Investigating Choice Behaviour Execution: A Chinese Durable Good Perspective

Wei Shao, Griffith University, Australia
Sharyn Rundle-Thiele, University of Southern Queensland, Australia
Ashley Lye, Griffith University, Australia

ABSTRACT

This study investigates consumer decision behaviour by specifically analysing if and when consumers use more than one strategy, and possibly only parts of those strategies, in situations that only involve one decision. A computer process tracing method was used to analyse 262 single decisions. Consumers seldom use a single literature-based strategy for a single decision and many strategies used were not literature-based.

BACKGROUND

Previous research in the area of consumer decision making has paid little attention to strategy use in single decision processes. Furthermore, the decision strategies currently investigated in that area of decision research only inadequately explain situations in which (a) more than one strategy and (b) possibly only parts of those multiple strategies are used (Huber 1980; Payne, Bettman and Johnson 1995). As stated by Payne, Bettman and Luce (1998), “[i]t is unlikely that actual choice behaviour involves a straight forward execution of one choice strategy or another” (p. 541). Also, Huber (1980) noted that: “[d]ecision makers often use only part of a strategy” (p.187-88). Therefore, it appears to be of importance that research investigates and achieves understanding of situations in which multiple strategies, or only parts thereof, are used by consumers in a single decision. This study investigates consumer decision behaviour by specifically analysing if and when consumers use more than one strategy, and possibly only parts of those strategies, in situations that only involve one decision.

Our current understanding of consumer decision-making in a consumer context suggests that consumers are adaptive decision makers who utilise different decision strategies across different environments (Eisenhardt 1989; Jacoby et al. 1994; Payne, Bettman and Johnson 1988, 1990, 1993, 1995). Furthermore, it has been suggested that decision makers may use one or more decision strategies in a single decision task (Payne, Bettman and Johnson 1995). However, few attempts have been made to consider this empirically. Many strategies have been documented by consumer decision researchers. Consumer decision strategies that have been described previously include Weighted Adding, Equal Weight (Einhorn and Hogarth 1975), Additive Difference (Tversky, 1969), Majority of Confirming Dimensions (Russo and Dosher, 1983), Satisficing (Simon, 1955), Conjunctive (Dawes, 1964), Disjunctive strategy (Dawes, 1964), Compatibility test (Beach and Mitchell, 1987), Satisficing Plus (Park, 1978), Lexicographic strategy (Tversky, 1969), Minimum Difference Lexicographic, Lexicographic Semiorder strategy (Tversky, 1969), Elimination-By-Aspects strategy (Tversky, 1972) and Dominance strategy (Lee, 1971). While many consumer decision-making strategies have been described, researchers (e.g. Huber 1980) acknowledge that literature-based decision strategies may “cover only a subset of all possible simple strategies”.

Although researchers argue that different decision strategies may describe different aspects of a consumer’s decision process (Huber 1980), no study has looked at if and when consumers use more than one strategy, and possibly only parts of those strategies, in situations that only involve one decision. This study employs a computer process tracing method to gain insights into how often consumer’s use (a) more than one strategy, (b) parts of multiple strategies, and finally how often consumer use (c) strategies that are not literature-based.

METHOD

Tracing one consumer decision requires a methodology and data capture mechanism that captures activity during the decision, without constraining the respondent’s ability to drive the process. Computer process tracing methods have been used to study repeated choice and to compare actual supermarket choices with simulated choices (Burke et al. 1992). This computer simulation employed ‘mouse click’ data capture (both mouse click and keystrokes were captured) to trace and store each respondent’s information search and decision activity.
Research Design
To overcome the claim that choice set is not an observable construct (Andrews and Manrai 1998) the computer process tracing method had the flexibility to allow both alternative- and attribute-based processing and by capturing mouse click data all literature-based strategies were able to be identified. Respondents could select and apply decision strategies they anticipated would be the best for the decision task. The computer process tracing method allowed respondents to:

1. Examine each air conditioner one by one (alternative-based).
2. Compare the values of each attribute across the models (attribute-based), or
3. Use both alternative- and attribute-based processing in a single decision process.

A decision log was generated for each decision. The decision logs allowed us to observe the decision making process for each respondent. The decision process for each respondent was analysed using the decision log.

