

The Effect of Neuromarketing Elements at the Pos on the Consumer's Decision Making Process in the Retail Sector

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Abstract: The aim of this study was to outline the effect of neuromarketing on product presentation at the point of sale in the retail sector. Presented theories help to understand the different tools of neuromarketing. Design elements at the POS and forms of product presentation are discussed in order to realize how these elements influence purchasing behaviour. The data from the quantitative study depicted a significant correlation between dwelling time and money spent in the store. Moreover, people buy more when they make use of product tastings in stores and they spend most for their own consumption coupled with the purchase of a gift. However, it could not be proven that the scent in the shop is essential for the positive perception of the atmosphere.

Key words: neuromarketing; retail sector; consumer behaviour; decision making

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1. Initial Situation

Nowadays humans are overloaded with an explosion of information and are paced with the problem of information excess or customer confusion (Scheier & Held, 2010, p. 152). The human brain can only process a limited amount of data and yet people are confronted with so much information every day. This is a reason why we should become aware of the unconscious process in the mind of customers (Felix, 2008, p. 2). Today's retail environment is characterized by high market saturation and this result in a decreasing product involvement (Traindl, 2007, p. 49). Researchers estimate that 95% of all advertising media contacts are low involvement (Scheier & Held, 2010, p. 152).

A very important fact is that most of the decisions are based on unconscious processes (Häusel, 2007, p. 10) and more than 70% of purchasing decisions are made spontaneously and impulsively directly at the POS (Kreutzer & Merkle, 2008, p. 310). Other than sales promotion, concepts which create further value, for example emotionalisation, contribute significantly to influencing and encouraging the consumer's buying decision (Gerling & Lohmann, 2010, p. 229).

Whether a customer feels or does not feel comfortable in a shop can also be a major factor in the decision making process. It is important to imply an undisturbed sense of wellbeing at the POS. In this way a rational purchase can become a positive and emotional experience which remains longer in one's memory (Jäggi & Portmann, 2010, p. 206). Emotions have an influence on purchasing decisions and emotions are formed in the

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brain (Pispers & Dabrowski, 2011, p. 54).

It is important to recognize the link between economics and neuroscience in order to understand unconscious processes and decisions made in the mind of customers. Neuromarketing helps to explain the process of the brain and human behaviour. It is essential to understand how customers make their decisions in order to increase product sales (Labude, 2008, pp. 7, 11) and to direct the attention of the customer in order to gain positive effects (Pispers & Dabrowski, 2011, p. 48). Therefore this empirical study aims at analyzing how certain neuromarketing elements influence the customer's purchase decision at the POS. The retail sector in general and in particular an Austrian medium-sized specialty retailer was selected as an example.

1.1 Neuromarketing Elements at the POS

The basic of product placement is the determination of the exact position a product is placed at the POS (Witzler & Pavelka, 2007, p. 57). The central task is to decide where to place individual goods, product groups or product areas, on the sales floor, on shelves in which form and to what extent (Zielke, 2002, pp. 9-10).

Brand awareness, quality and price are just a few factors that influence a consumer's decision making process and buying behavior in a shop. Product presentation is so important because it is often the decisive incentive for an impulse purchase. Therefore, a meaningful placement of goods should influence the behavior of consumers. An essential fact is, that stimuli from product presentation engage the attention of the customer (Hurth, 2006, p. 146).

The way a product is presented is very important because the product has to stand out, otherwise the customer does not even notice it (Häusel, 2008, p. 215). The consumer only takes notice of product presentation if it is emotionally interesting. Emotionally uninteresting (neutral) subjects are usually not even noticed by the customer (Häusel, 2007, p. 53) and as a consequence not purchased.

Nowadays retailers use more and more different forms of neuromarketing elements at the POS. Within this study four important neuromarketing elements are selected for further research to attract the attention of the customer in the store: product tastings, decoration, scent and displays. Those elements have been chosen because they are the most frequently used elements in the Austrian retail sector.

Product tasting is an unwrapped product which is usually presented by staff or a promoter in small units for the customer to consume directly in the shop (Frey, Hunstiger, & Dräger, 2011, p. 349). An important fact is that almost 90% of all food products are flops because the customer has never tried them, but not because they so not like them (Underhill, 2012, p. 195).

