Special Session Summary  the Influence of Choice Sets and Screening Processes on Decision Quality

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SESSION OVERVIEW

Decision makers are often confronted with a large number of alternatives during the course of their decisions. In order to simplify decision making in such information intensive environments, the set of available alternatives are often divided into subsets by some external (e.g., a product display format at a retail store) or internal (e.g., a screening or decision rule) factors. The primary purpose of these subsets or choice sets is to categorize and organize information in order to facilitate better decision making. For example, retailers organize shelf displays in a manner so as to reduce the effects of information overload, websites often provide screening tools that help consumers order the available options and better match their preferences, and consumers screen alternatives in order to improve the quality of their decisions during the relatively effortful choice stage. In fact, a fairly large body of work supports the intuitive notion that the ability to create and structure these choice sets has a beneficial effect on consumer decision making (e.g., Alba et al. 1997, Haubl and Trifts 1999, Lynch and Ariely 2000). In contrast with this prevailing sentiment, a recent, albeit nascent, body of research (e.g., Iyengar and Lepper 2000, Diehl, Kornish and Lynch 2003, Moorman et al. 2005) provides evidence to the contrary. These papers posit that although the ability to create and structure choice sets allows for easier search, it can often lead to lower decision quality.

The three papers in this session contribute to this debate in two very specific ways. First, these papers add to this nascent body of research by providing further evidence that screening mechanisms can be deleterious to decision quality, irrespective of whether these screening mechanisms are internally generated by the consumer (Chakravarti, Janiszewski, and Ulkuemian paper) or externally provided by the retailer (Diehl paper; Iyengar and Mogilner paper). They provide strong evidence that activities undertaken at an early stage of decision making, like structuring choice sets and using screening mechanisms, can often have a greater impact on the quality of the final decision than the nature of the deliberations during the final choice phase. Second, and perhaps more importantly, these papers also add to this body of literature by uncovering specific conditions under which these choice sets ameliorate or attenuate the quality of the final decision.

Chakravarti, Janiszewski, and Ulkuemian show that the task of screening alternatives (e.g., during consideration set formation) induces a non normative tendency to “discard” the screening information in subsequent stages of decision making. This tendency to “discard” the screening information often leads to sub optimal, and systematically different, final choices. In a similar vein, Diehl argues that improving the quality of consumers’ consideration sets will have a bigger impact on decision quality than improving how consumers decide among considered options. Finally, contrary to previous research (Iyengar and Lepper 2000) that cautions against the provision of “too much choice,” Iyengar and Mogilner present evidence that the allure of large product displays can be maintained while alleviating the detrimental consequences of choice overload by delineating smaller consideration sets within large option displays. These papers also benefited immensely from the comments offered by S. Ratneshwar, the discussant, who helped highlight the commonalities between the different findings.

EXTENDED ABSTRACTS

“Preference Reversals Induced by Screening: Biasing Effects of a Two-Stage Decision Task”

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Chris Janiszewski, University of Florida
Gülen Ulkuemian, New York University

The current, and most broadly held view of the role of pre-choice screening of options (or consideration set formation) is that it serves to reduce the decision maker’s workload by paring down the number of alternatives to be examined at the final choice stage. In many ways this role can be interpreted as that of being a “facilitator,” an intermediate cognitive mechanism that helps the decision maker in choosing the optimal alternative. In short, screening is seen as an important step in avoiding information overload and making better choices. Consistent with this notion, a fairly large body of work shows that the ability to create consideration sets has a beneficial effect on consumer decision making (e.g., Roberts & Nederpadi 1995). Thus decision tools and aids that allow consumers to structure and organize their decision environments (e.g., web based screening tools) have been strongly endorsed by both the popular press and the consumer decision making literature (e.g., Alba et al. 1997, Haubl and Trifts 1999, Schlosser 2003, Lynch and Ariely 2000). While the role of screening in reducing information overload is hardly disputable, we provide fairly strong evidence that pre-choice screening of alternatives can often lead to sub optimal decisions.

We show that the seeds of lower decision quality often get sown at the screening stage itself. In two experimental studies we show that the task of screening alternatives (e.g., during consideration set formation) induces a non normative tendency to “discard” the screening information in subsequent stages of decision making. This tendency to “discard” the screening information often leads to sub optimal, and systematically different, final choices for decision makers who screen alternatives, in comparison to decision makers who do not engage in screening. This leads to a breakdown in the traditionally assumed (e.g., Hauser 1978) correspondence between consideration likelihood and the likelihood of choice. Thus the strength of consideration (i.e., how strongly an alternative is considered) may often not have any bearing on the likelihood of getting chosen in the final choice stage.

