

The Impact of High-Visibility Enhancements on Shelf Presence: *A Second Study*

Consumer purchasing decisions can be complicated by the proliferation of products on the retail shelf. A study by the Foil & Specialty Effects Association, in cooperation with The Sonoco Institute of Packaging Design and Graphic's CUshop, details the effect of high visibility enhancements on consumer behavior.



Catching the Eye of the Consumer

Capturing consumer attention can result in big business, and those involved in print and packaging know that “shiny on the shelf” is an advantage for brands looking to stand out in retail aisles. In the article “How premium packaging can unleash shelf appeal,” Carla Fantoni, vice president of communications for Tetra Pak US and Canada, said, “According to our research, shoppers spend, on average, 27 seconds making a decision in this aisle, which makes shelf appeal incredibly important in capturing relatively disengaged consumers.”¹

In addition, as quoted in The 2015 American Pantry Study by Deloitte, “Since last year, purchase decisions made at-the-shelf have risen, creating an opportunity for CPG (consumer packaged goods) companies to influence unplanned purchases. Currently, more than half of the category shoppers surveyed made at-the-shelf purchase decisions. These decisions accounted for 34 percent of all the units purchased by them.”²

While the opportunity to attract consumer attention and, therefore, influence purchase decisions based on package design exists, rarely is data available to prove the use of a specialty print effect has a positive effect. In fact, according to Mintel Senior Food & Drink analyst Beth Bloom, “The majority of consumers are paying attention to package format and design, and purchase drivers are either being directly related to or being communicated through packaging.” Bloom was quoted in Mintel’s Global

Packaging Trends 2017, and the paper went on to say, “52% of US food shoppers report being drawn to packaging with unusual or eye-catching designs.”³

The Foil & Specialty Effects Association (FSEA) recognized that validation of physical and emotional responses to high-visibility enhancements would offer the print finishing industry a tool to support the decision to incorporate high-visibility enhancement within a brand development plan. As technology allows the capture of increasing levels of human response to stimulation, the accumulation of scientific data to validate high-visibility enhancements becomes possible.

A 2013 white paper from FSEA – An Initial Study into the Impact of High-Visibility Enhancements – provided data indicating **clear advantages to foil stamping on packaging**, including attracting attention faster and retaining attention for longer periods of time than packaging without foil.

The second study detailed in this white paper complements the previous study and provides additional validation, while also taking an additional step by evaluating purchase data. It shows that in a highly competitive category, where consumer personal preference is a significant factor in the purchase decision-making process, **the addition of a high-value enhancement to packaging increased the likelihood of purchase**. In fact, the unknown brand – created solely for this study – outperformed national brands with a wealth of name recognition.

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A Study of Validation – The Consumer Behavior Lab

- **Study Overview**

The Sonoco Institute of Packaging Design and Graphics at Clemson University, in partnership with R. Andrew Hurley's research program, conducted an eye-tracking study in the CUshop Consumer Behavior Lab. The Sonoco Institute was created to exploit the synergies that exist between the graphic communications and packaging science departments at Clemson University. R. Andrew Hurley is the uber-designer of the Sonoco Institute and has a M.S. in Packaging Science. Hurley has a variety of packaging-related work experience, ongoing consulting work, prior full-time employment with three Fortune 500 companies, consulting initiatives with 20+ southeastern facilities and relationships with 50+ retail and vendor outlets.

The study was developed in conjunction with the FSEA to observe the effects of foil stamping on consumer interaction and test the hypothesis that **a package embellished with foil would increase attention to the product when compared to the same product without foil.**

- **Study Procedure**

The approximately 180 participants (30 for each control and 30 for each stimuli) were offered no incentives and participated in the study over three days. Demographic information was collected after the participant completed the study.

Participants were asked to wear Tobii glasses, which track pupil movements at 50hz/s (one-fiftieth of a cycle per second) and record the viewed scene with a forward-facing camera. Each participant was first calibrated with the glasses, then escorted into the CUshop to shop as normal. Next, the participant was handed a shopping list with a randomized listing of products. The participant was instructed to shop as they normally would and, when ready to make a selection, to write down the product code (between two and three digits) in the space provided on the shopping list. When complete, the participant exited the shop and filled out a survey on a computer.