Different tasting samples can engage the consumers directly in the food experience and stimulate them to buy (Morrison & Mundell, 2012, p. 85). They can also reduce uncertainty for customers. Also attitudes which are reached by tasting are stronger and safer than through advertising (Lotzkat, 2013, p. 30). Any time products are displayed as a sample, it is important that they can be seen by other consumers while they are being enjoyed by another. It is essential to stimulate desire and to move the consumer to purchase (Pradeep, 2010, p. 50). Furthermore, due to the scent of a product tasting, customers can be led to special shelves where they can also gain more information about the product (Haug, 2012, p. 69).

Decoration can help to attract consumers and entice them to stay longer, feel comfortable and buy more products. The primary function of decoration is promotion. It also affects the atmosphere of the sales room (Schenk, 2007, p. 187). The product placement is enhanced with an attractive object and it can thereby support promotion activities (Folten, 2007, p. 43). Furthermore, decorations should be pointed and targeted and the theme should be repeated at least once in the sales room (Beer & Rutschke, 2011, p. 194). Moreover, decorations should

follow a special schedule which is often changed. For example, daily products should change every week and all other products should be presented differently every three weeks (Pepels, 2012, p. 1220).

Decoration is an experience element and not only traditional decorative materials, wall coverings or art should be used. Pieces which are not involved with the branch or rarities make the heart beat faster. This creates a surprise effect and this can be used intensively in decoration (Schenk, 2007, pp. 187-188). A slightly appealing form of decoration can raise the buying mood (Biehl-Missal, 2011, p. 62). As a consequence, it can be seen that this element also plays an important role and therefore should not be ignored by shopkeepers.

The display is a special form of product presentation at the POS. It is possible to generate the customer's attention with a prominent design type and this encourages spontaneous purchases. A display in isolated form can also suggest a special offer (Lotzkat, 2013, pp. 19-20, 236) because they are often used as a sales aid for sales. Mostly, displays are made out of cardboard, plastic, wood or metal. They are additional product shelving as well as the permanent place on the shelf (Frey, Hunstiger, & Dräger, 2011, p. 303).

In practice, four different types of displays are distinguished: sale display (floor or cash desk display), pallet displays, presentation displays (especially for information materials) and permanent displays (Schröder, 2012, p. 181). The preferred locations for displays are checkout areas, contact points, service zones, aisles and near product magnets (Pflaum & Eisenmann, 1988, p. 152).

The sense of smell probably has the highest unconscious effect, because it reaches straightforward to our emotional centres in the brain (Häusel, 2013, p. 31). The nose transmits its impulses directly to the limbic system. As previously mentioned emotions and instincts are located in the limbic system. It reacts in a split second to fragrance stimulus (Gutjahr, 2011, p. 171). How people rate odour and how they react, depends on the memories. Odour is never neutral, because they are interpreted emotionally and rated subjectively (Gutjahr, 2011, p. 172).

Due to the scents, providers of products and services have a further design tool available. It is an ideal anchor point for an experience-oriented multi-sensual presentation due to its ability to elicit emotions and experiences. The potential that lies in the emotional effects goes far beyond other stimulus because of the very early evolutionary origin of smell (Knoblich, Scharf, & Schubert, 2003, p. 5).

The main objective of "scent management" in the retail sector is to keep the customer in the store as long as possible. The longer a customer stays, the more he buys (Häusel, 2005, p. 181). Scents are used both to increase sales, as previously mentioned, at the point of sale and also in the context of multi-sensory branding to increase the value of a brand. Smells can trigger direct expectations of the consumer. For example, a customer assumes that if something smells good, it is not harmful (food), probably delicious in flavour and may cost more (Nölke & Gierke, 2011, pp. 129-130).

The right scent can even make people cooperative. The effect of these scents is based on a simple scent association, since all of these smells are already associated with the products (Rushkoff, 2000, p. 114). Scents do not just brand stores but they also evoke emotional response, as previously mentioned, people can become more cooperative. Furthermore they can feel more relaxed, peppy, or nostalgic. Because of this strong impact on the mood of the customers, is it possible, for scents to have desired effects on shopping behaviour (Ebster & Garaus, 2011, p. 121).

1.2 Methodology

The aim of this study was to find out if at all and how four selected neuromarketing elements can influence a consumer's purchase decision at the POS and increase product sales.