In all studies subjects were given six brands (A-E) of microwave popcorn to choose from. Three of these brands (A, C, and E) were the target brands of interest. The stimuli matrix was designed so as to create a negative correlation between the attractiveness of these three brands on the screening and post-screening attributes. Thus, in terms of the screening information the attractiveness ratings of the three brands followed a pattern (i.e., A > C > E) that was opposite to that of the attractiveness ratings of the three brands in terms of the post-screening information (i.e., A < C < E). These three brands were also designed so that they were highly likely to survive the screening process. Such a stimuli matrix is ideally suited to test whether subjects tend to discard the screening information. If subjects did indeed discard the screening information and paid more attention to the post screening information, then their choices should be systematically different from choices made by subjects who do not follow a two-step decision task.
Experiment 1 not only documents this basic effect (i.e., the tendency to “discard” the screening information), but also shows that the effect persists even when the screening information is regarded as more important than the post screening information. Experiment 2 shows that pre-choice screening encourages decision makers to put an inordinate emphasis on the post screening information, so much so that variations in the final choice shares can largely be explained by variations in the attractiveness of the post screening attributes. Experiment 3 shows that once the screening stage is completed, decision makers perceive very little variance between alternatives on the pre screening information, and consequently, feel licensed to ignore the pre screening information at the final choice stage. Together, the results show that a brand’s strength of consideration (i.e., how highly an option ranks on screening criteria) may have little influence on the likelihood it is chosen in the final choice stage.

“Improving Decision Quality by Altering Consideration Sets”

Kristin Diehl, University of South Carolina

Research in consumer behavior and decision making has tried to understand how consumers make decisions among a set of options and also what determines the quality of their decision (e.g. Payne, Bettman and Johnson 1993). The one overarching conclusion from research on decision making has been that decision makers are subject to a host of biases and that their decisions are often suboptimal (e.g. Gilovich, Griffin, Kahneaman 2002). Therefore an important area of research has been trying to improve the decision making process. Researchers have investigated different ways of improve the decision making process for example by encouraging the use of decision support tools (e.g. Hoch and Schkade 1996).

Prior research has focused heavily on improving how consumers choose from a given set of options. While it is very important to understand these processes, the research presented here argues that, when trying to improve decision quality, improving the quality of consumers’ consideration set will have a bigger impact on decision quality than improving how consumers decide among considered options.

The decision making process has been conceptualized as a hierarchical, two stage process (e.g., Howard and Sheth 1969; Nedungadi 1990; Roberts and Lattin 1991). The overall quality of a decision can be affected by choices made in either stage. Consumers can be selective in terms of which options to include in the consideration set (stage 1) and/or can be selective among the options they choose from that set (stage 2). Selectivity at either stage should improve decision quality. However, since being part of the consideration set is a precondition for choice, I argue that decisions pertaining to stage one of the decision making process will have a stronger impact on overall decision quality than those affecting stage two of the decision process.

Hauser’s (1978) analysis from the ASSESSOR database supports this proposition. He shows that uncertainty in final choices is explained mainly by whether an item is included in the consideration set accounts, not by relative preferences among the considered options. Findings by Moorman et al. (2005) also support the idea that improving the quality of the consideration set will have a stronger effect on decision quality than improving decision strategies from that set. They show that boosting subjective but not objective knowledge can improve choice quality if subjective knowledge can lead to better consideration sets. The research presented here builds on these findings and investigates the impact of accuracy motivation on consideration set quality and overall decision quality.

Research on accuracy goals has shown that such goals can stimulate more systematic processing and decrease consumers’ susceptibility to biases (e.g. Payne, Bettman and Johnson 1993). However, Tetlock and Boettger (1989) demonstrate that greater accuracy motivation also encourages people to take a wider array of information into account. This behavior introduces non-diagnostic information into the decision process and can lead to worse decisions. The former finding suggest that greater accuracy motivation improves choice quality among alternatives (stage 2), while Tetlock and Boettger’s work suggests that such motivation decreases the quality of the consideration set (stage 1). I predict that if non-diagnostic information can easily enter the decision process, the negative effect of greater accuracy motivation on consideration sets will outweigh the positive effect on selectivity among those options. However, if accuracy motivation cannot affect the consideration set, greater accuracy motivation may improve decision quality.

These predictions were tested in a laboratory experiment that asked participants to select a MP3 player on behalf of a target consumer (principal-agent task). Quality of the consideration set and the chosen option were determined by how well the target’s preferences were met. The study followed a 2 (accuracy) by 2 (search cost) between subjects design. Accuracy motivation was manipulated by telling participants that the five people that chose best on behalf of the target consumer would receive a monetary reward of $10 (high accuracy) or $1 (low accuracy). In order to vary the degree to which non-diagnostic information would enter the decision process options were always ordered by decreasing expected utility and search costs were manipulated. Greater search due to lower search cost increased the likelihood that non-diagnostic information, i.e. inferior options, would enter the decision process. Participants were required to enter at least one option into a shopping cart before making a decision, imposing a two stage decision process on participants. This procedure allows us to investigate the effect of accuracy on the consideration set, measured by the average quality of options included in the cart, as well as on the quality of the option chosen from that set.

As predicted, when search costs were low, greater accuracy motivation decreased the quality of the consideration set and also led to significantly worse choices. However, when search costs were high, high accuracy motivation did not affect the quality of the consideration set. Greater accuracy goals, however, did improve overall choice quality. Findings from this study support the idea that the effect of accuracy motivation on consideration sets supersedes its effect on choosing from that set.

