



Sales Strategies of the Future -

Neuroscience can explain customers' unconscious buying behavior

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Sales Strategies of the Future

Neuroscience can explain customers' unconscious buying behavior and identify the ideal price promotion and in-store marketing strategy



Imagine customers walking into your store and treating your in-store marketing measures as valuable information and guidance. Imagine them buying the suggested products with price promotions that are attractive to them and nonetheless beneficial to you. Advanced neuroscientific technologies and the Deloitte Neuroscience Institute help to bring this vision to life, creating the perfect shopping experience and instantly increasing customer satisfaction and sales.

Insights into human behavior are crucial to all areas of business, including customer decision-making at the point of sale. In retail, identifying customer perception of shop design, in-store marketing and price promotions is imperative to keep ahead of strong competition. There are multiple ways of gathering such information. However, conventional measures like guided interviews produce data that is subject to both conscious manipulation and unconscious bias. The problem is that interviewees tend to give socially desirable answers and this affects data quality and limits the efficacy of the resulting actions. By contrast, unconscious brain signals and other neuroscientific measures modulate decision making and are far less susceptible to manipulation or bias (Knutson, 2007; Berns & Moore, 2012; Falk et al., 2012); they allow us to investigate authentic customer behavior without disrupting the customer journey (Briesemeister, 2016). Therefore, neuroscience can add valuable insights into what truly shapes customer motivation and satisfaction, beyond the conventional measures.

Applying established neuroscientific methods, such as electroencephalography (EEG) and eye tracking, helps to gain additional information beyond what customers consciously perceive. Leading companies like Google, Microsoft and Daimler already integrate neuroscientific research into their businesses - with great success (Sahu & Sin, 2013).

It is easy to understand why many companies apply neuroscientific research to optimize their business strategies. As part of a project for a major consumer electronics retailer, the Deloitte Neuroscience Institute conducted two independent test modules to investigate the perception of both shop design and price promotions. Deloitte was able to identify the most suitable in-store marketing measures and to find the price promotions perceived as most attractive, resulting in increased customer satisfaction and driving sales. These findings generate remarkable value for companies that aim to enhance their understanding of customer behavior in retail. Businesses can consequently improve their shop design and pricing strategy according to their customers' unconscious preferences.

With the help of neuroscience, companies can dramatically improve their customer understanding, create better experiences and considerably advance their overall retail performance.



A recent study predicted the popularity of songs by largely unknown artists by using functional magnetic resonance imaging to measure activity in reward-related regions of the brain. While subjective likeability as stated in questionnaires was not a predictor of sales, activity within the ventral striatum significantly correlated with the number of units sold. Neural responses generalize to the population at large and may be used to predict cultural popularity and sales (Berns & Moore, 2012).

Learn how shop design and in-store marketing can impact customer experience and behavior

This joint study focused on analyzing shop design, in-store marketing and its effect on customer experience, decision-making, and buying behavior at the point of sale.



Shop Design. The customer experience within a store is influenced by interactions with different touchpoints. Typical touchpoints are product displays, including the shelves, in-store marketing measures, store orientation, and the cashier situation. These aspects of shops are often decided by marketers based on a limited marketing budget and without any data that could justify higher investment on the grounds of higher potential ROI. Today, neuroscience can reveal and quantify the perception of touchpoints, and enable purposeful business decisions founded on tangible numbers. Our methods provide our clients with insights on how to create a lean and cost-efficient yet future-proof in-store sales strategy.

Scope of Study. The Deloitte Neuroscience Institute examines and quantifies touchpoint perception. Our studies use neuroscientific methods to identify positive and negative emotions as well as ways of directing the gaze. From these findings, Deloitte makes suggestions for minimizing pain points, accurately predicting customer behavior based on all levers, and finally maximizing customer enjoyment throughout their journey through the shop. To narrow down recommendations, this study focused on the perception of in-store product displays.

Product Displays. Marketers often use multiple product displays distributed through the store. They act as sales drivers and may take various forms: For instance, a consumer electronics product like a video game can be displayed on an in-store shelf close to similar games, on an individual stall at the shop entrance or on a promotional display close to the cashier. The Deloitte Neuroscience Institute employed neuroscientific measurements to investigate the following aspects:

- **Number and kind of displays detected**
- **Implicit attractiveness of displays**
- **Displays of product choice**
- **Choice of brand**

The experiments were set up in a real physical store during normal opening hours to simulate a real-life shopping experience. A customer group was instructed to buy items in preselected categories according to a shopping list provided. The list included the category that the shopper was most interested in, with products from this category available on different displays within the shop. Wearable equipment allowed participants to enjoy a comfortable and natural shopping experience.

