



Buyology: Q & A  
with Martin Lindstrom

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**We gave ten people from ten different industries the opportunity to question the author of *BUYOLOGY* about the study, the future of neuromarketing and the ethics of the science. Here's what Martin Lindstrom had to say.**

**1. Isn't it a concern that brain scans are now being used to persuade consumers to spend money?**

The whole purpose of advertising has been to persuade people to buy – and to buy more. But the fact is that, throughout the decades of advertising practice, most of the money invested in marketing has been wasted. In fact, we estimate that between 50% and 80% of all advertising investment has been wasted. That percentage, without a change in practice, is set to grow along with the increasing amount of advertising clutter that clamors for our attention. The reality is that most advertising has, by now, become part of more noise. As consumers we are sick of advertising noise. Out of 200 emails you might receive in a day, 30 could be direct mails and SPAM. Then there are the inescapable and ubiquitous billboards and the universally detested unsolicited phone calls. Our days are cluttered with advertising intrusions. The role of neuromarketing in advertising is to figure out what works and what doesn't/ Imagine a world in which the only advertising that exists was the stuff that worked. It not only persuaded consumer choices but managed to be relevant and interesting to audiences. Advertising would take on a whole new role in society – one that was a welcome and harmonious part of our everyday lives rather than an annoyance.

**2. How about the primary use of brain scanning equipment? It's really meant for medical purposes. Isn't it wrong to occupy it for marketing research purposes?**

Many great advances, inventions and technologies are born in one industry but end up benefiting many. The military produced GPS. fMRI was developed within the medical context, but its applications are valuable and broad. More importantly, these applications represent valuable income to the hospitals and medical research institutes that own them. By adopting the technology for purposes beyond medical examination, researchers are broadening their knowledge of the technology and gaining insights generally into the mysteries of the human brain. As long as scanning technology is first and foremost reserved for patients in need, it's perfectly legitimate, and of benefit to the world's growing knowledge, that other research fields use it. The Buyology study represents ideal working protocols. We booked and used the equipment only when it was not being used for patients. We are sharing the knowledge we have gained from the research, adding to global neuroscientific knowledge, and we paid the required (and necessarily hefty) fees for the use of the valuable equipment. So, Buyology illustrates ways in which applying fMRI to other industries, beyond medical research and diagnosis, is of tremendous benefit to all.

**3. How far will neuromarketing go? Will it be possible to control consumer behavior at some stage?**

No. And thank heavens for that. Neuromarketing is a third leg in the portfolio of marketing research tools, along with qualitative and quantitative research methodologies. Neuromarketing promises to be a crucial contributor to understanding consumers better. It's purpose and modus operandi is to merely observe consumers, not to intrude into their lives or to interfere with their opinions and feelings. There's no such thing as being able to implant a 'buy button' in the brain, for example. But neuromarketing, by bringing together the technologies and expertise of neuroscience with the experience and research objectives of marketing, can, through observation and well designed research strategies, help brands achieve targeted messages, relevant products and cost effective production throughout the development life cycle.

**4. What were your primary ethical concerns prior to commencing the study?**

As a layman entering the world of neuroscience and brain scanning technology, my concerns reflected those expressed in the previous question. What if it were possible to influence people somehow by using this technology? That was, and remains, a frightening and unacceptable idea. But now I know that this is not a possibility. My second equally pressing concern was that neuromarketing, like all research, be used for ethical purposes and in an ethical fashion. So, from the outset, the Buyology study drew up guidelines and installed ethical oversight to monitor the study's progress. For example, we decided that we wouldn't work for the tobacco industry. This is why we spent a good proportion of the study's budget investigating how tobacco brands operate to influence consumers.

**5. Were these concerns justified or did you realize a whole new set of concerns you'd never thought about once the study was underway?**

Yes to both questions. I believe my concerns were justified and more concerns arose as the study unfolded. But these new concerns weren't to do with neuromarketing or brain scanning technology. They became clear as the research windows on the tobacco industry's methods. I was truly surprised by the way tobacco companies have consciously or unconsciously apparently bypassed regulations, or used regulations to plug into the minds and preferences of consumers. The tobacco industry devotes millions of research dollars to research and development and is well equipped to stay one step ahead of health regulators and legislation around the world. My discoveries about the tobacco industry's seeming manipulation of regulatory requirements for commercial gain may be old news to the industry itself. But my aim now is to get ahead of the tobacco brands and predict their moves.