In this study, disposable single-serve coffee packaging (commonly referred to by the brand name K-Cup) was chosen as the focus. Common brand names – including Maxwell House, Gevalia®, Donut Shop®, Green Mountain Coffee® and Keurig®'s proprietary brand Eight O'Clock®. – were placed on the grocery store shelves in the CUshop alongside packaging from the fake brand name Zapotec, which had been created specifically for this study.

The Zapotec coffee brand was tested with three package designs, each with a control (printed) design and a stimuli (enhanced with foil) design.

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- **Study Data Collection and Definitions** ⁴

Eye-tracking data was collected throughout the study and to aggregate data, IR markers were utilized to track the position of fixations on the shelf. The shelf was digitally organized in terms of “Areas of Interest” (AOIs) and “Areas of Analysis” (AOAs). From an eye-tracking perspective, AOAs allow researchers to **understand the total amount of time spent looking at a product category on a shelf** or how long it takes participants to view the general area of a product category. AOIs help researchers understand the influence of specific packages within a defined AOA.

AOI (Areas of Interest): A planogram, or product layout, was designed for the grocery stores shelves, and specific products were determined as the focus of observation. These were the packages (both stimuli and control) developed for the study and defined in the software for analysis, as well as the well-known brand name packages used for comparison purposes.

AOA (Areas of Analysis): Within the area of interest, the AOA is the product category, such as “coffee,” that was used to determine how long it took to find the package once a customer entered the product category.

Time to First Fixation (TFFF): The time, in seconds, from when a product first enters a participant’s field of view until they fixate on it (the lower the number, the higher the package performed)

Total Fixation Duration (TFD): The time, in seconds, spent on average by participants fixating on an item (the higher the number, the better the package performed)

Purchase decision (PD): How many participants chose to buy the item (the higher the better)

Study Results

Results are presented as graphs with a brief descriptor underneath each graph. These results are the interpretation of the FSEA, drawing from the data collected in a study conducted by Clemson University and the CUshop.



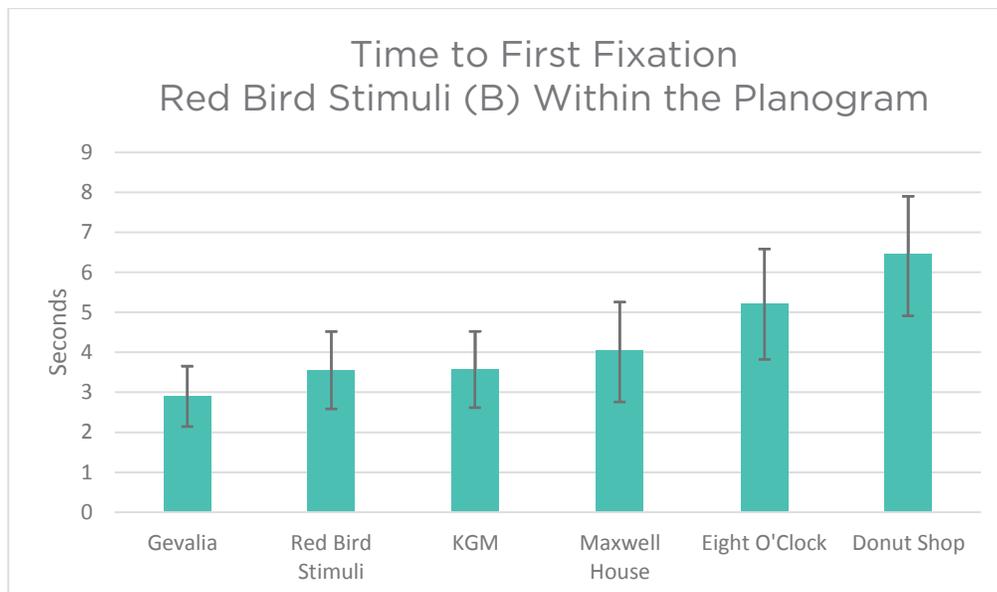
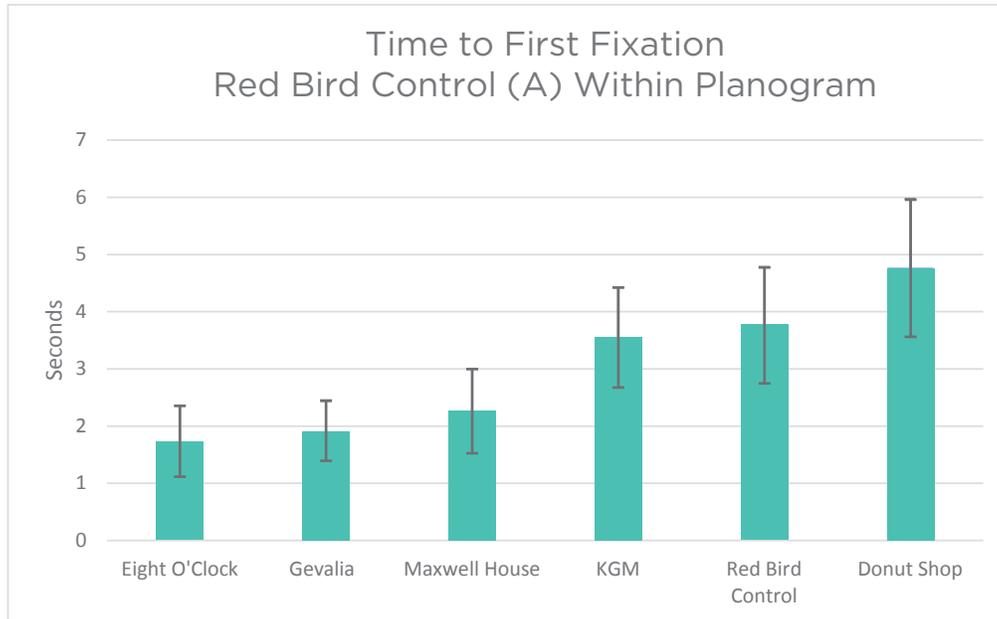
Time to First Fixation

