Behavioral Science: In-Store Eye-Tracking

By: Dawn Klingensmith

It’s too early to know how marketers might end up using the eye-tracking capabilities of Samsung’s recently launched Galaxy S4 smartphone. But it is clear that while eye-tracking technology has been evolving for more than a century, it’s the developmental strides occurring within the last three to five years that have made eye-tracking a standard practice among CPG companies seeking to understand shopper behavior in-aisle. They are documenting engagement with categories, brands, packaging and P-O-P displays and materials, and optimizing their in-store marketing efforts based on those observations and understandings.

“Researchers primarily use three modalities to achieve these objectives,” says professor Raymond Burke, director of the Customer Interface Laboratory at Indiana University’s Kelley School of Business. They are in-store testing with shopper intercepts, virtual simulation of a retail environment, and central location testing in a “mock store.” And a fourth modality, online testing, is emerging.

Driven by a desktop computer in most cases, the virtual simulation software these days is quite sophisticated, allowing users to go down aisles, select products and interact with them. The mock store, on the other hand, has actual aisles and products. Unlike in-store testing, the virtual and mock store experiments allow researchers to control and change up the shelf assortment and other conditions and factors.

Across modalities, the commonality is that eye-tracking gives marketers a “shoppers’ eye” view of the retail world for a richer and truer understanding of the shopping experience.

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No More Goggles

Eye-tracking technology is now cheaper and easier to use, and the hardware worn in-store by research subjects – typically glasses and a recording device – is less conspicuous and cumbersome “so shoppers don’t look or feel like they’re wearing space helmets and goggles,” Burke says.

If a prototypical eye-tracking system in the U.K. gains traction, you can add invisibility to the list of improvements. It not only won’t be necessary for shoppers to gear up, but without disclosure they might not even be aware they are being tracked. This innovation is called the “SideWays” project because it tracks shoppers’ eye fixations as they glance at shelves, calculating where their eyes are relative to the eye corners. Marketers might eventually use the technology for instantaneous, targeted advertising in-store based on the products a shopper looks at longest.

For the time being, though, mobile eye-tracking in-store still requires some form of eyewear. “What’s really evolved over the past several years is the unobtrusiveness of the gear,” says Scott Young, President, Perception Research Services, Teaneck, N.J.

Pioneered by Sweden-based Tobii Technology, the newer eyewear passes for ordinary glasses in most cases. “People lose any self-conscious feelings shortly after they put on the apparatus and are sent on their way,” says Lily Lev-Glick, founder and Chief Insights Officer, Shopper Sense, Closter, N.J. “We can see how other shoppers respond to people wearing them, and it’s either barely a glance or no glance at all. They just walk on by.”

Today’s mobile eye-tracking is relatively unobtrusive for the shopper.
Documenting the Data
Simply put, eye-tracking pinpoints and records precisely where shoppers are looking while in a real, virtual or mock store. Researchers can record the footage and go over it with the shopper afterward to acquire attitudinal data.

Typically, a camera on the glasses documents what the shopper sees, including macro-level shopping behavior, such as store navigation and category viewing patterns, as well as micro-level actions such as reading packaging and displays.

The glasses connect to a pocket-size recorder, and the data produces a heat map of the fixation readings. Colors are more intense in areas that drew more viewing fixations. Researchers can aggregate subjects’ results onto a single heat map.

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Sometimes researchers attach bands to testers’ heads to monitor brain-wave activity, and sometimes they track facial expressions. While not common, it’s even possible to use facial recognition technology to categorize the demographic profile of shoppers lingering at a shelf or display. “A key point I’d make about mobile eye-tracking is that it’s a valuable tool but only a piece of the puzzle. We almost always use it with observation at a more macro-level and follow-up interviewing,” Young says.

‘The Best Sign You’ve Never Seen’
After the diagnosis comes the doctoring. “We’re able to determine whether the messaging is seen and if it’s effective. And if it’s not, we’re able to suggest appropriate fixes,” says Jonathan Asher, Executive Vice President and Director of Account Management, Perception Research Services. “Without that learning, someone might look at sales data and not see the lift they had hoped for after introducing new POS and conclude that the message wasn’t right, when in fact, the message may have been spot-on but the problem is that no one saw it.”

That’s exactly what happened to Anheuser-Busch InBev, a Perception Research Services client. The company deployed what was thought to be an eye-grabbing overhead display, but eye-tracking revealed that its visibility was “close to zero,” Young says. Yet when consumers evaluated the same sign outside the store environment, it resonated.

“The signage was wonderful when people were forced to see it,” Young says, adding that the team dubbed the display “the best sign you’ve never seen.”

Several of the ceiling-based signs in that same study, which were completely missed by shoppers, were among the most emotionally compelling to shoppers when they later saw them upon forced exposure. Conversely, some of the most visible displays were not particularly compelling. As a best practice, therefore, “marketers should think of visibility and content as two separate and equally important drivers of in-store success,” Young says.