**6. Should the government take the neuromarketing data achieved by studies such as Buyology into account when framing legislation in future?**

Buyology was overseen by an expert panel based in Oxford, England. The panel, whose members included administrative officials from participating research institutes whose equipment we used and fMRI experts, monitored test materials and plans and examined results. Throughout the three-year-long study, the panel

recommended adjustments to stimuli, for example, to ensure they weren't deleterious in any way to our volunteers. The panel also vetoed certain research angles that we proposed. I came to the study as a layman and had a lot to learn. The questions one might ask in a qualitative or quantitative marketing study do not necessarily apply in the neuromarketing context. The business community needs to be aware of what can and can't be done in the brain scanning research environment. I hope that Buyology will be key to communicating this awareness to business and to communities in all fields around the world.

**7. Were the methods used in the BUYOLOGY study intrusive or in any way harmful to the study's volunteers?**

No is the short answer. The study did not use any intrusive methods (for example, no injections or medications of any kind) or inflict any discomfort. We used two technologies: the most sophisticated neuroscientific tool, fMRI (functional Magnetic Resonance Imaging), and SSG, a technology based on EEG that has been around for more than a century. Either method can be as harmless or harmful as any research involving interviewees or test subjects. The crucial factor is that research plans are well designed and governed by ethical principles.

**8. Who oversaw the study from an ethical point of view?**

Buyology was set up with many layers of experts and advisers, including an ethical panel. Together they oversaw, monitored and advised the study's progress. This was especially crucial during the stages of the study that employed fMRI. The guideless which underlay the study required that the advisory bodies and ethical panel supervised and assessed the suitability of all research methods and stimuli. The ethical panel, based in Oxford, England, included administrative officials from participating hospitals and fMRI experts. The panel assiduously monitored test materials and plans and examined results. Throughout the three-year-long study, the panel recommended adjustments to stimuli, for example, to ensure they weren't deleterious in any way to our volunteers. The panel also vetoed certain research angles that we proposed. I came to the study as a layman and had a lot to learn. The questions one might ask in a qualitative or quantitative marketing study do not necessarily apply in the neuromarketing context. The business community needs to be aware of what can and can't be done in the brain scanning research environment. I hope that Buyology will be key to communicating this awareness to business and to communities in all fields around the world.

**9. Don't you have concerns conducting a study which aims to help brands create even more powerful marketing tools and thus persuade the consumer to buy even more?**

Let me clarify the aim. The project's goal was a principled one: to draw conclusions about commercial communication that the world can take seriously and which will contribute to the ethical rules governing neuromarketing. But, in all honesty, I did have concerns about this before I actually started the project. But even greater than this concern was my need to understand the potential of neuromarketing – both its potential benefits and deficits for consumers and marketers. I wanted to know what concerns we should have and which were unfounded. I am now very confident that well- designed and ethically conducted neuromarketing research does no harm and contributes useful knowledge to the world. I too am a consumer and have no interest in promoting any technology, methodology, practice or regulation that is not in the consumer's interest.

In my professional life, I approach everything with my consumer hat on, as well as my marketing hat. No-one likes to be manipulated so every part of every project I conduct is advised by this underlying principle.

