

DESIRE BY DESIGN



**What Data-Driven Marketers Should Know
About Driving Desire for Their Brands**

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CHAPTER SEVEN

**AESTHETICS
AND DESIGN
APPEAL**

We're Reflections of What We Desire

In the previous chapter, we focused on driving desire for brands by owning instant recognition through color and shape. However, desire isn't limited only to these two dimensions and goes well beyond the impact great design has on influencing consumer preference and brand loyalty. Aesthetics delivered by great design creates products or experiences that are pleasing and desirable to the senses.

My point was illustrated in studies by Steven Quartz and Anette Asp at Caltech University that reviewed more than 140 products, including the Apple iPad, Aeron Chair and Dyson vacuums. The studies were undertaken with middle-aged, college-educated, middle-class white males. The findings of the research laid the foundation for Quartz and Asp's book *Cool* where they detected what makes a product cool by scanning respondents' brains with a medical imaging scanner while the test subjects wore goggles to view the various products projected.¹ The book demonstrates that decisions aren't driven by deliberate thought and are actually controlled by the primitive brain system responsible for emotional responses. When respondents viewed products they perceived as pleasing, the scanner identified a burst of energy emanating from the Brodmann area, regions of the brain associated with a sense of identity and self-image, key factors in driving brand preference. Products that have unique design features or strong links to effective emotional advertising have a greater impact on the sections of the brain that drive purchase decisions and desire.

More recent research conducted in 2016 by Weiwei Han, Jing Wang and Suixiang Gao on the influence of aesthetics on consumer decision as part of an online-shopping experiment focused on two dimensions: performance of the product and appearance.² In this experiment, participants performed a simple online purchasing task in which stimuli varied according to product appearance and performance, both occurring with equal probability. The study was similar to those of Quartz and Asp but added the dimension of ensuring products were unbranded, while leveraging more portable EEG brain activity in addition to isolating product appearance

1 Steven Quartz and Anette Asp, *Cool: How the Brain's Hidden Quest for Cool Drives Our Economy and Shapes Our World* (New York: Farrar, Straus and Giroux, 2015). Also see <https://hbr.org/2015/04/this-is-your-brain-on-cool-2>.

2 Weiwei Han, Jing Wang and Suixiang Gao, "Influence of Aesthetics on Consumer Decision," August 11, 2016, *IEEEExplore Digital Library*. Accessed at <http://ieeexplore.ieee.org/document/7538493>.



Shikatani Lacroix's design for Montellier natural sparkling water takes ownership of a unique color and graphic shape.

from performance to ensure the results could clearly be attributed to aesthetics. The research clarified that aesthetically pleasing products with inferior performance were preferred over average looking ones with superior performance. The study clearly established that when product appearance conflicts with performance, aesthetic appearance still positively triggers brand preference.

This might be one of the key reasons we've tolerated Apple's missteps when launching new products in which the experience wasn't ideal or in which the operating platform provided users with challenges. Apple is known for well-designed products that allow the organization to be forgiven when products don't live up to the performance expectations of customers. The research also identified that more beautiful products better met expectations than the average designed equivalent, distorting the judgment of performance and mitigating the conflict between product appearance and performance. Ultimately, the research confirmed that product appearance plays a significant role in a consumer's choice process well beyond functional benefits.

The questions for me then became: can the importance of aesthetics in product selection be applied to physical environments? In essence, does great design of retail stores or physical spaces influence desirability? These are important questions for Millennials and Generation Z because the new buying power generations place greater importance on purchasing experiences than products. A recent study by Mintel as part of an *American Lifestyles* report indicated that the greatest growth in Millennial sales well into the foreseeable future will come from brands focused on delivering experiences.³

These trends toward putting greater importance and value on experiences align with the work I've undertaken in the banking and retail sectors where our studies have supported the critical role of building experience based on environments to drive relationships with brands and customer loyalty. It is no surprise that Amazon, the leading online retailer, purchased Whole Foods, and why so many online-only retailers and service providers are expanding their channel strategy to include bricks-and-mortar locations.

Physical presence provides more emotional stimuli than its digital counterpart. We conducted a major cognitive and emotive study on behalf of our client CZ Bank, a leading Chinese financial institution well known for its innovative approaches, to determine how physical space influences brand loyalty and a strong emotional connection. Part of our process was to validate the effectiveness of using virtual reality and neuroscience as a platform to gauge consumer reaction and preference for our client's brand.

The banking sector was facing challenges from every direction—from the stealth erosion of accounts to competing banks and from online-only financial institutions to non-traditional banking platforms. On top of that, banks are reckoning with how they can gain greater value from

³ Mintel, "America Is Back to Pre-Recession Spending Habits of 'Save Less and Spend More,'" June 3, 2015. Accessed at www.mintel.com/press-centre/social-and-lifestyle/america-is-back-to-pre-recession-spending-habits-of-save-less-and-spend-more.