In the first graph (see page 6), the red bird control (non-foil stamped) package was second to last in Time to First Fixation (TTF) when compared to the name brand packages of single-serve coffee cups. This result was not unexpected as the Zapotec brand was created solely for the study and had no name or brand recognition with the study participants.

In the second graph (see page 6), the red bird stimuli (foil stamped) package was placed on the shelf and outperformed all of the name brands in TTF, except Gevalia – demonstrating the enhanced Zapotec packaging outperformed brands such as Maxwell House, Donut Shop and KGM in attracting consumer attention quickly, despite the fact that the study participants had not previously been exposed to the brand.

...enhanced Zapotec packaging outperformed brands such as Maxwell House, Donut Shop and KGM in attracting consumer attention quickly...

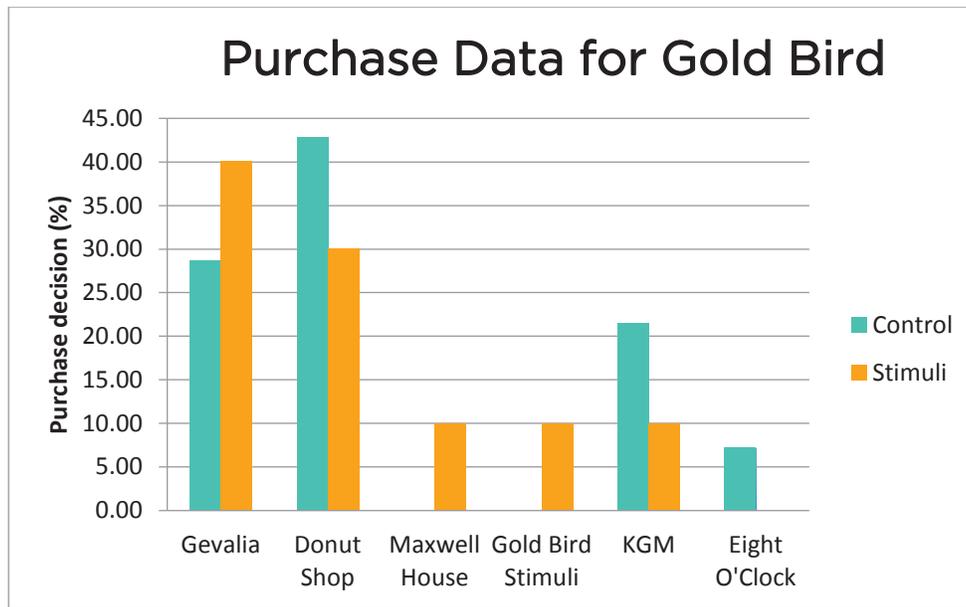
In reviewing the data, both the red bird control package and the red bird stimuli package have TTFFs of approximately 3.5 seconds. However, the TTFF when compared to the name brand packages differs significantly, **with the foil stamped packaging attracting attention faster than well-known brands.** The ability of a product to attract the shopper’s visual attention has a strong influence on a consumer’s decision to purchase, according to Tobii, the developer of the tracking eyeglasses technology.⁵



