The Fire of Desire: Neural Correlates of Brand Choice

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While different decision strategies and brand-choice processes are studied extensively in consumer research, little is known about whether and how the human brain is involved in computing these processes. The current paper reviews a functional magnetic brain imaging experiment analyzing the neural correlates of brand choice tasks. Brands are assumed to serve as an associative neural network or information chunk during choice processes which bias the applied decision strategy. The first choice brand dominates the decision strategy in the form of an affect heuristic. The results visualize and affirm the role of emotion and episodic memory in decision making.

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EXTENDED ABSTRACT

For many years the rationality assumption was regarded as adequate approximation for modeling and predicting human behavior in social sciences (Luce and Raiffa 1957; French 1988 and for reviews Baron 1994; Shafir and LeBoeuf 2002). Thus, it was assumed that people assess the impact and likelihood of possible outcomes of alternatives as well as the utility value of each alternative and integrate this information through some type of expectation-based calculus in order to arrive at a decision. Motivated by Simon’s work on bounded rationality Simon 1955 and later by Kahneman and Tversky’s research on intuitive judgments and heuristics (Kahneman 2002) it was shown that people use simple decision rules which do not follow basic principles of logic and reason. Thus, the inadequacy of the rationality assumption has been documented in the literature (e. g. Kahneman 1994). Although emotions were typically not considered in the rationality analysis, recent research was particularly concerned with investigating the role of affect in judgments and decision making (Loewenstein and Lerner 2003). Previous research has shown that affect can have a significant influence on choice processes (Schwarz and Clore 1988), affective deficits can decrease the quality of decision making (Damasio, Tranel and Damasio 1990; Wilson, Hodges and LaFleur 1995; Bechara et al. 1997), and the integration of affect in decision making models can increase their explanatory power (Mellers, Schwartz and Ritov 1999). Further, several empirical studies have proven that specific stimuli such as decision alternatives evoke an affective evaluation which is not always conscious (Zajonc 1980; Kahneman, Ritov and Schkade 1999; Bargh 2002).

Against this background Slovic and colleagues have introduced the concept of the affect heuristic (Slovic et al. 2002). The findings suggest that affect plays a double role in information processing and decision making (Loewenstein and Lerner 2003). On the one hand, conscious feelings are integrated as rational information in analytical decision strategies as in the case of the “How-do-I-feel-about-it?”- heuristic (Pham 1998). According to this concept, positive (negative) feelings lead to a favorable (unfavorable) evaluation. On the other hand, mostly subconscious emotions can directly influence decision making by an affect heuristic which is not mediated by brain areas being responsible for analytic information processing (Slovic et al. 2002). Using a readily available affective impression can be easier and more efficient than applying analytical decision-making strategies (Slovic et al. 2004). Thus, a positive rather than a destructive influence of emotions on decision making is assumed. The affect heuristic seems to be an adequate explanation of Adaval’s and Jacoby’s findings that the existence of a prominent brand during evaluation processes by consumers leads to a dominant overall effect (Jacoby, Olson and Haddock 1971; Adaval 2003).

In line with literature on brand relationship theory (Fournier 1998; Chaudhuri and Holbrook 2001; Aaker, Fournier and Brasel 2004; Thomson, Maclnnis and Park 2005), we assume that strong brands can be such an affect laden stimulus and that brand choice processes can be based on the affect heuristic concept. In contrast to other work which has been done in that field we examine consumer evaluations of nearly similar brand products from the same product class which can only be distinguished by the implicit and explicit brand information. We assume that brands are perceived as suggested by Jacoby (1977) as an information chunk which joins a “chunk” of information that has psychological significance. That means that the brand symbol activates a specific associative and implicit or explicit knowledge structure. If the brand knowledge exhibits a specific psychological effect, the brand has the potential to lead to a bias in decision strategy, resulting in the affect heuristic.

One major difficulty in examining the suggested affect heuristic is that most information processing is subconscious, in particular that related to emotions (Alba et al. 2002, Bargh 2002).

In order to gain new insights into the extensive literature in this field, a tried and tested measurement method from neuroscience is introduced into consumer research. Functional magnetic resonance imaging (fMRI) facilitates the analysis of human brain functions directly while the test persons perform decision-making tasks. Thus, intervening variables become observable and to date, non-observed influences of the effect and interplay between analytic and affective information processing could be analyzed by means of the new methodologies.

In an empirical study, the brain activity of two separate cohorts of twelve male and ten female healthy economic students during binary brand choice tasks were measured by a high-field magnetic resonance whole body scanner (for details see Deppe et al. 2005). As product categories, coffee for the group of female subjects and beer for the male group were used to ensure brand expertise. These commodity goods have similar ingredients (e. g. German purity law for beer) as well as sensory qualities, so that the brand itself functions as the major selection criterion.

The major finding of the study is that in a competitive choice situation, only the first choice brand (FCB) has the specific power to switch to the affect heuristic, whereas even a secondary rated brand fails to do so. Furthermore, our results provide evidence of two different pathways in brand choice. Based on the “Somatic Marker Hypothesis”, the FCB can be regarded as a stimulus, which evokes a somatic state that either “forces attention on the negative outcome of the decision” and immediately rejects the negative course of action, i. e. not to choose the FCB, or, if the marker is positive, it becomes a “beacon of incentive” to select the FCB. This FCB effect provides neuroscientific proof of the existence of the affect heuristic and a positive understanding of the influence of emotions in decision making. Our selection of the particular brand was based on implicit memory contents and experienced emotions, usually stored long before the actual decision. Thus, the consumption experience is seemingly a central factor in marketing management.

Finally, it could be assumed that, in a more general and social perspective the concept is not limited to consumer goods, but can possibly be expanded to other appropriate objects or persons.

REFERENCES


Luce, R. Duncan and Howard Raiffa (1957), Games and Decisions, New York: Wiley.


