they watched, VidAngel also invested to buy multiple copies of DVD and Blu-ray discs from retail vendors for later sale to its customers, thus ensuring that each customer owned a copy of every movie he or she watched using VidAngel's service. Because its service was new and unfamiliar to consumers, VidAngel concluded that until consumers gained familiarity with its service and it could offer a substantial library of content, VidAngel could not successfully offer a subscription service pursuant to which customers would pay a recurring monthly fee to use its service. Instead, its business model was a la carte, meaning that subscribers paid only for what they watched, and was priced in a manner that allowed VidAngel to offer its service at no additional cost to consumers. Specifically, VidAngel reasoned that because the least expensive way to choose a particular movie to watch at a particular time was to rent a DVD and the least expensive large DVD rental service charged $1.00 per day, VidAngel would sell DVD and Blu-ray discs to its customers for $20.00 apiece, but would offer to buy the discs back for a price that declined every day.

This business model posed numerous challenges for VidAngel. Among them were that VidAngel was required to guess how many copies of each movie it should purchase, knowing that demand would be high for movies when they first became available and that it would be forced to disappoint many customers by sending them "out of stock" notices when its supply of copies of that movie sold out but would quickly find itself with too many discs once the initial demand subsided; buying the necessary supply of DVD and Blu-ray copies of each movie was burdensome because, to meet its requirements, VidAngel had to purchase them from numerous retailers who typically limited purchases to 20 or fewer discs per order; VidAngel had to manually apply a bar code to each disc so that specific, identifiable discs could be sold to each customer; VidAngel had to store, protect, and inventory an enormous and ever-growing quantity of discs; when customers chose not to sell discs back, VidAngel had to maintain those discs for their owners in perpetuity; VidAngel found that certain aspects of filtering from a disc are difficult or expensive, such as filtering the closed captioning that all movies are required to have; and being confined to filtering from discs made it difficult or impossible to provide consumers with a streamed product equal in quality to unfiltered movies offered by licensed streaming services. VidAngel recognized that being licensed to stream movies would have resolved all the foregoing problems but understood that because no studio that had entered into a collective bargaining agreement with the Directors Guild of America had ever licensed anyone to filter its movies for home viewing and having been advised that the studios had pressured Google into refusing to enable VidAngel to filter studio-owned movies, it could not obtain a license.

VidAngel achieved a positive cash flow, meaning that its monthly revenues exceeded its monthly expenses, within a matter of months because it had the attributes of a successful start-up business and because it cleverly induced consumers who had never filtered movies they watched at home to try its service. It did so by engaging an online marketing firm, Harmon Brothers, to create highly entertaining online videos explaining and demonstrating its service that reached many consumers inexpensively. Even though the videos were longer than most online advertising, viewers were tempted to watch them to their conclusion because they were also entertaining. Having shown Internet users what its service did and how easy it was to use, VidAngel quickly persuaded large numbers of consumers to try its service by advertising that they could watch a movie "for a buck." A dollar was, of course, the lowest price that most users could pay to watch a particular movie at a particular time, effectively making it free to use VidAngel's service. And, of course, consumers did not have to go anywhere to get or return a disc, nor did they have to wait for one to arrive by mail. VidAngel thereby rapidly created a market for streamed, filtered content. To generate a positive cash flow, though, VidAngel had to hope that it could buy back and re-sell the same discs over and over (at the cost of lots of out-of-stock notices) or that customers never asked to sell their discs back (at the cost of having to preserve and protect tens or hundreds of thousands of discs).

VI. <u>**Third Opinion: Effect of VidAngel's Filtering Service on the Market for Motion Pictures**</u>

I conducted an online survey with a random sample of 1117 customers (providing a statistical margin of error of plus/minus 2.8%) who used VidAngel's Disc-Based streaming service during 2015-16. The survey queried respondents using a wide variety of plaintiff-owned titles. I used the following questions (modified to reflect the various customer names, movie titles, and days and dates watched). Persons participating in the survey were not shown the second question unless and until they responded to the first question.

[Name],

On **Monday, August 15, 2016,** you and/or your family watched the movie *The Bourne Ultimatum* using the VidAngel service.

While thinking about **ALL** family members **who watched** *The Bourne Ultimatum* **in 2016,** we would appreciate your response to the following questions:

Q1: I/we would have **ONLY WATCHED WITH VIDANGEL** filtering.

