

NEUROMARKETING – SELLER NEW WORLD ORDER.

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Since ever main problem for producers of various goods all over the world was to predict if their new products are attractive for consumers, if the suggested price is accepted, if the commercial convince to buy, or if they will simply sell out. As response for these kind of questions, market research appears. Quantitative research as statistic measurement between empirical observations, and qualitative research as in-depth psychological attributes and reasons of behaviour given by researchees, however very helpful, occurs sadly with some obstacles very hard to overcome. No matter how smart research tool is prepared, there are human behaviour mechanism, that always remains in influence on reports. If you can't really rely on researchee honest answers, ask his brain. That's exactly what neuromarketing do.

Qualitative research, such as FGI (focus group interview) or taste blind test, are always based on self-report. That means the answers given during focus group interview are the main way to learn which product, taste or commercial is accepted. This statement indicates an assumption, that researchee answers are honest, and what even more important, in real situation his acts will be as described in research. But in practice it often occurs with various problems. Like in every group in real life, in focus group people reveal some attitudes, like strong personality, that makes research unreliable. Individual responses are not independent of one another.

Neuromarketing is a brand new field of marketing which study the real behaviour, but uses medical techniques to scan brain responses to marketing stimuli. Researchers use the magnetic resonance and magneto-encephalography to measure changes in activity in parts of the brain and to learn why consumers make the decisions they do, and what part of the brain is telling them to do it.

Tool that gives researchers almost incredible power, to predict buyers behaviour or decisions – sometimes even more clearly than self-report, is functional Magnetic Resonance Imaging (fMRI), mainly used in medicine. Magnetic resonance imaging uses radio waves and a strong magnetic field rather than x-rays to provide clear and detailed pictures of internal organs and tissues. Physicians know the general areas of the brain where speech, sensation, memory and other functions occur. However, the exact locations vary from individual to individual. fMRI not only helps radiologists look closely at the anatomy of the brain, but can help them determine precisely which part of the brain is handling critical functions such as sensation. This information can be critical to asset new product acceptance, or commercial perception.

The Experiment

At the beginning of 2007 took place an crucial for the modern marketing knowledge experiment, which may take a significant role in future marketer strategies in order to sell more and more. The first step for pushing buyer behaviour research in a new track was made.

26 adults participated in the neuromarketing study of real purchase behavior. Each of them were given \$20 to spend on a various products that would be shipped to them. If they buy nothing, they would be able to keep the money. The products and their prices appeared on a computer screen that the participants viewed while lying in an fMRI scanner. The researchers found that when the participants were presented with the products, a subcortical brain region known as the *nucleus accumbens* that is associated with the anticipation of pleasure was activated. When the subjects were presented with prices that were excessive, two things happened: the brain region known as the *insula* was activated and a part of the brain associated with balancing gains versus losses - the *medial prefrontal cortex* - was deactivated.

Furthermore, by studying which regions were activated, the authors were able to successfully predict whether the study participants would decide to purchase each item. Activations of the regions associated with product preference and with weighing gains and losses indicated that a person would decide to purchase a product. In contrast, when the region associated with excessive prices was activated participants chose not to buy a product. Selling products in a way that the consumer sees the price increase with every bit of consumption causes the most "pain". This isn't physical pain, of course, but rather activation of the brain areas associated with physical pain.

Consumers are not weighing the current gratification vs. future gratifications. They experience an immediate pang of pain when they think of how much they have to pay for something. That perspective has a lot of implications. For example, it helps to explain why credit cards encourage people to spend; they anesthetize the pain. Paying with a credit card makes you feel like you're not really spending money when you buy something.

It also explains why AOL switched from pay-per-hour Internet service to pay-per-month. When they did that, they got a flood of subscribers. They were caught totally by surprise by the overwhelming consumer demand. Why do people love to prepay for things or pay a flat rate for things? Again, it mutes the pang of pain. The worst-case alternative is when you pay for sushi and you're paying per piece. Or watching the taxi meter; we know how much every inch of the way is costing.