Neuroscientific Measures



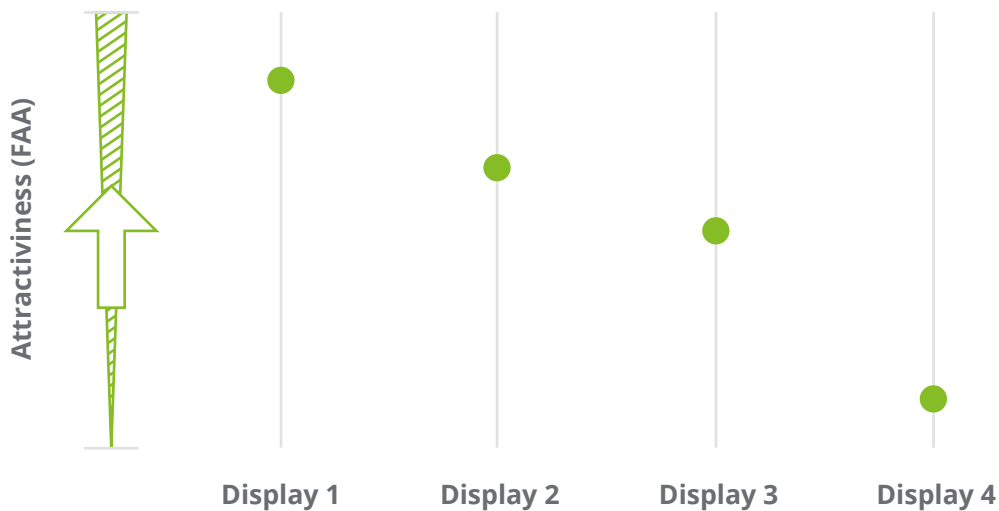
Electroencephalography (EEG). EEG is a non-invasive method for directly measuring brain activity. It is traditionally applied in medical diagnostics and neuropsychological research. The wearable recording device is similar to a pair of large headphones and is worn on the participant's head. EEG data are analyzed offline and allow us to understand specific unconscious emotions and thinking processes.

Frontal Alpha Asymmetry (FAA). Frontal EEG signals of a specific frequency indicate whether someone feels motivated or demotivated by a stimulus. FAA can be applied to measure the attractiveness of customer stimuli.

Eye Tracking. Eye Tracking measures a person's eye movements and focus points, identifying gaze paths and areas of interest. In the present study, the eye tracking glasses used were wearable devices that look like a pair of sports glasses and allow people to move freely while wearing the device.

Key Findings. The implicit attractiveness of product displays was perceived very differently, with one specific kind of display (Display 1) seen as the most attractive.

Fig. 1 – Exemplary visualization. Product displays were ranked by implicit attractiveness based on FAA data



Interestingly, most purchase decisions took place at another kind of display (Display 4), which offers a large selection of products but was not perceived very positively. In the majority of cases, the implicit attractiveness of displays did not follow an upward or downward trend depending on the order of perception; this leads to the following client recommendations:

- **Maintain high investment in and continuous optimization of the display that is the most important location for buying decisions.**
- **Use branded product displays or displays near the cashier, where they are perceived best in terms of implicit attractiveness.**

Furthermore, the placement of product displays within the store had a strong influence on their perceived attractiveness: Displays close to the entrance were perceived differently than those near the check-out zone.

- **Choose specific display locations to be at a certain part of a shopping journey where customers are more receptive and perceive identical displays more positively at this point.**

Maximize sales by identifying the most suitable price promotion strategy

Decision-making is far less rational than marketers may initially think (Kahneman & Tversky, 1979). When aiming to predict and drive sales, important levers like the price of a product and potential promotions addressing the price need to be positioned with consideration to both unconscious and conventional economic factors.

For this purpose, neuroscientific methods can reliably detect customers' preferences and their reactions to price promotions. Knowing which promotion types work best for certain products and customers will dramatically improve both general customer understanding and revenue.




Price Promotion. Price promotions are forms of price communication that are usually based on a discount for a product or service. While every approach is unique,

pricing incentives are generally intended to bring in customers, drive revenue and turn over inventory. Sample promotions for a product costing € 6.99 are listed below:

Fig. 2 – Exemplary price promotions ranked by rational assumption of attractiveness (lowest final price per unit)

Price Promotions	Most attractive	Price
50% off		€ 3.49
2 for 1		€ 3.49
30% off		€ 4.89
...		...
2 nd half price		€ 5.24
Normal price		€6.99
Bestseller		€ 6.99
	Least attractive	

Scope of Study. In a second study for the consumer electronics retailer, the Deloitte Neuroscience Institute designed an experiment showing participants samples of different price promotions to measure both explicit and implicit (unconscious) motivation to buy. The scope was to identify the price promotion that is most attractive to customers and maximizes profit on a durable product for the company.



Motivation to buy. EEG frontal alpha asymmetry can identify consumers' motivation to buy. The interpretation of these brain signals shows positive and negative motivation measured during the buying situation, resulting in a decision for or against the product.