CZ Bank branch transformation program in Hangzhou. Shikatani Lacroix and Metathink created a new exterior branding and interior digital and physical program.



their retail networks. The challenge would be less daunting if it weren't for the significant shift occurring in banking behavior as Millennials enter their formative years. Banks have responded by working at tearing down corporate silos and exploring new ways for their branches to remain relevant, as this channel of customer engagement remains the most critical in expanding growth and building customer loyalty.

In the CZ Bank assignment, we developed a facility design featuring curved walls; different intimate engagement zones; and a distinctive, private VIP banking area, in addition to integrating the newest digital technology. As part of the project, we wanted to explore how virtual reality (VR), augmented reality (AR) and neuroscience could help our client develop a new branch concept that connected with customers more effectively, driving desire for its brand versus competing institutions. We set out to gather information using the latest technology in VR and neuroscience. This groundbreaking research was the first of its kind, and was intended to demonstrate and validate the effectiveness of using VR and neuroscience to assess concepts prior to prototyping.

Neuroscience had already received acceptance by many scholars and researchers, but the portability of technology had advanced this field immensely in many research applications. However, the study we undertook was the first to combine neuroscience with VR for the purpose of creating environments and validating the design of concepts prior to constructing physical prototypes. Based on previous studies, we knew that true emotional responses could be determined and authenticated even when individuals were unable to express how they felt. My firm believed that neuroscience was a critical tool combined with traditional research to calculate the effectiveness of the impact of design on humanizing the physical environment. This isn't to say that conventional research doesn't provide value. However, when combined with neuroscience and VR, this type of research allows us to get closer to the reality of a new design and in turn achieve richer insights into how customers perceived the overall experience.

VR has significant benefits in getting closer to the ultimate customer experience well before a location is selected and construction is started. More important, it allows for an agile design process in which many options can be dealt with and endorsed quickly and effectively. For this project, 20 participants were recruited to participate in an ethnographic research study that employed VR, eye-tracking and an EEG headset to monitor emotional responses when exploring the new design of a CZ Bank location.

The test subjects were greeted at a coffee shop near the branch so that they wouldn't be familiar with the new design before having the virtual reality experience. Each respondent was connected to the EEG equipment and had an adjustment period in order to calibrate the equipment and determine a baseline. This baseline was used to gauge each respondent's reaction during the VR and real-environment experiences.

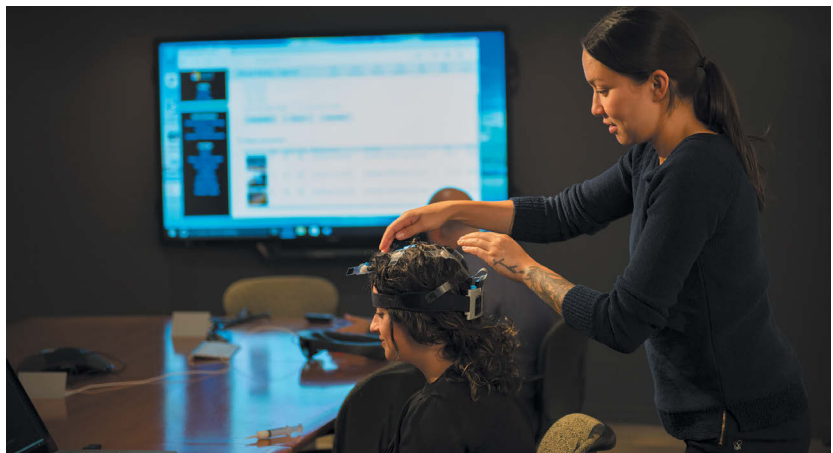
The analysis of brain waves with an EEG is a complex process. The EEG headset used for the study had 16 sensors to measure frontal, central and occipital parts of the brain. The study explored the feasibility of monitoring EEG indices of engagement and workload acquired unobtrusively and quantified during the performance of cognitive tests. EEG results were acquired from 20 healthy participants with a wireless sensor headset during tasks that included moving forward, backward, turning and walking with VR and eye-tracking equipment. The sensors had gyroscopes to eliminate excess noise from the EEG. The VR equipment used was an Oculus Rift connected to an Alienware notebook capable of processing highly detailed real-time environments with photorealistic detail at a minimum of 120 frames per second (60 fps per eye), which was necessary to avoid motion sickness caused by low refresh rates. The sensor allowed for free motion with a limited range, and a game controller was utilized to extend capability of travel to a greater range. The participants were asked to complete a set of tasks that included walking and exploring the environment freely as well as traveling to specific areas using the signage and wayfinding for reference. Next, the VR and neuroscience equipment was removed, and participants were asked a series of questions about their experiences.