Buyology was no exception. On top of this ever-present concern were issues related to the brain scanning technology:

- a. The study was not to interfere with or inconvenience any medical. For this reason, the study used equipment at research institutes rather than at hospitals and took a back seat to any medical work under way. No patient suffered through Buyology's use of brain scanning equipment.
- b. The study took a stand on industries with which it would work and with which it would not. At the project's commencement, the tobacco industry was embargoed as a research partner. Throughout the study, we developed other prohibitions on other industries. As we refined our ethical stance.
- c. Buyology applied the world's stiffest research regulations and standards as its benchmark, then added 505 to the study's own regulatory framework. This ensured a universally ethical approach and mapped rules that are appropriate to other global studies in the future.
- d. An ethics panel was established. The ethical panel, based in Oxford, England, included administrative officials from participating hospitals and fMRI experts. The panel assiduously monitored test materials and plans and examined results. Throughout the three-year-long study, the panel recommended adjustments to stimuli, for example, to ensure they weren't deleterious in any way to our volunteers. The panel also vetoed certain research angles that we proposed. I came to the study as a layman and had a lot to learn. The questions one might ask in a qualitative or quantitative marketing study do not necessarily apply in the neuromarketing context. The business community needs to be aware of what can and can't be done in the brain scanning research environment. I hope that Buyology will be key to communicating this awareness to business and to communities in all fields around the world.
- e. The Buyology research team included some of the world's leading neuromarketing and neuroscientific specialists. This ensured the project's purposeful design and its optimum contribution to world neuroscientific and neuromarketing knowledge.

## **10. What is your view on the perspectives shared by Commercial Alert about neuromarketing?**

I was in discussion with Gary Ruskin, and other eminent consumer advocates and ethicists, early on in the project. Throughout several discussions I gathered a range of views for and against neuroscience's cooperation with marketing research. From Gary particularly, I took on board these potential issues:

- a. the increasing incidence of marketing-related diseases;
  - b. that neuromarketing has the potential to build more effective political propaganda; and
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- a. Commercial Alert takes a stand against marketing and brand communications as they exist now. Neuromarketing adds another layer of concern to the group's ideological position. The fact is that cultures have, through history, taken on products, practices and rituals which, in later generations, attract increasing scrutiny from the communities that have inherited them. Perhaps if sugar were introduced for the first time to the market today, knowing what we now do about tooth decay and obesity, it would be outlawed. Perhaps the same would be the case for advertising. But society is built on trade and the

communications that make its wheels turn. Trading and commercial relationships are part of civilizations cornerstones. So where do we draw the line on commercial communication? When does marketing become unhealthy for a populace? Commercial Alert draws the line at all advertising. I am on the side of the table that accepts sugar and advertising are here to stay, so their effects need to be monitored and they need to be taken in an educated way. I am very concerned about monitoring the effects of new technology on advertising and in helping draw ethical guidelines for its use. I want to see regulations around technologies that advance advertising in the consumers' and brands' interests. I greatly respect Commercial Alert and the contribution informed groups like it can make to developing regulations. Many of the ethical rules I established for the study and propose for wider industry reference are reflections of Gary Ruskin's concerns.

- b. Interestingly, we have demonstrated the great usefulness of neuromarketing in revealing the machinations of political propaganda. For example, we showed subjects two campaigns – Lyndon B Johnson's 1964 campaign known as 'Daisy' and George W Bush's 2004 campaign called 'The Wolf' – and found that both activate the same areas in the brain, the amygdale, which is the spot that registers fear. So the Democrats and Republicans have both manipulated fear to win elections. Without neuromarketing methods, we may not have been able to prove this common denominator. I would rather be informed about the messages and methods being used by political leaders than be in the dark.

#### 11. Will the use of neuromarketing increase?

There is no doubt the role of neuromarketing as a research tool for brand builders will increase after the release of *Buyology* because

- a. The Buyology project has proven that neuromarketing is an efficacious research tool, if used well. It can be used to predict the likely success or failure of a given approach before millions of dollars are invested in it.
- b. Neuromarketing creates a welcome bridge between science and the commercial environment and there is much to be gained from collaboration between scientists and marketers in improving general understanding of the consumer and determining acceptable and effective approaches to specific audiences.
- c. Buyology has identified dramatic errors in the way we communicate and build brands and has been able to develop a new framework for future advertising practice.

