

Vienna 2019 Abstract Submission

Title

Eye Movements on Wine Labels: Gaze Motion and Consumer Scanpaths on Wine Label Design Elements

I want to submit an abstract for:

Conference Presentation

Corresponding Author

Sybil Yang

E-Mail

sybil@sfsu.edu

Affiliation

San Francisco State University

Keywords

Wine Label; Label Design; Eye Tracking; Gaze Motion; Scan Path; Perceived Value; Purchase Intent

Research Question

What is the 'average' scanpath on a wine label? What are typical consumer gaze characteristics on wine labels and how do they related to purchase intent and perceived value?

Methods

Mobile Eye Tracking; Levenshtein distances; Optimal Matching Analysis; Regression; Survey; Experimentation

Results

Eye tracks and survey data has been collected. Eye track data analysis is ongoing.

Abstract

EXTENDED ABSTRACT:

The current study utilizes infrared corneal-reflection eye tracking to document the gaze motion and eye tracking patterns of 80 subjects on real world wine labels. Subjects were also asked to declare a price estimate and a yes/no purchase intent for each wine. The objective of this study is to present an empirical, non-self-reported record of how consumers look at wine labels and their component design elements. An average wine label scanpath and gaze motion characteristics of wine label design elements are presented.

Buying a bottle of wine off a retail shelf is a risky proposition. In this context, most consumers do not exactly know what it is that they are actually buying as there is typically no taste nor scent sensory information at the point of purchase. More often than not, the only information available at the point of purchase is the wine bottle itself, including its labeling and design. Because two of the most important determinants of product satisfaction are not accessible at the point of purchase, retail bottled wine purchase is considered to be risky and fraught with consumer uncertainty (Mitchell and Greatorex, 1989). As such, much consumer wine purchase research has focused on how wine bottle labeling information is used as a form of risk mitigation by consumers. For example Johnson & Bruwer (2004) found that novice or basic wine drinkers rely heavily on the brand (producer) in their decision making, and choose brands that are more well-known and that they consider to be 'safe.' Batt & Dean (2000) noted that even regular drinkers placed heavy importance on brand. Risk-adverse wine consumers were also found to rely heavily on explicitly stated label information such as varietal, wine style, brand and country of origin when making purchase decisions (Bruwer, Chrysochou & Lesschaeve, 2016). Consumers have also been found to substantively consider the subjective text of winery history, elaborate taste descriptions, and food pairing suggestions typically

found on a bottle's back label when making a purchase decision as well (Mueller, et al., 2010).

Beyond textual information provided on a wine label, some research has also begun to examine the influence of explicit design elements and their effect on consumer choice. In particular, types of pictures and colors used have been tested with differing levels of reported efficacy and impact on consumer choice. Boudreaux and Palmer (2007) report findings where the use of color and of pictures (particularly pictures of noble-looking animals, chateaus and grapes) seem to have a positive effect on consumer preference for wines. Conversely, Thomas and Pickering (2003) found that customers did not believe wine label color usage influenced their decision making about wine.

Demographic and experiential differences between consumers have been used to help better define the boundary conditions of wine label design elements. For example, the importance level of colors and pictures seem to be greater for younger, lower income, and less experienced wine drinkers (Thomas & Pickering, 2003; Boudreaux & Palmer, 2007; Laeng, Suegami & Aminihajibashi, 2016). In addition, women seem to value the use of pictures on wine labels more than men do (Barber, Ismail & Taylor, 2007; Thomas & Pickering, 2003).

To date, only one other study on eye tracker patterns on wine labels has been published (Laeng, Suegami & Aminihajibashi, 2016). Though past studies have shown that wine label design elements influence information usage and consumer perception of wines by the bottle, the current study extends the existing wine label eye tracking literature by allowing subjects to:

freely move their head while
viewing both a front and back label,
on actual bottles of wine,
for as long as they wished to physically handle the bottle.

In addition, the current study tests more, real wine labels; more finely delineates wine label design elements into distinct areas of interest; and allows sequential viewing of each bottle individually (as opposed to exposure to labels in groups of four). Grouping choice options together cloud the data with unintended context effects where subjects are enabled to gaze between test labels as opposed to evaluating each label independently on its own (not comparative) merits.

Overall, the data collected in this study will be used to present:

- an average gaze sequence of design elements on wine labels,
- measures of attention and content exposure (duration and speed of fixations),
- and each of the above measures relationship with reported value and willing to pay.

Wine producers and label designers can use this information to more effectively engineer a consumer wine label to better suit their strategic marketing objectives.

Summary of Methods

Data was collected in October and November of 2014 on the campus of a four-year university in a major metropolitan area of the western United States. Participants were recruited from the student body of the University and received either course credit (equivalent to less than 1% of their course grade) or a cash compensation equivalent to \$15 per hour. No participants opted to be remunerated in cash. Data collection for this study was conducted in conjunction with the collection of data for two other, unrelated experiments. This paper excludes the data collection procedures associated with the unrelated studies.

The study utilized an Applied Sciences Laboratories (ASL) Eye-Trac 6 Mobile Eye infrared corneal-reflection eye tracker system. Eye track data was compiled with ASL Results+ GM Version 1.4.6. The average gaze sequence and scanpath was determined by finding the gaze sequence that minimizes the Levenshtein distance (Levenshtein, 1966) between all observed gaze sequences (Yang, 2012), as calculated with the SQ-Ados for Stata suite (Brzinsky-Fay et al., 2006). With 80 participants and 24 wine labels viewed per participant, a within-subjects sample size of 1,920 gaze sequences was obtained:

$(80 \text{ Participants})/1 \times (24 \text{ Wine Label Eye Tracks})/\text{Participant}=1,920 \text{ Wine Label Eye Tracks}$

Participants were each asked to handle and view a randomized series of 24 physical bottles of wine, each with one of 24 different wine labels. To control for potential effects related to bottle shape and design, each bottle of wine was an unopened, identical bottle of Trader Joe's Charles Shaw Cabernet Sauvignon with the labeling replaced with a test label. Test labels were real wine labels chosen from the U.S. Department of the Treasury COLA database (Test Label). To control for potential effects related to grape varietal and region information, wine labels were all of 750ml bottles of California Cabernet Sauvignon under the American Viticulture Association (AVA) designation of the Napa Valley.

Participants were handed a single bottle at a time, and were asked to evaluate each bottle of wine as if they were considering it for purchase at a local store; and were instructed to notify the experimenter when they had made a decision on that wine. For each bottle of wine, participants were asked whether they would purchase the bottle; how much they thought it was worth; and how much they would be willing to pay. After a participant finished evaluating all 24 bottles of wine, they were asked to complete an online survey containing various demographic and behavioral questions including questions related to wine consumption and purchase history.

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¹ Certification/Exemption of Label/Bottle Approvals (COLA) – Alcoholic beverage packaging is reviewed by the U.S. Department of the Treasury in conjunction with the Alcohol and Tobacco Tax and Trade Bureau for the purposes of assessing taxes and ensuring conformity to regulations.

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