- **Yes**
- **No**

Q2: I/we would have **preferred** to watch:

- **The original, unfiltered film**
- **The filtered film**

Sixty-five percent of the respondents answered that they would have watched the plaintiffs' movies they watched only with VidAngel filtering. We can extrapolate to the entire population of VidAngel customers during 2015-16 with an interval from 61.8% to 67.4% by applying the 95% margin of error. When asked whether they would have preferred to watch the original, unfiltered plaintiffs' movie, 83.5% responded, "no." We can extrapolate to the entire population of VidAngel customers during 2015-16 with an interval of 81.2% to 85.6% by applying the 95% margin of error.

The actual behavior of VidAngel customers using VidAngel's current Stream-Based filtered streaming service from July 2017 through February 2019 reflects that 5.4% of customers are willing to pay more than the minimum to watch a streamed motion picture before it becomes available on Netflix, Hulu, or Amazon Prime. Customers who use VidAngel's current Stream-Based service are required to pay a licensed streaming service for the right to watch a stream of that movie using VidAngel filtering. VidAngel's data reflect that 94.22% of its current customers choose to wait to watch movies until they become available at no extra charge on Netflix or Amazon Prime. Of the remaining 5.78%, 4.335% pay $4.99 to rent the movies they ask VidAngel to filter from Amazon Instant Video and 1.445% purchase them from Amazon Instant Video.

VII. Fourth Opinion: Filtering Increases the Market for Movies Without Diminishing the Users' Enjoyment or the Filmmakers' Reputations

I have studied the paper entitled "Filtering Films An Empirical Study of What Consumers Would Mute and Excise from Hollywood Fare if Only They Could," authored by Professor Doug Lichtman of the UCLA School of Law and Dr. Benjamin Nyblade, the director of empirical research at the UCLA School of Law. The study authors exhaustively analyzed raw data collected by VidAngel during 2016 for more than 3.6 million movies it filtered and streamed to its customers. In doing so, they considered the filters that each customer applied to each film stream, in the process counting the times each possible filter was applied to each film, the amount and percentage of the film's audio content affected by those filter selections, the amount and percentage of the film's visual content affected by those filter selections, and the percentage of each motion picture each customer watched provided that the data reflected that the customer had watched for at least ten minutes. (Shorter periods were eliminated to avoid measuring system tests and failed transmissions.) The Lichtman/Nyblade study is of a type and quality customarily relied on by business statisticians.

Based on the data gathered and reported by Professor Lichtman and Dr. Nyblade, I conclude that virtually all VidAngel customers were genuinely attracted to use its service because they wanted to filter the movies they watched. Just 2.2% consistently opted to use the minimum number of filters VidAngel required its customers to use, while 97.8% elected to use more than the minimum number of required filters. Although the minimum number of filters were chosen more than 2.2% of the time overall, the customers who chose the minimum number on those additional occasions also chose to apply more than the minimum number of filters on other occasions. For that reason, I conclude that at least 97.8% of VidAngel's customers were attracted to its service, at least in part, because they wanted to filter some, if not all, the movies they watched. Based on the fact that VidAngel offered primarily titles of recent vintage, I further conclude that consumers who wish to filter, would filter virtually all movies made today (or in the recent past) if given that option.

The Lichtman/Nyblade study data also reflect that, on average, VidAngel users filtered audio content at rates ranging from 0.09% of "G" rated movies, to 0.19% for "PG" rated movies, 0.38% of "PG-13" rated movies and 1.10% of "R" rated movies, with video filtering at 0.63%, 0.87%,1.30%, and 2.71% percent for movies with those same ratings, respectively. Anecdotal evidence suggests that motion pictures released by U.S. and British studios are far more heavily edited for foreign markets without allowing viewers to select what is or is not edited. These findings suggest that filtering does not significantly affect viewers' enjoyment of films. That conclusion is reinforced by the Lichtman/Nyblade data showing that VidAngel customers who filtered "G," "PG," and "PG-13" movies watched approximately the same percentage of those movies as did viewers who did not filter them, and even at the "R" level, the drop-off was not great. Based on the Lichtman/Nyblade data, I also conclude that consumers who choose to watch filtered motion pictures think as highly of those films' directors as consumers who choose to watch those films without filtering.

Finally, based on the rapidity with which VidAngel's filtering business grew and the number of filters VidAngel customers typically applied, it is my opinion that there is a substantial market for filtered movies.

VIII. **<u>Additional Opinions</u>**

To the extent additional information comes to my attention, I will update my analyses and opinions as appropriate, and may provide additional opinions, including those rendered to rebut Plaintiffs' expert opinions and witness testimonies, and other relevant issues that arise in the case.

Signed this 11th day of March, 2019 at Palm Springs, California.

William Duckworth

William Duckworth