The other key finding from this and other studies is “we now know people use overhead signage to navigate, but once they’re in the aisle, their view is straight forward or slightly downward,” Young says.

This held true across dozens of eye-tracking videos, across countries and multiple stores. “We did not see a single shopper look upward to engage with overhead promotional signage.”

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The Right Modality for the Job
Because there is so much money at stake, “In the research world, you have to be open to all the modalities. They all have their place,” Lev-Glick says.

Indeed, powerhouses like Procter & Gamble, Unilever and Kimberly-Clark (KCC) are using eye-tracking with three-dimensional computer simulations of store layouts and product designs. KCC used computer screens equipped with eye-tracking cameras when testing packaging for its Viva paper towels three years ago. It wanted to find out which designs got noticed in the first 10 seconds a shopper looked at a shelf. “By measuring the shopper’s response to different designs, KCC deciphered what caught shoppers’ attention, the most common starting point and the viewing sequence,” the Wall Street Journal reported.

Although virtual testing is widely embraced now, “Earlier on, people tended to make eye-tracking studies more complicated than they needed to be,” says Rich Scamehorn, Co-
His assertion jibes with “research on research” conducted by Vancouver-based Vision Critical. The global market research specialist and software developer found that “virtual eye-tracking is a suitable substitute for traditional eye-tracking when used to evaluate packaging or the physical presentation of products and displays [i.e., retail display shelves],” according to its report “Virtual Shopping Myth Busters: Virtual Eye-Tracking vs. Traditional Eye-Tracking.”

Virtual makes sense especially when researchers “need to change things out a lot, swap out planograms or try different shelf configurations, which wouldn’t be feasible in-store,” Lev-Glick says.

There are a number of virtual eye-tracking solutions on the market. Some vendors, such as Red Dot Square, offer a database of simulated environments such as Safeway, Kroger and Walmart. While some systems use a normal computer monitor, the Perception Research Services system projects nearly life-size scenes onto a wall to correspond with a shopper’s actual field of vision at the shelf.

There are disadvantages in all methods. “In some research scenarios people “purchase” more products than usual treating it like a video game rather than acting as they would in a physical store,” Burke says. In addition, “Desktop displays tend to get a central bias – people look at the middle of the screen, which sort of makes sense because that’s the window you’ve created for them,” he adds.

Perhaps the biggest disadvantage of virtual stores is that they can’t come close to replicating an actual shopping experience and its onslaught of stimuli. And the full sensory experience is definitely needed for some types of testing. Say, for example, that you’re considering a switch from glass to plastic packaging. “The heft of the package is important,” Scamehorn says. “There are circumstances like that when senses besides sight are important, and you can’t model that virtually.”

‘No Better Place’ than In-Store

Though in-store testing also has its difficulties, “When done well, it can provide really insightful and powerful information,” Lev-Glick says. “There’s no better place to be than in-store to see how shoppers behave and what they see and how they move in that environment.”

The “bigger picture of the store” is sometimes necessary for context to determine why shoppers behave the way they do, says Steve Sands, Chairman and Chief Science Officer, Sands Research, El Paso, TX. “When people are in the store it’s a very global experience, and the global surroundings – not just localized considerations like packaging – can help you answer questions like, ‘What are the cues in the aisle that lead to a purchase?’ We’ve found out that decisions are made way in advance of selection and purchase.”

Endcaps are a case in point, says Sands, “Usually people don’t buy from the endcap, surprisingly, but they use it as a guidepost. I can’t tell you how many times people will stare and stare and stare at an item and then walk down the aisle and buy the very same thing they could have gotten from the endcap.”

Getting permission from retailers to conduct eye-tracking isn’t easy. “The research has to benefit the retailer at least as much as the brand for them to approve it,” says Scamehorn, previously a consumer insights and in-store testing manager for General Mills.

Often, virtual eye-tracking pretests a concept that is later tested in-store. And sometimes in-store findings send researchers back to the mock store lab.

Source: Path to Purchase Institute/Shopper Marketing

Executive Summary

- Eye-tracking technologies continue to evolve. Samsung even included the capability on its recently released Galaxy S4 smartphone.

- CPG companies are using eye-tracking in its various forms to understand shopper behavior by documenting their engagement with brands, packaging, categories, etc.

- Eye-tracking primarily takes three forms: in-store, virtual and mock store. Recently, online testing capabilities through webcams have emerged.

- Typically, eye-tracking glasses connect to a recorder, and the data produces a heat map of the fixation readings.

- Anheuser-Busch InBev used eye-tracking to learn that shoppers were not seeing an overhead P-O-P sign. Once in the aisle, shoppers looked straight forward or downward.

- INSTITUTE POV:

While some systems use a normal computer monitor for virtual shopping, the Perception Research Services system projects nearly life-size scenes onto a wall to correspond with a shopper’s actual field of vision at the shelf.