The entire process was repeated twice by each contributor. The first time with the VR and EEG and the second time in the real environment, using the EEG and eye-tracking technology. The study was conducted over five days with participants spending two hours each on their journeys. A survey was conducted after both the VR and real-environment experiences.

When exploring the real branch environment, it was important to have participants sit in key areas. This wasn't possible in the VR environment because the chair wasn't real. In the real environment, we needed to track accurate measurements while the respondent wasn't moving. Motion of the head and the legs introduced noise into the raw EEG readings, which was



A researcher installing an EEG headset and Augmented Reality glasses as part of the CZ Bank research study.



mitigated by motion sensors and a gyroscope to automatically remove this noise and normalize the EEG readings. However, it was necessary to maintain these rest areas in the respondents' journeys to capture key areas of the experience with as much detail as possible. Particular sensory information was very valuable in the real environment and wasn't possible to capture in virtual reality. Participants who sat in the VIP areas touched the leather and received an emotional response by sitting and resting, which wasn't possible to reproduce in the VR experience. However, every effort was made to capture visual detail in the VR experience and particular attention was placed on finishes such as leather, marble, metals and woods as well as illuminating areas to closely match VR and real-environment results. The VR headset used a split view that created a very realistic perception of depth. The result was a very rich and immersive experience that elicited an emotional response that proved to be identical to the real environment. This was a method of brain imaging that recorded the brain's electrical activity at the surface of the scalp using sensors.

By evaluating the electrical patterns of their subjects' brain waves, researchers could assess the intensity of the participants' engagement and whether they exhibited positive or negative emotional responses to a stimulus. The human brain generates as much electricity as a light-emitting diode (LED) light bulb. Electroencephalography monitors electrical activity by applying non-invasive electrodes to the scalp where they can detect and record the electrical activity of thousands of neurons at the same time.

The Oculus Rift VR headset was employed with a powerful portable gaming computer with a sophisticated video card capable of handling the simulation at 120 fps. It was comprised of a stereoscopic head-mounted display (providing separate images for each eye) and head-motion tracking sensors that included gyroscopes, accelerometers and structured light systems. The result of VR is a highly realistic simulation of the real environment that elicits an almost identical emotional response to the physical world.

The real environment was recorded using a type of eye-tracking in which the individual's gaze was monitored and matched with the EEG data. A small camera captured what the respondent looked at during the session with a matching time code for measurement. The surrounding audio was also recorded.

Cognitive load is a measurement of how easily a message is understood. Messages in the environment should be understood quickly because the more easily they're comprehended, the more likely they can be remembered. The message or experience must also be related to the degree of motivation. If a stimulus is easy to understand but isn't motivating, it won't be successful. So, the ideal measurement is low cognitive load accompanied by high motivation. A good cognitive load score is 5.5 +/- 0.5.

Motivation measurement relates to approach versus avoidance behavior. That's what drives decision-making, which is based on right- versus

left-brain activity. These decisions are made instantly. Stronger frontal left- than right-brain activity is highly related to approach behaviors, while the opposite is connected to avoidance behaviors. Motivation is an impulse reaction made subconsciously before the conscious mind decides. It's a measurement of how we act on the information in the future and indicates the formation of a lasting impression. A good motivation score is 5.2 +/- 0.5. Visual attention is a measure of what the eye is drawn to. The recording of the VR and real environments coupled with the cognitive load scores indicates how an individual feels about a stimulus and how quickly it's absorbed and understood. Cognitive load and motivation, for our experiment, were measured with the EEG technology while visual attention was determined with eye-tracking and VR.

The study provided valuable information on the value of virtual reality, eye-tracking, and neuroscience to validate answers to survey questions in the ethnographic part of the research. The results of the virtual and real environments were very close, and the emotional responses collected by the EEG were indistinguishable between the two experiences. Differences such as individual preferences and digital signage in the environment had no significant effect on the responses collected. This research indicated that virtual reality and neuroscience are effective tools in evaluating concepts without investing in physical prototyping. The study identified that the new CZ Bank design had a significant impact on lowering the anxiety level of respondents while triggering higher than normal positive motivation responses, leading us to conclude that physical environments with great attention to design have a significant favorable impact on brand perception. We also discovered through this process that neuroscience studied with EEG headsets and VR is a viable and feasible resource to capture true emotional impressions without bias. EEG technology is particularly valuable as part of prototype ethnographic research because it bridges language barriers and cultural differences.