From a neuromarketing standpoint this finding is particularly important. While simply asking people questions is a lot less expensive than sticking them in fMRI machines, there are many situations where the individual may not respond with complete candor, either intentionally or unintentionally. The fact that the scans do almost as well as self-reporting in

a situation with no emotional loading suggests that they might do better than conventional methods when user self reporting is likely to be less reliable. (Indeed, that's the point that advocates of fMRI lie detection make, though certainly using scans as legal evidence of truth or falsehood is certainly not imminent.) We could say the fMRI data enhances the self-reporting data.

Price – an enemy of purchase

The “negative” activation produced by cost is relative. That is, it isn't just the money amount, it's the context of the transaction. Thus, people can spend thousands on accessories when buying a car with little pain, while a brewery machine that takes 2 PLN is very aggravating. Auto luxury bundles are designed to minimize negative activation because their price tag covers multiple luxury items. The consumer can't relate a specific dollar amount to a particular item, 8000 PLN for leather seats, and hence can't easily evaluate the fairness of the deal or whether the utility of the accessory is worth the price.

Cost isn't the only variable that causes “pain” - it's really the perceived fairness or unfairness of the deal that creates the reaction. Other parts of an offer that caused it to appear unfair would presumably cause a similar reaction as a too-high price. For a large number of consumers the credit card takes the pain (quite literally, from the standpoint of the customer's brain) out of purchasing. Pulling cash out of one's wallet causes one to evaluate the purchase more carefully.

This makes a lot of sense, and is entirely consistent with real-world behavior. A credit card reduces the pain level by transferring the cost to a future period where it may be paid in small increments. Hence, not only does a credit card enable a consumer to buy something without actually having the money, but it also puts a finger on the scale as one's brain weighs the pain vs. the benefit of the purchase. This can be a bad combination for individuals lacking financial cover.

Decreasing the pain.

Frequent topic here has been research showing that buying things, particularly items seen as being overpriced, activates the pain centers of the brain. An interesting article by marketing guru Seth Godin looks at buying pain from a totally different angle - no neuromarketing, just his take that high value purchases often involve very little pleasure during the buying process. In *The Joy/Cash Curve*, Godin suggests that there's a sweet spot in the middle price range. While paying a toll or buying a cup of coffee don't involve much joy, moving up the price scale to a fancy restaurant dinner or buying expensive champagne in Paris are more pleasurable experiences. Moving past the peak, buying jewelry can still be fun, but, at the high end of the spectrum, buying a car or house can be quite painful. Godin points out that car dealers often turn the closing process into a high-stress, high-pressure time as they try to leverage the customer into buying additional products or services. Closing on a house purchase, of course, often involves signing many cryptic documents of uncertain purpose but any one of which could have significant financial implications later.

Godin's suggestion is simple - why not ADD some joy to the process where it's lacking. For example, at a home closing, he suggests having an inexpensive but extremely pleasant person (like an ex-top model) handle the paperwork details, cater to the buyer's needs (including getting donuts), and in general be continuously charming.

Although Godin's chart may seem a bit contrived - one can find counter-examples at various price levels - he may have zeroed in a point that ties in with the neuroscience of buying. It's not the absolute price level that causes the “pain”, it's the perception that the price is too high. Paying 10 PLN for a beer in a hotel bar may cause the brain's pain center to light up if your first thought is, “I could buy a six-pack at the store for that much!” Conversely, if you just came from a bar where you paid 15 PLN for the same beer, you might find paying 10 PLN to be entirely pain-free. Making the purchasing process more pleasurable doesn't reduce the price - in some cases, it might even increase the price. But doing it right may affect the value side of the equation. Here's what I like about Godin's idea: by making the purchasing process pleasurable, you may actually reset the buyer's “value meter.” A higher perceived value will reduce the pain for a given price.

In short, Godin's insight could be helpful to marketers and be consistent with the neuroscience of the buying process if we assume that a more pleasurable purchasing process adds to the overall perceived value of the product or service.

