nimbus
virtual shopping system

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Nimbus Reveals Shopping Styles

Nimbus' dynamic eye tracking and virtual shopping system uses the eye gaze as a portal to the consumers' conscious thought processes as shoppers maneuver down the grocery aisle and consider buying products from the shelf.

Since as much as 70% of the decision process is thought to occur in the store and in front of the shelf, Nimbus is capturing all of the subtle eye movements that occur when that decision making process is unfolding. The eye may be attracted by a POS sign before focusing on the product facing. Then the shopper's gaze falls on the price before going back to the product again. The product may be picked up and examined more closely. Then it may be put in the shopping basket or returned to the shelf. These eye movements taken together provide critical clues as to how the purchase decision is arrived at.

Through deep pattern analyses, Nimbus identifies different types of shoppers' needs and interprets which of the multiple stimuli are most effective in eliciting brand purchase. This interpretative eye tracking delivers real value to increasing category volume and optimizing the use of marketing dollars.

Gaze Patterns Reveal Consumers' Shopping Styles

Nimbus interpretative eye tracking has captured a wide range of gaze tracks through our field research:

Spontaneous Gaze Tracks – occurs when the shopper views the aisle without any specific task in mind. The gaze pattern is controlled by patterns such as novelty, complexity, incongruity where there is a lot of information content that needs to be examined.

Task-relevant Gaze Tracks – observed when the shopper has a particular task or end-goal. Thus, the shopper is seeking information of a special kind and the eye gaze pattern is affected.

Preoccupied Gaze Tracks – occurs when shoppers are not paying much attention to where they are looking but is attending to some "inner thought" or when other members of the shopper's family are present.

Manipulatory Gaze Track – becomes operative when the shopper looking is looking at a specific item on the shelf with the intention of manipulating it. The subject is now more than a passive observer but interacts with the virtual environment.

Sequential Pattern Analysis

Taken by itself a person's gaze can be directly analyzed using conventional eye tracking metrics. The path of the gaze indicates where the points of interest are while the dwell time indicates the level of interest. These metrics are both useful and revealing by: 1) helping designers improve product packaging, 2) guiding the design of a more successful planograms, or 3) identifying which POS signs are more effective. When multiple gaze tracks are analyzed even more information is available. One of the most useful techniques utilizes the same technology used to analyze DNA sequences – sequential pattern analysis.

Sequential pattern analysis retains the temporal nature of the gaze track and overlays the observed behavior. Did the shopper pick up the product after seeing the shelf advertisement? How influential was price in the ultimate decision to purchase the product or return it to the shelf? Did the shopper compare multiple products in the same category? Nimbus recreates the real shopping experience in a virtual world that allows these questions as well as many others to be answered. The benefit to category management is a marketing decision tool that gives precise metrics on multiple issues facing managers who have to respond to dynamic changes in the marketplace.

Uncovering Shopper Insights

To help provide category managers with nearly real time answers, we first establish a baseline study using Nimbus. This study serves to synchronize the Nimbus output to volumetric data derived from traditional data streams such as scan data from retailers or syndicated panel data. We have taken a close look at some of the latest survey data that is coming on stream, including PRIZM and have positioned Nimbus as the marketing decision tool that completes the circle of knowledge around the shopper purchase decision process. These more traditional sources provide inventory and movement data by category and individual SKU. Syndicated panel studies provide market basket analysis for shopper segments as defined by demographics or lifestyle. PRIZM adds a new component for in-store metrics by measuring shopper traffic as people move down an aisle and past the category in a store where this system is enabled. Even with the latest advances, none of these data sources however reveals how or why the consumer makes that final purchase decision, which is precisely what Nimbus is designed to discover.

The baseline study employs the current planograms that are in place within the retail environment being studied. A Nimbus panel that is representative of shoppers for that retail environment (channel, geographic coverage, and retailer positioning) is recruited. Pricing levels and other promotional activities are set under steady state assumptions. Within a specific retail environment, about 400 respondents are adequate to establish a reliable baseline. The output from the Nimbus study is

synchronized with the independently derived volumetric data coming from the retailer's own scan data. A further refinement includes synchronizing the data for individual shopper segments, this might require a 50% increase in sample size.

Granularity of Data

The reason that interpretative eye tracking can be so revealing of the shopper's decision making process is due to the fine granularity of the data. This granularity goes well below the interaction of the shopper with the SKU. It goes down to the interactions of gaze falling on price, manipulation of the item, reading of the label and other revealing behavior that is captured in a single integrated data stream for that virtual shopper. This granularity echoes the granularity evidenced in the real world and therefore provides robust support for the pattern analysis that reveals the very fundamental consumer thinking at that critical juncture when the shopper is standing in front of the aisle and considering purchasing a specific item.

The data includes the shopper ID, SKU, POV of the shopping trip, shopping environment including shelf arrangement and facings and various combinations of shopper controlled behavior that include viewing ad, viewing price tag, viewing POS, examining product more closely, reading back of label, putting the product back on the shelf, taking the product off the shelf again, looking at a competitive product in the same category, placing the product in the shopping basket, removing the product from the shopping basket and finally going through the check-out line.

Controlling Shopping Stimuli and Shopping Styles

Nimbus provides complete control over the various stimuli that are used to evoke purchase. These stimuli include introducing new package designs, new labeling, changes in retail price, impact of promotional pricing, changes in shelf arrangement, changes in the number of facings, and the impact of new brands being introduced into a category. Unlike other studies like conjoint analysis, Nimbus provides a true measure of a shopper's response to a change in the stimuli within the same dynamic environment as a real grocery store. We can modify the directions given to the virtual shoppers that define the kind of shopping trip they are on. We can put budget and time limits on the shopping trip. We can control the ambient noise or distraction that may be present in the real store and we can change the store configuration to highlight direct comparative buying of competitive products.

Dynamic Updating of Category Management Plans

With the baseline in place and the ability to introduce changes in study plan that mimic changes in the marketplace, Nimbus can be called on as a tracking study tool with a small ongoing panel study that is monitoring the dynamics of shopper marketing over time. The benefit of the tracking study is that the category management plan can be updated almost instantly with metrics that reflect the latest changes in the marketplace.

Nimbus offers a unified methodology across all stages of the product/package development cycle that yields consistent results for more robust shopper insights. The integration of multiple studies within one coherent research tool also results in quicker turnaround time for NPD projects since results from one lead to and support the findings from the successive studies. Best of all integrated research studies lower the cost of developing and launching new products at a time when clients are looking for more cost effective solutions.

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