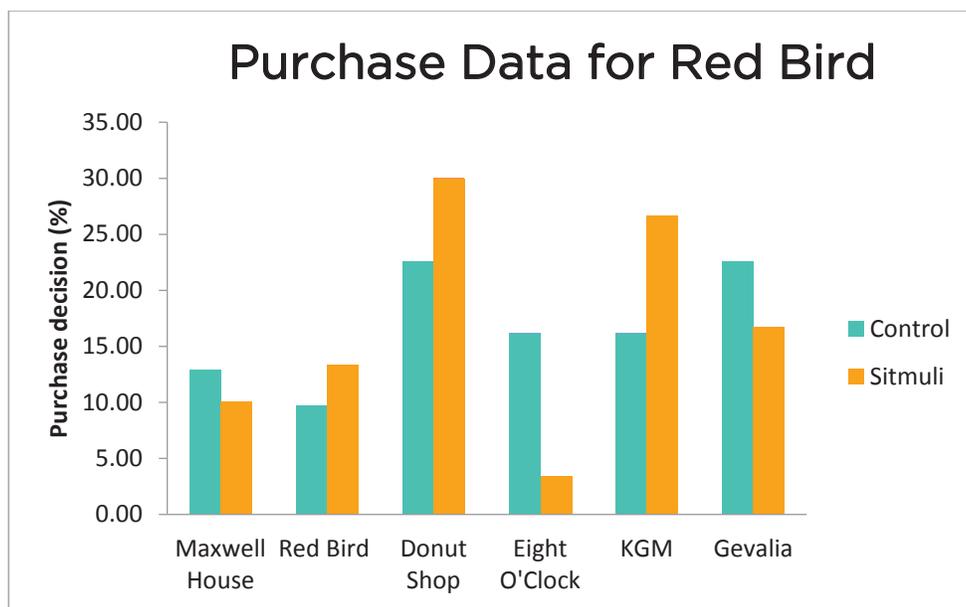
┌ Error bars indicate standard variability

Purchase Data

Purchase data also was monitored. The Zapotec coffee packaging with no foil enhancement (the control package) rated lowest among all brands for those making a purchase decision. Adding gold foil stamping to the Zapotec packaging, however, **attracted consumer attention that led shoppers to purchase the unknown coffee brand** just as often as Maxwell House and Green Mountain Coffee and more frequently than Eight O’Clock. Adding red foil stamping to the Zapotec package led participants in the study to choose fake brand Zapotec over Maxwell House and Eight O’Clock.



The addition of gold foil encouraged study participants to select the fake coffee brand as often as well-known brands Maxwell House and Green Mountain Coffee.