Researchers have long tried to improve the quality of consumers’ decisions. The research presented here suggests that it may be more worthwhile to improve consumers’ consideration set than trying to improve the decision strategies used to choose from among those sets.

“When When More Choice Motivates: Considering the Benefits of Perceived versus Actual Choice on Outcome Satisfaction”

Sheena S. Iyengar, Columbia University Business School

Catherine Mogilner, Stanford Graduate School of Business

While psychology research has shown that people do experience empowerment through the exercise of choice (Deci and Ryan 1985, deCharms 1968), the implications of this research have been limited by more recent work which suggests that the amount of information that accompanies an increasing number of options may in fact impair the exercise of choice (Schwartz 2000, Iyengar and Lepper 2000, Iyengar and Jiang 2004). The studies of Iyengar and Lepper (2000) demonstrated that customers were drawn to displays providing larger choice sets but that once faced with the task of...
choosing from amongst the extensive number of options, these customers were less likely to purchase and less satisfied with their selected item than those who had experienced a smaller choice set. Iyengar and Jiang (2004) further demonstrated that an increase in the number of options led choosers to make objectively dysfunctional choices. It thus appears that when choosers are unable to fully process all of the options available to them, their confidence in their decision and their ability to choose the best option is likely to diminish. Additional options seemingly thwart rather than enhance consumer empowerment.

The “too much choice” phenomenon stems from humans’ limited ability to assimilate and process information during a given amount of time (Broadbent 1971, Driver and Streufert 1969, and Miller 1956). An increased number of competing alternatives presented at the same time decreases choosers’ ability to distinguish between the options, therefore, decreasing their ability to recognize preferred choices (Shafir, Simonson, Tversky 1993, Tversky and Shafir 1992). However, choosers’ ability to distinguish between options and to evaluate options’ attributes is affected by the information structure embedded in the option display (Hoch, Bradlow, and Wansink 1999). Thus, categorizing items in a display may help forgo the cognitive overload associated with having to process the attributes of every option by highlighting particular attributes. Categorization would in effect limit choosers’ consideration sets at multiple stages throughout the choice process leading them to arrive at attribute-informed, optimal choices.

The present research examines whether the allure of large product displays can be maintained while alleviating the detrimental consequences of choice overload by delineating smaller consideration sets within large option displays. In the context of magazine displays, we examined the relationship between satisfaction and the perception versus the provision of choice. We hypothesized that perceived choice would drive satisfaction rather than the actual number of options, and that perceived choice would be influenced by option categorization. Unlike past work, this research distinguishes between focused choosers looking for a familiar option and unfocused choosers who utilize the array of options to discover an unfamiliar preference. We further hypothesized that those seeking variety within the choice set would be more susceptible to display manipulations. The findings of a field study and two lab experiments support these hypotheses.

The field study took place in the magazine aisles of 10 branches of an upscale American supermarket chain known for its remarkable provision of variety. Each of the 10 aisles offered between 331 and 661 different magazine options. The observations and interviews of approximately 500 customers verified consumers’ predicted high valuation of choice. The amount of choice that customers felt the display provided correlated positively with customers’ stated satisfaction, and consequently their likelihood to purchase. Interestingly, however, customers’ perception of choice was significantly more correlated with the number of magazine categories than with the actual number of magazines in the display. Irrespective of the actual number of magazine options available, customers who picked an unfamiliar magazine perceived more choice when the display was divided into a greater number of magazine categories. Conversely, the perceived choice of customers who were looking for a particular, familiar magazine remained unaffected by the display of the options.

Findings from two subsequent lab experiments provided further support for the hypothesis that choosers seeking an unfamiliar option would perceive more choice when the options were further categorized, whereas the perceived choice of choosers seeking a familiar option would remain unaffected by display manipulations. Half of the participants chose from a display divided into three broad categories, while the other half chose from a display that was divided into 18 more specific categories. In one experiment subjects chose a familiar or unfamiliar magazine based on their own volition, whereas in the other experiment the choice goal was experimentally manipulated. As in the field study, all choosers were more satisfied with the display when they perceived there to be a greater amount of choice. Furthermore, the perceived choice of participants who chose an unfamiliar magazine was higher when the display was divided into 18 categories than when the same display was divided into three categories. The perceived choice of those who chose a familiar magazine remained unaffected by the layout of the display. For an unfamiliar chooser a larger number of more specific categories presumably creates smaller, more cognitively manageable consideration sets.

Thus, the findings of these field and laboratory experiments validate that people desire choice, but that their perception of choice may be unrelated to the actual provision of choice. This disjuncture is a consequence of humans’ limited ability to exhaustively process the attributes of every option in an extensive choice set. Categorization, however, helps narrow large choice-sets by making the preference criteria more salient to choosers. By helping customers to cognitively locate their preferred option within exorbitant choice sets, retailers could potentially alleviate the detrimental effects of choice overload.

REFERENCES


