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Arousal As a Driving Force For Decision-Makingempirical Results From Measuring Electrodermal Reactions At the Point-Of-Sale

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EXTENDED ABSTRACT - For more than 40 years, cognitive approaches to the analysis of problem-solving in buying decisions were the dominant paradigm. Thus, for the most part, the four main problem-solving types (extensive, limited, routinized, and impulse buying behavior) were characterized by the cognitive effort associated with them. However, in recent years, new research streams have shifted the focus to affective processes involved in buying decisions. In spite of this Aemotional turn@, the authors are not aware of any studies comparing the arousal between the four different types of problem-solving.

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Arousal as a Driving Force for Decision-Making—Empirical Results from Measuring Electrodermal Reactions at the Point-of-Sale

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EXTENDED ABSTRACT

For more than 40 years, cognitive approaches to the analysis of problem-solving in buying decisions were the dominant paradigm. Thus, for the most part, the four main problem-solving types (extensive, limited, routinized, and impulse buying behavior) were characterized by the cognitive effort associated with them. However, in recent years, new research streams have shifted the focus to affective processes involved in buying decisions. In spite of this “emotional turn”, the authors are not aware of any studies comparing the arousal between the four different types of problem-solving.

From a psychophysiological point of view, arousal is a fundamental feature of behavior. “Tonic” arousal refers to a relatively long-term state of consciousness that changes only slowly. “Phasic” arousal arises in response to specific stimuli, resulting in short-term variations in the arousal level. Phasic electrodermal reaction (EDR) has proven to be the most appropriate and valid indicator for measuring the activity of the preparatory activation-system which encompasses motivational aspects of arousal, and which is responsible for positive emotions, both being highly relevant for decision-making processes at the Point-of-Sale (POS).

Using EDR, the authors aim to address the above-mentioned lack of empirical research by considering a comparison of the evoked arousal between the different problem-solving types on the one hand, and on the other hand, weighting the evoked arousal of the problem-solving groups against the arousal reactions of consumers who decided to buy nothing. Relevant reasons for also taking non-buyers into consideration, result from diverse studies reporting that shopping trips can have a hedonic value and lead to increased arousal, irrespective of whether or not something is purchased. Nevertheless, since making a real decision implies more effort than leaving it, we hypothesize that buyers show higher phasic arousal reactions than non-buyers. Thus:

H1: On average (over all categories of problem-solving), buyers will show significantly higher phasic arousal than non-buyers.

Whereas the first hypothesis implies a simple comparison between buyers and non-buyers, in our second hypothesis we take the different types of problem-solving processes in the context of buying decisions into account. As discussed above, arousal may vary with the type of problem-solving, hence leading to the second hypothesis:

H2: Extensive and impulsive decision-making at the POS will be accompanied by significantly more phasic arousal than habitual decision-making.

Furthermore, we investigate the specific relationship between arousal and task performance. Since arousal is regarded as being a prerequisite for motivation and a “driving force” for accurate problem-solving, we hypothesize for the ascending part of the inverted-U-function:

H3: The higher the arousal, the higher the accuracy of complex problem-solving.

We tested our hypotheses in four empirical studies. Our first two studies were conducted at the POS in a mall and in a large department store for sports goods. The studies focused on the question of whether buyers perceive higher arousal than non-buyers. In both studies, we found significantly higher arousal for buyers than for non-buyers. Thus, H1 was confirmed.

In our third study in a local supermarket (which we chose as to yield at least some habitual purchases), we tested if arousal differs significantly for routinized, impulsive, and cognitive controlled buying. In accordance with theory, the results reveal significant differences with regard to the total amplitude between non-buying and routinized decision-making on the one hand and impulsive and cognitive controlled decision-making on the other. Thus, we found support for H2. Furthermore, there are also significant differences between non-buying and routinized decision-making with regard to frequency, which shows that even routinized shopping behavior is associated with more attention by the individual towards the assortment.

In the fourth study, we experimentally tested the relationship between arousal and task performance by asking test subjects to examine the value-for-money ratio of different and complex computer hardware offers. Multivariate data analyses using accuracy of task performance as dependent variable and arousal, time needed to complete the task, as well as computer know-how as independent variables reveal that only arousal contributes significantly to the accuracy of task performance. Thus, H3 was supported.

In summary, arousal was found to be an important construct for the explanation of buying behavior. Even in the first study, where we were only able to measure consumers’ intention to buy something, it was evident that decision-making is obviously connected with higher arousal, or in other words, these consumers were more affected by the range of items or the visual merchandising concepts.

In accordance with theory, on the one hand, the third study demonstrates (with respect to convenience goods) that impulsive as well as cognitive controlled buying behavior are associated with higher phasic arousal than habitual decision-making. On the other hand, our findings also show that even routinized shopping behavior relates to more attention by the individual towards the assortment, than non-buying.

Last but not least, the fourth study shows—again in accordance with prior research—that there is a significant relationship between arousal and performance. Thus, it is apparent that arousal is necessary for complex problem-solving and a better predictor of task performance than time.

Some limitations should be addressed in further studies: Firstly, our findings are based on relatively small sample sizes. This is mainly due to the complex EDR measurement process. Furthermore, the setting of our third study led to a concentration on convenience goods and should be extended to shopping goods in

430 / *Arousal As a Driving Force for Decision-making*

further studies. It might be that in stores selling shopping goods (e.g. fashion stores) there are more hedonic shoppers who love to browse through the store, simply enjoying the atmosphere without buying anything. In this case, it might be possible that hedonic non-buyers are more aroused than habitual buyers (provided that automatic buying behavior can be found here at all).