The Impact of Mathematics Anxiety on the Evaluation of Price and Price Presentation Formats

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Price, a numeric aspect of product information, requires simple calculations and comparisons with either prices of competing offers or a price in memory to determine the savings or evaluating an offer. However for some consumers these computations could become a source of anxiety. This research develops a conceptualization that predicts the effects of mathematics anxiety and motivation to process information on the processing of price information and price presentation formats. The results from two studies show that mathematics anxiety influences the evaluation of prices and the perception of discounts in dollar off and percentage off price presentation formats.

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The Impact of Mathematics Anxiety on the Evaluation of Price and Price Presentation Formats

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Price, a numeric aspect of product information, at times requires simple calculations and comparisons with either prices of competing offers or a price in memory to determine the savings or evaluating an offer. But for some consumers these computations could become a source of anxiety. This research develops a conceptualization that predicts the effects of mathematics anxiety and motivation to process information on the processing of price information and price presentation formats. The results from two studies show that mathematics anxiety influences the evaluation of prices and price presentation formats.

Intuition in Consumer Decision Making

Wilson O Readinger, Klein Associates Inc.

Almost 30 years ago, Mace (1977) published a paper on his interpretation of the theories of perception espoused by psychologist James J. Gibson. The subtitle of that paper should serve as a constant reminder of a very common mistake in consumer research, as well as a roadmap to significantly greater understanding of consumers and consumer decision making from an academic and an applied perspective: “ask not what’s inside your head but what your head’s inside of.” Qualitative research into naturalistic decision making (e.g., Zsambok & Klein, 1997), including consumer decision making (e.g., Readinger, 2004), has repeatedly shown the importance of recognizing environmental cues in making split-second decisions. Currently, the most convincing model explaining this phenomenon is Klein’s (1989) Recognition-Primed Decision (RPD) model. It shifts the emphasis of decision making away from selecting among a set of options, and towards assessing a situation and mentally simulating courses of action. Essentially, it places a premium on the ability of the decision maker to perceive and interpret the environment. In this framework, recognizing relevant aspects of past experience in the current situation is the fundamental step in making many rapid decisions. Therefore, understanding “what the head’s inside of” is the key to understanding consumers’ intuitions in many naturalistic situations.

Domain experts recognize in an instant the presence of certain contextual factors that tell them nearly everything they need to know about a situation. For example, critical care nurses in a neonatal intensive care unit (NICU) know (without explicitly knowing that they know) the factors that indicate sepsis (Crandall & Calderwood, 1989). They may have memorized a list of symptoms “by heart,” but they recognize the physical manifestations of those symptoms “by intuition.” In many cases, all such experts need is an appropriate frame in which to situate their cognition; they need to recognize features of the environment that are familiar, and then proceed to build expectations about what will happen next and what cues and factors they should pay attention to. Consider another example. When professional hockey players are on the ice in a game situation, they recognize a defense and take actions to exploit its weaknesses well before they can verbalize where their opponents are located and what they’re doing (Readinger, Ross, & Phillips, in preparation). The action (or reaction) seems to precede the explicit decision. The players call it intuition or instinct, and it is very similar to what the NICU nurses mentioned above.

Intuition, though, is a keen perception of the environment, now and in the past. It is the conjunction of what an expert has thought and done before, when the environmental context was relevantly similar.

In this sense, buying a product is not significantly different from recognizing sepsis or playing professional hockey. The critical contingency in the comparison is the “expertise” of the consumer. Is he or she an expert, in the way that the NHL hockey players or the nurses are? There are differences, but the similarities are more striking. The ability to “size up” a situation in a moment’s glance often comes with practice, and it is present when a shopper purchases household goods at a supermarket, just as it is when nurses diagnose sepsis. Behavior often becomes routinized and difficult to verbalize, when consumers are questioned. In the extreme, the experts do not even recognize that they are making any decisions at all. Certainly not all consumer behavior will be at the expert level; purchases made infrequently, for example, are often considerably more analytical (involving the explicit comparison of options) in nature. In these cases, there has been no opportunity for intuition to develop, no environmental and contextual factors that can be grouped across experiences. In some cases, though, consumer intuition can be studied and demystified in the same way that tacit, expert knowledge has been researched in other domains.

Research techniques exist, such as the Critical Decision Method (e.g., Hoffman, Crandall, & Shadbolt, 1998), that focus attention on the aspects of the environment that are critical in making rapid decisions. These have been used on a somewhat limited basis for purposes of consumer research, but will be critical in further exploring the role of intuition in consumer decision making, as well as identifying the cases where analytical decision making predominates. Consumer needs and wants can ultimately be better met when research professionals have the appropriate tools and theoretical stance to uncover the primary environmental cues and factors behind split-second, intuitive behaviors, and relate these to cognition and behavior.

References