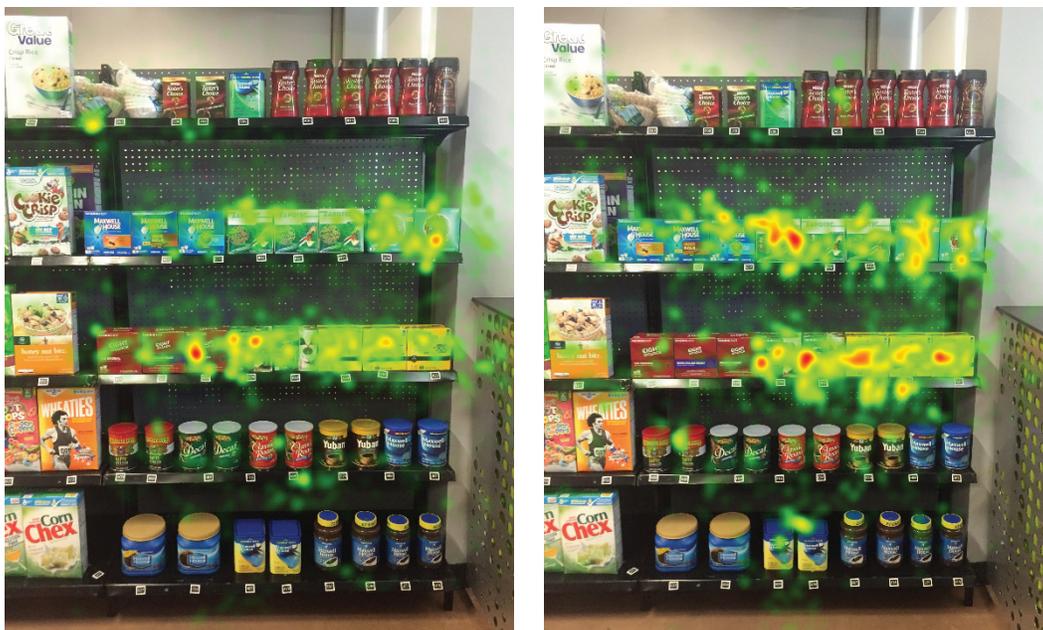


The addition of red foil encouraged study participants to select the fake coffee brand as often as well-known brands Maxwell House and Eight O’Clock.

The red stamp package showed no variation in purchase data between the control and stimuli, and study participants indicated they saw little difference in the package presentations of the red stamped design.

Attracting Consumer Attention

In addition to purchase decision, the Tobii glasses utilized in the study allowed the CUshop researchers to collect data on what caught the consumer's eye during the shopping experience. The red foil stamped area on the Zapotec red bird packaging **attracted the study participants' attention 1.5 times faster** than the same packaging without the high-visibility enhancement. The gold foil bird packaging (pictured below) increased the rate of attraction, with the foil stamped area looked at 2.5 times faster than the control package.



Control (A)

Stimuli (B)

The gold stamped package attracted study participants attention 2.5x faster than the control package.

While factors such as cost, brand loyalty and shelf location have significant influence on those making a purchase decision, **the ability to attract and keep attention on crowded retail shelves is critical** for brands looking for greater market share. The study data included additional information, including the following:

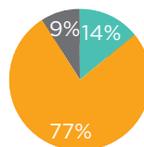
- The samples containing high-visibility enhancements achieved a Total Fixation Duration (TFD) that was longer than 50% of the name brand placeholders on the shelf. TFD is the time, in second, spent on average by participants fixating on the item. This confirms that the initial attraction due to the package enhancement had transitioned to attention.
- More than 46 percent of the study participants said they **perceived packages with specialty printing to be of higher quality**.
- When asked to compare the red stamp control and stimuli packages, 77% preferred the packaging with red foil.



Seventy-seven percent of study participants preferred the packaging with the red foil.

Which of the packages do you prefer?

■ A ■ B ■ Both are equally appealing



Executive Summary

Once thought to be applicable for only luxury items, foil stamping applications can be identified in many different markets. Grocery items, pharmaceutical products, social stationery, gaming cards and promotional displays now are commonplace applications for foil stamping enhancements.

In addition to adding to the perception of quality and providing security, foil also attracts attention. This is particularly critical when attempting to differentiate a product on a crowded supermarket shelf.

As quoted in the WestRock 2016 Packaging Matters™ Report, "... brands know what our data shows to be true. That packaging has a major impact on consumer purchasing behavior, including product trial, repeat and brand switching." The WestRock report also found "66% of consumers tried something new because the packaging caught their eye." ⁶

In this study, provided by the FSEA in partnership with Clemson University's Sonoco Institute of Packaging Design and Graphics, **correlations were shown between packages containing high-visibility enhancements and the attention of study participants in a consumer purchasing environment.** These correlations are particularly significant in when it is noted that the foil stamped package samples represented a fictional brand placed on a shelf amongst recognizable name brands in the product category.

1. How premium packaging can unleash shelf appeal, Carolyn Heneghan, Dec. 6, 2016, <http://www.fooddive.com/news/premium-food-packaging-design/431517/>
2. The 2015 American Pantry Study, <https://www2.deloitte.com/us/en/pages/consumer-business/articles/2015-american-pantry-study.html>
3. Global Packaging Trends 2017, Mintel Group Ltd., www.mintel.com/global-packaging-trends
4. Eye Tracking as a Tool in Package and Shelf Testing, Tobii Technology AB, November 2008. Definitions also provided by Dr. R. Andrew Hurley, Sonoco Institute of Packaging Design and Graphics at Clemson University
5. Eye Tracking as a Tool in Package and Shelf Testing, Tobii Technology AB, November 2008
6. WestRock 2016 Packaging Matters™ Report, <https://westrock.com/en/insights>

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