So, yes, the use of neuromarketing will increase. And the outcomes of its research will be for the better. To make an analogy – I can buy a hammer to put a nail in my wall to hang a beautiful painting, or to use as a weapon. In the wrong hands, any tool can be used for the wrong reasons. Neuromarketing, like any research methodology, if not used according to ethical guidelines and in a tactical and informed way, can lead to negative or useless outcomes. But the worst outcome for civilization is ignorance and the disempowerment of communities through false communications, or none at all. Buyology has shed light on the potential of neuromarketing, and on the directions it might take in developing commercial messages. My aim is that Buyology will provoke discussion and cause tough questions to be asked –of neuromarketing, of Buyology's use of it and of the methodology's potential for branding. We hope that Buyology will help prepare for

improved use of neuromarketing and resulting improved commercial communications. Neuromarketing enables consumers to communicate their thoughts and suggestions to manufacturers and advertisers – thoughts which may not otherwise be revealed. Brain scanning helps scientists objectively analyse a subject's response to a concept or object. For example, on a plane recently, I wrestled with a package containing headphones trying to extract them without the aid of any cutting instruments. No-one else managed to free the headphones from their packaging and we all gave up. It reinforced again for me the daily frustrations elderly people must have in being unable to open jars or manipulate other instruments. Neuromarketing has been used to assess and improve the packaging of items. Its discoveries went beyond the complaints people were able to make about lids being too tight for arthritic hands to manage to examine the package holistically and achieve a totally friendly and commercially viable solution.

### **12. Isn't it possible that neuromarketing can be used to manipulate people's political ideas?**

In my opinion, no. But I admit that politics is possibly amongst the most manipulative of fields. For every several leaders that build policies on aspirations for the betterment of their communities, there's a despot who uses power for the worse. Neuromarketing is already in the hands of politicians, and they will use it more and more in the future. I am convinced that the 2012 US Presidential campaign will be the first to be based on neuromarketing. Polling companies will draw information from brain scanning rather than opinion polls. Their analysis will begin from the premise that what people say and what they think is different. The important thing is that we establish guidelines to prevent irresponsible or nefarious manipulation of neuromarketing approaches or results. Certainly, we need to understand more about neuromarketing's potential in the political context, and more research must be done to achieve this. I hope that this marks the beginning of informed public debate and that the research baton will be picked up by responsible public bodies.

### **13. Is the technology ready to be used for commercial research?**

It's never a perfect time for things which are in constant development to make transitions to new areas of application. When is it best to buy your new computer? Constant technological evolution means that by the time your upgrade has been delivered it will be superannuated by other advances. Neuroscience, too, is in a state of constant evolution. But its potential for increasing our knowledge is so great.

Here's an analogy. If we were to draw our brain as if it were a map, we would produce something as informed as Columbus' 1492 map of the New World. There is some knowledge evident, but there are so many gaps and unknown territories still to discover. Our knowledge of the brain is rough. We understand perhaps 70% of it. But does this incomplete knowledge prevent us from using neuromarketing to build our understanding of the brain and people? Of course not. Every little bit of knowledge we all add to the world's fund of understanding is a good thing. And in the marketing context, so many advertisers fail to understand the subconscious. It's no wonder – there hasn't been a great deal of investigation into it by the profession. To the marketing world, the brain is a dark room. Enter it and you might trip over something. What was it? A box? Others might have thought it was a coffin. Others, a cupboard. Every decision we make is based on unconscious mental processes. Neuromarketing sheds light on those processes, enabling new conclusions. This is the stage at

which neuromarketing finds itself today: in a dark world where just one eye with partial sight enables rich discoveries.

#### **14. What technology was used to conduct the Buyology study?**

We decided to employ two of the tens of technologies or techniques available to neuromarketing. Just like any research field, there are a number of approaches which neuromarketing can make to any given hypothesis. The unusual factor about Buyology was that we used two technologies from the raft of methods available to us. Other neuromarketing studies might have adopted just one. But we employed two for the very simple reason that the differing technologies give us different windows, and varying perspectives, from which to consider the same lines of inquiry. Neuroscientific methodologies give accurate views on the brain, but changing angles can alter the interpretations that may be made of that data. Buyology is the first neuromarketing study to use two rather than just one approach. This increased the accuracy of results.

