

Thesis Project Portfolio

Developing an Application to Score Unreviewed Wines

(Technical Report)

How the Delicacy of Taste Enables Expert Wine Reviews to Function as a Placebo with Respect to the Consumer Purchasing and Tasting Wine Experience

(STS Research Paper)

An Undergraduate Thesis

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In Fulfillment of the Requirements for the Degree

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Jared Werner Hood

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Department of Computer Science

Table of Contents

Sociotechnical Synthesis

Developing an Application to Score Unreviewed Wines

How the Delicacy of Taste Enables Expert Wine Reviews to Function as a Placebo with Respect to the Consumer Purchasing and Tasting Wine Experience

Prospectus

Sociotechnical Synthesis

(Executive Summary)

Expert Wine Reviews: How to Create them and How They Impact the Consumer Experience.

The global wine industry has seen massive growth in recent years and with that growth there are many new novice consumers. As being a novice implies, new consumers need help to discern good bottles of wine from bad ones. The most prominently used source of knowledge on wine are expert wine reviews, generally given as a score out of 100 indicating the quality of the wine from the expert's perspective. Both of my projects focused on the prominence of the use of expert wine reviews by consumers. For the technical project, I programmed a machine learning algorithm that creates a score for an unreviewed bottle of wine using only information on the label of the bottle. My STS research focused on the role of expert wine reviews in the wine industry as a placebo to increase consumer tasting enjoyment and to reduce consumer perceived purchasing risk.

The large amount of data available online on expert wine scores enables the training of an accurate machine learning model to predict a wine bottle's score. The technical portion of my thesis produced a prediction model that synthesized a database of over 150,000 expert reviews to be able to predict a bottle's score based on label information including country of origin, region, price, province, vintage, and variety. The model can correctly predict a bottle's expert rating given the previous features to within ± 2.007 of the given expert's score. This accuracy is good enough for a consumer to be able to be confident about a wine's quality, even if it is not accompanied by an expert created review.

The delicacy of taste helps explain why experts are better able to assess the quality of a wine over a novice. In my STS research I used the framework of the delicacy of taste to evaluate the role of expert reviews in the wine industry. In my research I found that expert reviews act as a placebo effect in decreasing the risk consumers feel when purchasing wine as well as increasing the perceived quality of the wine when tasting. This result gives insight into how expert wine reviews are used by consumers in the wine industry and provides a new way to look at their relevancy to the industry.

The work done in both the technical and STS portions of my thesis combined to give me a better understanding of how expert wine reviews function in the wine industry. Without doing both portions I would not have had a full perspective of how expert reviews are both created and used in the industry. My project exemplifies the themes put forth in the STS curriculum as it shows how impactful expert reviews can be on how consumers go about purchasing wine and enjoying it. The technical power to create reviews can have serious consequences in the wine industry as a good (or bad) review can directly impact the consumer experience.