For the empirical analysis two different methods were used. Central for this study was the observation of the

customers (n = 100) in two carefully selected specialty retail shops. Additionally a face-2-face interview was conducted to gain information from the customer's perspective and to validate the observations. Moreover, the shopper routes and walking patterns in the stores were observed in order to gain a better insight in the shopping behaviour of the customers. For the entire empirical study two very well-frequented franchise stores of an Austrian grocery retailer were selected and observed during a period of four weeks. The observation of this empirical research was hidden, not participating and not intervening. The emphasis was on the occurrences and actions of the various surveyed persons using an observation template.

2. Empirical Results

2.1 Hypothesis Tests

The following hypotheses, based on the literature review, were set up and tested with the statistic program SPSS.

H1: Customers with a higher dwelling time in the store buy more (purchase total)

To prove this hypothesis a correlation analysis was made. The variables "dwell time in the store" and "purchase price" (money spent on products) were used. The Spearman correlation test shows significant results ($r = 0.457^{**}$). The analysis shows that customers with a higher dwelling time in the store buy more.

H2: Customers which taste products directly in the store buy more.

As it can be seen 19 participants made use of the product tasting in the shops.

Table 1 Ranks-Participants Tasted Products

Ranks				
	Participants tasted products	N	Mean rank	Sum of ranks
Purchase price	Yes	19	64.84	1232.00
	No	81	47.14	3818.00
	Total	100		

The normal distribution is not given because $0.005 < 0.05$ and therefore not the t-test is calculated to test whether customers buy more when they taste products directly in the store. Therefore the U-test (Mann-Whitney) is used. 0.017 is less than 0.05 and significant. The difference of the spent money is significant by people who tasted or did not taste a product. People who taste products directly in the shop buy more. This hypothesis is formulated unilateral and the test is bilateral. That is why the significance level 0.05 is divided by 2. 0.017 is less than 0.025 and thus the significance is given.

H3: The scent is essential for a positive attitude towards the store atmosphere

Table 2 Tests of Between-subjects Effect

Tests of Between-Subjects Effects						
Source	Dependent variable	Type III sum of squares	Df	Mean square	F	Sig.
Scent	pleasant > < unpleasant	0.126	4	0.032	0.415	0.797
	warm > < cold	0.267	4	0.067	0.481	0.750
	relaxed > < hectic	0.583	4	0.146	0.609	0.657
	sympathetic > < un sympathetic	0.164	4	0.041	0.849	0.498
	modern > < traditional	5.496	4	1.374	0.569	0.686
	extraordinary > < ordinary	2.335	4	0.584	0.766	0.550
	diverse > < boring	0.472	4	0.118	0.327	0.859

The scent has no significant influence on any areas of the shop atmosphere. This shop atmosphere was evaluated through the areas pleasant to unpleasant, warm to cold, relaxed to hectic, sympathetic to unsympathetic, modern to traditional, extraordinary to ordinary and diverse to boring.

2.2 Analysis of the Walking Patterns

The walking patterns in two selected franchise shops were tracked with paper and pencil and analyzed afterwards. The observations on walking patterns seemed to be important for the study to find out how customers behave and which points are mostly interesting and attractive for them and which areas are avoided by the consumers.

The lines in Figure 1 represent the paths customers took through the shop and the main points where shoppers stopped. Every point represents a consumer who stopped somewhere for at least 3 seconds and consequently might show interest in the products at this location.

It can be seen in figure 1 that there are many highly frequented areas and also others areas where nobody really goes to. About a fifth of the consumers stopped somewhere between the entrance door and the cash desk when they entered because they had a look around (time for orientation) or they directly asked someone where to find a certain product. It was also observed that most customers were moving anti-clockwise. They walked in a circle around the display table at the end of the shop and then back to the checkout desk. Moreover, many regular customers who go to the store know where they can find everything. They create a short path through the store and they spend little time looking at other products.