The design of pleasing objects or physical experiences that appeal to our deep subconscious doesn't occur by chance, and is guided by timeless principles, some of which date back more than 2,500 years. The importance of proportions is one of the classical principles serving as the foundation of design education and thinking. Proportions reinforce symmetry and balance and bring subtle unconscious order to products, allowing the recipient to feel confident and in control. The reason proportions are so important in influencing how we perceive brands is the fact they're part of our human makeup, since DNA consists of carefully crafted proportions of G, C, A and T bases. The most famous buildings that have lasted the test of time were designed by the ancient Greeks and Romans, who took into account the importance of proportions. From the width (1) and height (7) of the Tuscan and Doric orders of columns with a 1:7 ratio, to the Ionic order based on a 1:8 ratio, to the Corinthian order with a 1:9 ratio, human proportion was the guiding principle in classical design and continues to exist today.

To the ancients, the 1:7 ratio evoked the masculine, while the 1:8 and 1:9 ratios intimated the feminine.⁴

The neuroscience research we've reviewed, in addition to many other studies in this book, have proven that our subconscious mind can distinguish between what looks good or bad, and in part, that's due to familiar proportions. For example, the golden ratio (1.618, based on human proportions), as described by Euclid and Pythagoras, was the foundation for ancient Greek temples and is a fundamental guiding principle in classical architecture and design. The golden ratio can be seen in a whole range of human endeavors, including Aston Martin sports cars, famous paintings, such as the *Mona Lisa*, the standard credit card, a paragraph of text in a typical book, photographs arranged on a mantel, a Philippe Starck lemon juicer, a Chanel clutch, or the Parthenon in Athens.⁵ When we view brands from companies whose products incorporate classical proportions, such pleasing patterns encourage us to purchase them.

Another important feature of powerful design is the art of simplification in the overall look and feel, as well as user experience. When you observe any luxury automotive trend or the newest technology from Apple or Samsung, you notice that certain makes and brands engender a compelling sense of desire, and their creators are passionate about producing simple designs. From the latest commercial for the 5 Series BMW extolling the virtues of the car's fine lines, interior finishes and dashboard, to the new thinner, sleeker, more engaging user interface of the latest Apple MacBook Pro, the businesses behind these brands put significant emphasis on simplification and are rewarded with a high degree of desire for their merchandise.

With apps and voice-activated platforms such as Apple's Siri, Amazon's Echo and Google's Home, simplification in the user experience has gone even further. Well-designed brands arouse more intense desire, since they eliminate many of the typical friction points inherent in poorly designed products or environments that can generate considerable anxiety due to confusing user experiences. Companies with products possessing strong aesthetic features go well beyond functionality and appearance to develop a unique experience that delights and excites users. Such firms have realized that the ultimate customer experience is the single key driver in converting customers into dedicated fans and advocates who contribute stronger product ratings and endorsements. These unique experiences trigger pleasurable feelings that appeal to all of the users' senses, from unique, tactile feelings, to stylish-looking items customers want to display in their homes and offices. Let us not forget the actual smell and perceptual "taste" they inspire. Leveraging users' senses is the most effective approach to gain access to the emotional subconscious of customers.

4 See John Summerson, *The Classical Language of Architecture* (London: Thames & Hudson, 1980, revised and enlarged edition). The relevant first chapter (pages 12–13) of the 1964 Methuen edition of Summerson's excellent little book is online at www.arch.mcgill.ca/prof/adams/arch627/fall2008/pdf/The%20Classical%20Language%20of%20Architecture.pdf. Also see *Vitruvius: The Ten Books on Architecture*, trans. Morris Hicky Morgan (New York: Dover, 1960).

5 Matthew Hague, "In Search of the Golden Ratio in Architecture," *Globe and Mail*, August 13, 2014.

Summary

- Aesthetics delivered by great design yields products or experiences that are pleasing to the senses, and create a strong sense of desire.
- A study conducted by Steven Quartz and Anette Asp at Caltech University, studying more than 140 brands, identified that products with unique design features or strong links to effective emotional advertising have a greater impact on the sections of the brain that drive purchase decision and desire.
- Research conducted by Weiwei Han, Jing Wang and Suixiang Gao, on the influence of aesthetics on consumer decisions, identified that aesthetically pleasing products with inferior performance were preferred over average products with superior performance. The research also clearly noted that when product appearance conflicts with performance, aesthetic appearance still positively triggers brand preference.
- A 2015 study led by Mintel, as part of an *American Lifestyles* report, indicated that the greatest growth in Millennial sales well into the foreseeable future will come from brands focusing on delivering experiences.
- A VR/neuroscience study conducted on behalf of CZ Bank indicated that its new branch design had a significant impact in reducing the anxiety level of respondents. This led to the conclusion that physical environments with great attention to design have a positive impact on brand perception.
- Neuroscience is a viable and feasible resource, since EEG headsets with VR hardware capture true emotional impressions without bias. EEG technology is particularly valuable as part of prototype ethnographic research because it bridges language barriers and cultural differences.
- Consumers seek desirable products that eliminate anxiety or perceived lack of performance.
- The key aesthetic drivers are human-scale proportions and simpler designs with greater user experiences.