fMRI (functional Magnetic Resonance Imaging) was one of the two technologies we used. fMRI is considered to be the most sophisticated brain scanning technology available. The machinery works by using magnetic resonance to detect and measure oxygen levels in the blood stream. Higher oxygen levels at certain places in the brain indicate activity. This gives graphic evidence of which parts of the brain are being activated by given stimuli. Because we know something of the functions of the brains many regions, neuroscientists are able to interpret this activity. fMRI is 100% safe and non-invasive. But it is very expensive. It costs around USD3,000-4,000 to scan each subject and this amount again to have the results neuroscientifically interpreted. For this reason, most studies before Buyology have involved small sample group – less than 30 people in each. Buyology broke new ground by scanning the brains of over 2,000 volunteers, across several countries, and enabling the interpretation and comparison of a substantial data bank of results.

There's an ongoing discussion between neuroscientists about sample size. Some researchers think a small sample size produces valid results. Which is true, depending on the aims of the research. Other researchers favor a big testing base. Buyology took both sides of the argument into account by involving 100 volunteers in the fMRI testing, and 1900 in the SST work.

SST is a variation of EEG, a technique developed more than a century ago. EEG measures electric signals sent by the brain. This highlights the areas of the brain which are active. The technique is cheaper than fMRI, but not as accurate. fMRI testing can make examinations deep into the cortex , and can investigate specific areas, as small as 1 millimetre. EEG is not capable of such specific investigation and needs a larger number of subjects to glean useful data. Buyology used both methods and stands as the largest and most advanced neuromarketing study ever conducted.

#### **15. What countries was the Buyology study conducted in?**

In comparison to almost all other neuromarketing studies that have gone before it, Buyology was by far the most comprehensive and representative ever. Buyology was conducted in five countries – most preceding

studies have been restricted to either Germany, the U.S., Japan or the UK. Buyology established research in all these countries and added China as well. The Buyology research team was the first ever allowed by the Chinese government to conduct neuromarketing research in China. Buyology's unprecedentedly large test group, spread over five countries, necessitated sophisticated planning and organisation. We took six months to recruit the test volunteers and more than a year to conduct the research with them. The recruiting of volunteers was complex and depended on carefully designed research plans and objectives. For example, in the 'cease smoking' portion of the study, we recruited volunteers who fell into five segments: people who had just quit smoking, people who were considering quitting, others who had returned to smoking after quitting, light smokers, and heavy smokers.

This complex segmentation was required in all Buyology's other research areas too: sensory branding, product placement and religious branding. The detail with which the study's preparations were made, and the type of segmentation we arrived at all helped to contribute to the accuracy of results. We combined traditional research techniques with those required by the scanning equipment. Project Buyology - complex, thorough and large-scale - drew on the expertise of many fields and cost in over \$7million.

#### **16. How accurate is neuromarketing?**

Ask any scientist about research and I'm sure they'd agree that 100% accuracy is not a realistic hope. Having acknowledged this, neuromarketing provides us with the most accurate means of assessing consumer relationships to advertising. But the research tool is only as good as the management behind it. Like any research project, you have to design your research to achieve the most accurate possible results. You need to ask the right questions, and ensure that the methodology suits the angles you're inquiring into.

Neuromarketing is highly relevant to research which deals with verbal and visual communications and which aims to examine the subject's subconscious responses to them. As Dr Michael Brammer notes (*Chairman of Neurosense Limited with whom the Buyology project worked*) "Because so much of our thought occurs in the unconscious, traditional research methods that mine the surface are likely to miss many of the factors that influence consumer behaviour. Bridging the gap between mind and behaviour is thus one of the key challenges that face marketers today. Cognitive neuroscience now offers us a means to bridge that gap."  
([www.neurosense.co.uk](http://www.neurosense.co.uk))

But the challenge is to match the right methodologies with the right questions, posed in the right way. The accuracy of neuromarketing outcomes also depends on the interpretation of data. Critics of the methodology question how we can interpret brain activity when we know so little about the brain's functions. But we do know enough, about what parts of the brain perform what functions, to make viable interpretations of brain activity. fMRI and EEG technology enables us to see different parts of the brain being activated by stimuli. From this, neuroscientists are able to make conclusions about potential actions and behaviors connected with the demonstrated response to a stimulus. Neuroscientific knowledge is growing every day and the revelations which such research is able to bring to researchers is in constant evolution. But the fact remains that fMRI is



the only way we currently have of observing the subconscious world. It offers us a window onto 80% of the brain.