The Pepsi-Cola paradox

For now, most of the research is purely academic, although even brain experts anticipate that it's just a matter of time before their findings become a routine part of any smart corporation's marketing plans. Some lessons, particularly about how the brain interprets brand names, are already enticing advertisers. Take, for example, the classic taste test. P. Read Montague of Baylor College of Medicine performed his For an ad campaign that started a revolution in marketing, the Pepsi Challenge TV spots of the 1970s and '80s were almost absurdly simple. Little more than a series of blind taste tests, these ads showed people being asked to choose between Pepsi and Coke without knowing which one they were consuming. Not surprisingly, given the sponsor, Pepsi was usually the winner. But 30 years after the commercials debuted, neuroscientist Read Montague was still thinking about them. Something didn't make sense. If people preferred the taste of Pepsi, the drink should have dominated the market. It didn't. So Montague gave himself a 'Pepsi Challenge' of a different sort: to figure out why people would buy a product they didn't particularly like.

Montague gave 67 people a blind taste test of both Coke and Pepsi, then placed his subjects in the scanner, whose magnetic field measures how active cells are by recording how much oxygen they consume for energy. After tasting each drink, all the volunteers showed strong activation of the reward areas of the brain, which are associated with pleasure and satisfaction, and they were split in their preferences for the two brands. But when Montague repeated the test and told them what they were drinking, three out of four people said they preferred Coke, and their brains showed why: not only were the reward systems active, but memory regions in the medial prefrontal cortex and hippocampus also lit up. In other words, all those happy, energetic and glamorous people drinking Coke in commercials did exactly what they were

supposed to do: seeped into the brain and left associations so powerful they could even override a preference for the taste of Pepsi.

Future of neuromarketing.

The resulting real-time images indicate where and how the brain analyzes options, weighs risks and rewards, factors in experiences and emotions and ultimately sets a preference. We can use brain imaging to gain insight into the mechanisms behind people's decisions in a way that is often difficult to get at simply by asking a person or watching their behaviour. It's all part of the larger question of how the human brain makes decisions. But the answers may be invaluable to Big Business, which plowed an estimated \$8 billion in 2006 into market research in an effort to predict how we would spend our money. In the past, marketers relied on relatively crude measures of what got us buying: focus-group questionnaires and measurements of eye movements and perspiration patterns (the more excited you get about something, the more you tend to sweat). Now researchers can go straight to the decider in chief the brain itself, opening the door to a controversial new field dubbed neuromarketing.

One significant aspect of the findings is that the brain scans predicted buying behavior almost as well as the self-reported intentions of the subjects. In other words, absent any knowledge of what the subject intended to do, viewing the brain scan was nearly as predictive as asking the subject what he would do. Loewenstein noted that in this experiment, the questions about the intentions of the subject were quite straightforward and would be expected to be good predictors of actual behavior.

That's certainly music to advertisers ears, but, it's unlikely that our purchasing behavior follows a single pathway. Prof. Montague is investigating how factors like trust, altruism and the feeling of obligation when someone does you a favor can divert and modify steps in the decision-making tree. How marketers use that data to hone their messages remains to be seen.

This shows, that neuromarketing confirms many statements gained in classical market research process, but gives new look at many questions as well. Neuromarketing studies already gave a lot of new insights about producers problems, they couldn't resolve before. In fact many great companies are highly interested in neuromarketing studies achievements, and perhaps in the future they will make it the one and only system for gaining consumers preferences. Taking under consideration all the enthusiasm around the topic, this field of study will surely extend. There is still lot to explore, and we can be sure about new findings. However, we aren't yet at the point where marketers can do meaningful branding studies with fMRI scans.

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1. Cybulska A -, Neuromarketing – Zajrzyj do mózgu konsumenta, Brief 08.2004
 2. Oelsnitz, Fritz – Kaufverhalten und Marktforschung
 3. Renvoisé P., Morin C. - Neuromarketing: Is There a 'Buy Button' in the Brain? Selling to the Old Brain for Instant Success
 4. Brammer M. - Brain scan?, Nature Neuroscience 07.2004
 5. Godin S. –We don't have to care, 06.2005
 6. Dooley R. - Marginal Marketing ,Neuroscience Marketing 03.2007
 7. Dooley R. - Painful Sushi and Other Pricing Blunders ,Marketing and strategy innovation 02.2007