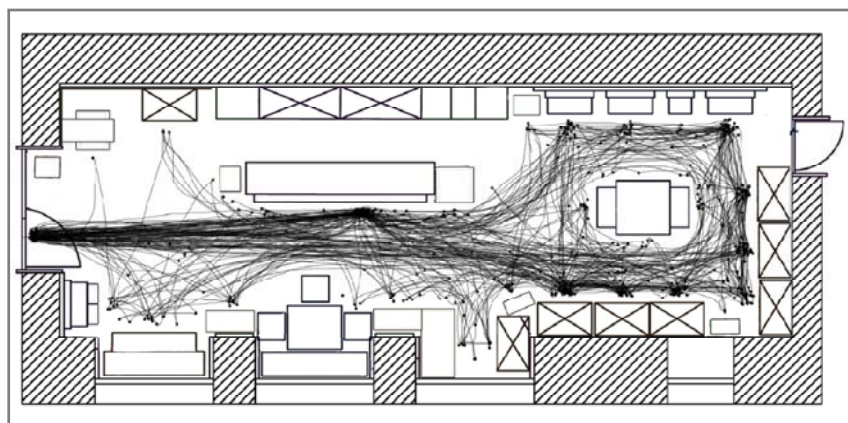


Figure 1 Walking Patterns

Important areas are the three shelves on the right wall in the store. The first two shelves are often frequented also the three shelves on the back wall of the shop are highly frequented. In the store four displays can be found. One at the end of the checkout, one in front of the three shelves on the right side and one behind these shelves and one on the left side.

The display at the end of the cash desk was mostly perceived while customers had to wait to pay their purchased products.

The Figure 1 shows also that there are some areas which are not often paid attention to while shopping. The area on the right-hand side next to the entrance receives less attention. The problem is that the customer needs to look around the corner and also has to walk around the corner. Possibly, customers avoid going in this rather narrow and short aisle. One of the four shelves on the left wall is also not paid much attention. In general all the

narrow shelves were often passed by and avoided.

3. Conclusions and Managerial Implications

This study has shown that it is important to stimulate all five senses of customers to influence the customer's decision making process in a retail shop because people take up brands faster and integrate them faster in memory when all senses are affected. Customers consider the sales room as a whole and it is important to consider the interaction of several stimuli. In order to guarantee a shopping experience, no part of store design may be excluded because as previously mentioned, customers consider the salesroom always as a unit.

Taste is closely connected to the olfactory process and this sense is rarely used. A fact is that almost 90 % of all products are flops because customers have never tried them but not because they do not like them. Tasting samples can engage the consumers directly in the food experience and stimulate them to buy. Decoration can help to attract customers and entice them to buy more products and to feel comfortable. The primary function is promotion but it also affects the atmosphere and raises the buying mood. The display is a special form of product presentation at the POS and it attracts customers. Their main task is to generate impulse purchases.

For the use of Neuromarketing at the POS are some instruments available. Images are very important at the POS because a picture reaches the brain in one to two seconds. Humans perceive images first with the limbic system and this is an automatic perceptual process. Neuromarketing studies have proven that emotionally charged images induce a significantly higher neuronal activity. Images attract attention and they are quickly perceived. Furthermore, images should not be too small in a sales room because then the effect is too minor. Moreover, at the POS the physical characteristics of a product activate implicit mental concepts and the connection between is a code. There is a difference how information is implicit and explicit perceived. The unconscious perception with about 90-95% is high compared with the conscious perception (5-10%). Codes are divided into four types, language stories, symbols and sensors. Motives and emotions are similar, but not the same. Behind emotions are goals and the target component is an essential part of the motive. Emotionally stimulated customers on average stay longer, take more information, are happier and does not know how time flies. Limbic is a unique instrument for Neuromarketing and it is a model for motives and decisions. The limbic map is a tool and it consists of three types, balance, dominance and stimulant.

For the empirical part of this master thesis, an observation of customer behavior, face-to-face interviews and an observation of walking patterns have been conducted. However, regular product tastings take place, they are only accepted by 19%. The usage of scent is for customers one of the most important neuromarketing elements in a shop, followed by light and colour. The atmosphere in the shop is very positive perceived. Due to the observation of the way the customer takes through the shop, very well frequented and also less to no frequented zones could be determined.

The results indicated that customers with a higher dwelling time buy more and customers also buy more when they taste products. Also customers spend more money when they buy for their own consumption coupled with a gift. However, the smell does not affect the positive attitude of the store environment.

For further research an eyetracking study in those retail shops could be conducted in order to get further information about the consumer's unconscious decision making process and to get better insights into this research topic.

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