The results we can draw are accurate, depending on the appropriateness of the questions applied to the methodology. The Buyology team spent more than a year formulating questions with Dr Gemma Calvert of Neurosense Ltd. Neurosense is the world's first neuromarketing centre. The specialist consultancy uses cognitive neuroscience to derive knowledge about consumer thought and behavior. Australia's Dr Richard Silberstein and his team at Melbourne's Neuro Insight were also key to the Buyology project. Dr Silberstein is also a pioneer in the field of neuromarketing. Dr Calvert has conducted research on our five senses, an area that's of great significance to me and, increasingly, all marketing professionals. In my own case, my conviction that brands must communicate with the whole human experience, through all the senses, resulted in my pioneering work on sensory branding, the results of which are captured in my last book, *BRAND sense* (published by Simon and Schuster). The BRAND sense study became the motivator for Buyology. I realized that sensory evidence was not enough to gauge what consumers really felt and thought. We needed a way to understand what information was held in the brain but not reported in speech or behavior.

So, back to the Buyology research. We crafted the approach for over a year. For the smoking strand of the research, for example, we created 3-D images of cigarette packs with differing warning labels. These formed part of the selection of stimuli we used to observe brain activity. We took advice from psychologists about the graphics and language and created whole research kits for this and every other research strand. We created material to examine aspects of religion in branding, developing material which doesn't exist in reality but which carefully mimics material that consumers encounter every day. We created a battery of control stimuli to compare responses within and beyond the study. Unfortunately, *Buyology* isn't able to tell the full story of these details. But should you require more information, we will be able refer you to other papers in scientific journals which will, in time, be published and which concentrate on specific aspects of the complex Buyology study.

#### **17. How much did Project Buyology cost?**

Neuromarketing is in its infancy, so it's more expensive than other conventional research methodologies. To make the project a reality, we identified and teamed up with a number of large companies:

- GlaxoSmithKline is one of the leading companies worldwide in providing products and solutions to help people quit smoking. Brands include Nicorette, Niquitin, NicoDerm, and Commit. The vision for the GSK Smoking Control group has long been to reduce tobacco-related death and disease by inspiring and enabling smokers to escape their tobacco dependence. Over the last 12 years, GSK has helped almost 7 million people quit smoking.

- Fremantle Media is one of the world's biggest creators and producers of entertainment brands. Owned by the giant RTL Group, which in turn is 90% owned by Bertelsmann AG, Fremantle was interested in examining the effectiveness of product placement in its hit 'Idol' TV shows.
- Hakuhodo is the second largest advertising organization in Japan, the ninth largest in the world. Hakuhodo's aim with Buyology was to increase understanding of certain aspects of the wide field of cultural difference.

These partners contributed the largest part of the investment necessary to make Project Buyology happen. The research was extremely expensive. fMRI machinery costs around USD3,000-4,000 to scan each subject and this amount again to have the results neuroscientifically interpreted. We combined traditional research techniques with those required by the scanning equipment. Complex, thorough and large-scale, Project Buyology drew on the expertise of many fields and cost in over \$7million in total.

#### **18. Why did you use neuromarketing as a research method?**

In 2005, I produced *BRAND sense* (published by Simon and Schuster). This book reports on my pioneering research on sensory branding and the ways in which consumers relate to brands through their senses. For this research, we teamed up with Millward Brown, one of the world's leading research companies. Millward Brown were, and remain, strong supporters of my work and also supplied information for my book *BRAND child*, which preceded *BRAND sense*. As we embarked upon our sensory branding research, investigating the relationship between our senses and brands, the BRAND sense research team quickly came to realize that it was difficult for test subjects to articulate their feelings and opinions, and to describe the impact of a given stimuli on any particular sense. We knew we needed to help people discover their feelings by examining their brain's response, rather than relying on what the subjects said about that response. Brain scanning technology was the logical next step. It would enable us to examine the mind at work and compare that raw data with the socialized, filtered information which consumers reported. We were using conventional qualitative and quantitative research methods for the BRAND sense study.