Key Findings. As expected, consumers saw themselves as rational and promotion-sensitive in their explicit statements. By contrast, EEG measurements revealed that

implicit willingness to pay largely deviates from the rational order of price. Recommendations follow:

Fig. 3 – Example of rational ranking on the left and ranking generated using sample neuroscientific data on the right, demonstrating a potential reversal of conscious and unconscious perception



- Chose promotions with the best implicit perception, which is not necessarily the one with the lowest price.

Even when it might rationally be the least favored option, the “Bestseller” promotion can result in the highest motivation to buy. Neuroscientific insights thus align with the concept of social proof, which suggests that customers tend to buy products that are popular with others. The fact that a product is bought frequently promotes its value in a social context, so that non-buyers trust in the buying decision of the majority, in line with the concept of crowd intelligence.

- Regardless of participants’ explicit statements, consider popularity promotions when aiming for effective marketing measures.

By comparing the client’s product with competitor products, the implicit perception of price promotions proves to be generalizable across the product category. Evidentially, neuroscience can identify the promotions that actually motivate customers to buy the product.

Further Evidence. “Popularity cues provide social validation for product quality. The fact that many people prefer or have purchased the product implies that the product must be good” (Wu & Lee, Journal of Retailing, 2016)

Keep differences between customers in mind to adapt retail strategy to your preferred target group

When creating the perfect shopping experience, it is crucial to consider customers as human beings with individual personalities. Marketers often find it easiest to view them as one entity, but this way of thinking falls short. Instead, consider all available customer data to make sales predictions and derived strategy adjustments more precise. To ensure an intelligent and efficient overview, the Deloitte Neuroscience Institute uses customer segments derived from psychological analysis.

In contrast to conventional customer segmentation, which focuses on observable buying behavior, psychologically-based segmentation allows us to understand the underlying motivation for buying decisions. Findings are thus more generalizable onto a variety of retail situations and produce stronger implications for strategic marketing planning.

Scope of Study. By considering different kinds of motivation, companies can identify different reasons and patterns of buying and improve their businesses in general. Psychological types as given by Bischof (2013) were measured within our retail client's customer population using a standardized questionnaire. Results were correlated with buying behavior and implicit product perception as measured by EEG.

Key Findings. Using multiple scientific measures, buyers were found to differ significantly from non-buyers in terms of their implicit shopping motivations. Buyers were clearly identified with one of the psychological types and primarily bought the client's product compared to competitors' products and made more use of certain product displays in the store, e.g. the promotional display near the cashier.

- **Adapt product communication to match buyers' preferences to strengthen the brand and secure the existing customer base.**

Also, non-buyers identified more with another psychological type, which means their focus in decision-making is different from the buyers. This affects their product choice insofar as they prefer to opt for a different kind of product.

- **Consider the specific motivation of non-buyers to target new customers while considering the preferences of existing customers.**

Finally, segmentation based on psychological and neuroscientific measures allows companies to address customers more individually while gaining further knowledge about their unconscious buying motivation. Often, marketing measures have no specific target, so they can be redesigned to match specific customers' preferences at specific locations, resulting in higher sales numbers and business growth.



The Zurich Model of Social Motivation (Bischof 2013).

The Zurich Model is an example of a psychological model of motivation system interdependencies. It defines three types of people with different social motivations:

Autonomy: Motivated by success, high values, driven by ambition

Security: Motivated by situations that are familiar and socially accepted

Arousal: Motivated by new and exciting experiences

The motivation system shows simple control loops which interconnect and form a complex dynamic. The set point of the autonomy system controls those of the other systems.

Neuroscience is essential for understanding human buying patterns, both conscious and unconscious

With the profound business experience of Deloitte Consulting and the innovative measures applied by its Neuroscience Institute, our clients can decode the unconscious reasoning behind customers' buying

behavior. They finally understand how their customers think and feel and in consequence sustainably improve their quantitative and qualitative retail performance as a result of making strategic decisions:

- 1.** Reduce disruptive factors in shop design to optimize customer experience
- 2.** Use the most attractive product displays to enhance customer satisfaction and maximize retail performance
- 3.** Identify the most suitable promotion strategies to increase revenue
- 4.** Create tailored marketing and portfolio strategies to reach preferred target groups

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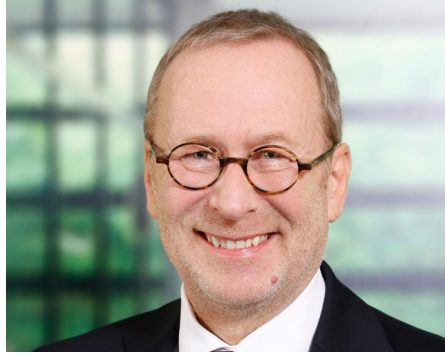
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