Neuromarketing – combining the expertise of neuroscientists and marketing – was the sensible next step. But neuromarketing takes longer, is more complex and costs much more than conventional research. Project Buyology ran for three years, but the actual scanning took just one of those years. The rest of the time was taken up by necessary planning: developing the hypothesis, designing the research and testing the design. This preparatory work could have taken us six years. But I decided to gamble on having the planning right and didn't conduct the many iterative research rounds that we could have. I don't recommend taking this gamble unless you really believe that you have designed the research to prove your hypothesis. As it turned out, our research did attain the results we predicted. But our predictions were built on years of experience and other research work.

**19. Have you compared the results from qualitative, quantitative and neuromarketing research to ascertain which is the most accurate?**

Yes. When I conducted a major sensory branding study with the international research company Millward Brown, we used qualitative and quantitative methodologies: workshops, interviews, focus groups, questionnaires, and so on. We engaged more than 2,000 people in our research questions using a range of interactions. The results of this interview-oriented approach indicated that the most important sense for people's understanding of the world, their environments and communications was sight. This was followed by smell, and hearing was found to be the least important of these three senses. We applied the same inquiries to the neuromarketing research. Remember, neuromarketing observes brain activity, bypassing the gap between people's brain activity and their reporting of it. The results from the parallel brain scanning research indicated that hearing was the most significant sense in helping people negotiate and understand their world. Smell was the next most influential, followed by sight. The misalignment in these two sets of results draws the findings of both approaches into question. So we devised more research to see how well we could trust the objective results of neuromarketing research. In partnership with Fremantle Media, we tested the TV show 'Quizmania'. Our SST examination of volunteers' responses to the show indicated that it would be a moderate to high success when aired. When the show screened in the UK and U.S. and Australia, the show indeed proved itself to be a moderate to high success with all audiences. WE were able to establish, for the first time, that neuromarketing can predict the success of a product before it's released. So, we can look to neuromarketing, and the researchers who combine their skills and expertise to use the research in a strategically useful way, to predict the success or likely failure of brands before companies lose millions on relaeasing them into a possible unreceptive market.

**20. What is neuromarketing?**

Neuromarketing is a discipline that's still in its infancy. In 2004 a number of studies were published about the methodology and these helped to raise debate about the ethics of neuromarketing research. A Coke-Pepsi study, published in Forbes Magazine particularly prompted discussion. Neiromarketing circumvents the question and answer approach of conventional research. It's a non-verbal research method that bypasses a subject's claims about their responses to something by examining their brain's responses to it. In the years to come, as we learn more and more about the brain and its functions we will be able to decipher even more from observable brain activity. We will have an ever-expanding framework within which to interpret data. Like all emerging fields, neuromarketing is practiced by real experts and by others who claim expertise they don't have. Like all research projects, neuromarketing inquiries depend on good planning and thoroughly considered processes in order to elicict meaningful data from observed brain activity. I hope that Buy-ology will prompt debate further about both the ethical application of neuromarketing and its competent practice. A good place to start if you want to examine some of the ethical concerns about the technique is [www.commercialalert.org](http://www.commercialalert.org). Commercial Alert plays a valuable role in monitoring commercialism and challenging commercial practices which impinge on, or effect in any way, the community, family and democratic values of the broad community.

**21. How is neuromarketing likely to evolve?**

Imagine three interconnecting circles, forming a Venn Diagram. Two of the circles represent the two branches of traditional marketing research – quantitative and qualitative research. The third represents neuromarketing. The three are all invaluable research skills, and the point at which they all intersect represents benefits of using all methodologies in designing thorough research. I believe, however, that the third circle, representing neuromarketing techniques, will expand in the future. It will come to dominate qualitative and quantitative approaches as far as consumer behavior and branding research is concerned. Conventional research will never disappear, and remains as cogent as ever. But as we learn more about the grain, and as technology becomes ever more sophisticated, and cheaper to apply, neuromarketing will attain an increasing number of adherents. And this because of the fact that, applied correctly, neuromarketing research can be used to predict the likely success or failure of a brand or product before millions are spent on erroneous development and misguided launches. Neuromarketing is an essential path to understanding the inexpressible, or simply unexpressed, thoughts, feelings, and motivations of consumers.

**22. Were you really surprised by any of the Buyology results?**

I was deeply surprised by the study's findings on product placement. The fact is that, product placement, if not carried out well, has no impact on consumers. That's not the surprising bit. My surprise came when our research revealed that poorly conducted product placement can actually delete awareness of a product from the consumer's memory.

I was also very surprised to see the order of precedence in which our neuromarketing research placed the senses. Sensory Branding research which I conducted with Millward Brown, and in which I used qualitative and quantitative methodologies, indicated that sight was the sense we relied upon most when comprehending messages. Sight, followed by smell and then hearing. The neuromarketing research just about reversed that order, showing that people relied most on their sense of hearing, followed by smell and then sight. The research method's direct access to the brain's activity revealed that the actual priority of sensory experience is not comprehended the individual, but that it is a powerful determiner of what an individual will perceive and remember.

**23. Were any parts of your hypothesis proved incorrect by the research?**

Astoundingly, all our assumptions were proven. This may have been luck – but more likely a reflection of hard work, careful observation and thorough research design. As Thomas Jefferson supposedly said, "I'm a great believer in luck and I find the harder I work, the more I have of it."

**24. Can we expect to see a sequel to the Buy-ology research?**

Definitely. I am already planning the next research program, one which will build on the Buyology findings and deploy neuromarketing techniques in pioneering ways. Like any of civilization's inventions, neuromarketing will constantly evolve, finding new strengths, alerting us to inherent weaknesses and, I am determined, operating within well established ethical guidelines. Buyology has revealed discoveries about our buying behaviors and,

along with this knowledge, new selling channels, products and brands will emerge. Every discovery leads to change, and every change leads to discovery. The last chapter in neuromarketing will never be written because, like all human endeavors, it will develop endlessly.

**25. How would I go about conducting a neuromarketing study?**

In the wake of the Buy-ology research, I founded BUYOLOGY Inc in May 2008. It's now a leading neuromarketing consultancy. Its purpose is to add credibility to the consumer behavior and market research industry. It's a fast-growing field but it has always struggled to build bridges between science and marketing disciplines. Yet neuroscience and marketing have a fascinating forum in which to meet – the examination of human impulsion and the decoding of behavioral choices and responses. BUYOLOGY Inc aims to be the pre-eminent expert in neuromarketing, uniting the expertise of neuroscience, communicators and marketers. The consultancy is headed by senior experts from these industries. Visit [MartinLindstrom.com](http://MartinLindstrom.com) for updates on BUYOLOGY Inc and for insights into the amazing union of neuroscience marketing.

**26. What are the benefits of neuromarketing?**

85% of our behavior is driven by our subconscious mind. And this part of our brain's activity is essential to our survival. We could not operate if we were overcome by every stimuli in life. It would be impossible to handle all the commercial data that assails us, just for starters. By the age of 65, consumers in the developed world will have seen, on average, 2,000,000 ads – the equivalent of watching 8 hours of television, 7 days a week, for 6 years. Yet, do you remember any commercial messages from yesterday? Your subconscious mind would have received countless signals, including those sent by marketers, but, your conscious mind is not able to retain and process all of them. This is what marketing misunderstands about the brain. Buyology's neuromarketing research has revealed how marketers should be working with we consumers if they want us to remember their messages. The added value of neuromarketing is the insight it gives us into the subconscious mind. It can guide us in designing communications that work with the conscious mind. And it can help us predict the likely success or failure of a product. Currently, 8 out of 10 products released are failing. Sensible research using neuromarketing can help avoid losses on products which are likely to be unsuccessful. By giving us an understanding of the subconscious mind at work, and by enabling us to see subconscious responses to stimuli, neuromarketing can examine how brands interact with consumers' minds and, therefore, advise on how to build them for success.

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