Research sample
The research sample involved two hundred and sixty two mature age Chinese from two major cities in the Special Economic Zone of the People’s Republic of China. Respondents were provided with a scenario requiring them to purchase an air conditioner for an 18 metre squared room from nine available options. No time constraints were placed on the decision makers; utility was not implied and the decision pathway was left to the respondent. Finally, no constraints were imposed nor were respondents instructed to use any particular type of decision process (strategy); instead, respondents were free to find their own way to the final decision. This flexibility differentiates this research from consumer decision research to date.

Data Analysis
Each decision strategy was defined by a unique combination of distinguishing characteristics derived from the extant literature. This research used the distinguishing characteristics of the decision strategies to categorise the decisions made. For example, a consumer would be deemed to have used a satisficing strategy if the decision process was a non-compensatory, alternative based comparison, where attributes are considered within each alternative, for desired attributes, where the customer chooses the first acceptable alternative, meeting a cut off for the criterial attribute.

After the decision-making log and the verbal protocols were obtained for each respondent, the observed decision process characteristics were compared with the distinguishing characteristics of the decision strategies. A matching process was undertaken to determine the decision strategy, strategies, or part thereof, each respondent used. A particular decision strategy was identified when the observed decision process and the distinguishing characteristics were fully matched. When the observed characteristics matched a subset of the distinguishing characteristics, the researcher had to determine whether the subset was unique to a particular decision strategy. If the answer was yes, it was determined that a part of a particular decision strategy was used. If the answer was no, the observed decision process characteristics were not related to any particular decision strategy.

RESULTS
The majority of respondents (85%) used more than one strategy within a decision process. Many consumer decisions (44%) involved three or four literature-based strategies. Table 2 summarizes the frequency of the strategies used by respondents, the frequency of partial strategy use and finally, the frequency of the exclusive use of a documented decision strategy within the decision process for the two-hundred and sixty two (262) respondents.

More than seven hundred incidences of literature-based consumer decision strategies were identified in the analysis (see Table 2), suggesting that, on average, consumers used between two to three literature-based consumer decision strategies for a single durable goods decision. More than two thirds involved partial use of a literature-based strategy, which suggests that partial strategy use, may be common in consumer decision making.

Weighted Adding (WADD), Equal Weight (EQU), Disjunctive (DIS), Satisficing-Plus (SAT+), and Lexicographic Semiorder (LES) decision strategies were not used by respondents in this study. Respondents did not consider one alternative at a time using all attributes a requirement of both the Weighted Adding and Equal Weight (Einhorn and
Logarth, 1975) strategies. Satisficing and Elimination by Aspects were the decision strategies used most frequently by respondents for this decision task. Lexicographic and the Compatibility test decision strategies were also used quite frequently by respondents for this decision task. Frequent incidences of the partial use of elimination by aspects and satisficing are of particular note. Incidences of the partial use of lexicographic and the compatibility test are also notable.

Incidences of the exclusive use of decision strategies were also identified. However, the exclusive use of a strategy was not as frequent as partial strategy use. Strategies that tended to be used exclusively by respondents included dominance and additive difference strategies.

CONCLUSIONS

A major constraint on consumer decision research (e.g. Chintagunta 1992) is a methodological requirement that researchers must assume that all members of the population are homogeneous. That is, all researchers must model all respondents using the same type of decision process for a given choice decision (Gensch 1987). The major weakness of these models is that the inclusion of a single strategy or decision rule does not allow researchers to adequately capture complex decision processes or the utilisation of multiple decision strategies within a single decision process.

Using a computer process tracing method we have identified the dominant use of multiple decision strategies in a single decision task. A single decision rarely involves a straight forward execution of one choice strategy. For example, consumers seldom complete an iterative process of the Elimination-By-Aspects strategy (EBA); instead, consumers use only part of the strategy in a selective decision process, focusing only on alternatives that exceed cut off levels. The results of this research suggest that partial strategy use is dominant in consumer decision making while exclusive use of decision strategies is limited. That is, many respondents use different aspects of one or more decision strategies in a single decision process. These results suggest that consumers may use one, or a few, or all of the distinguishing characteristics of the Satisficing strategy (SAT). On some occasions only the decision-rule of the Satisficing strategy (SAT) was used. Consumers were found to use a combination of Elimination-By-Aspects (EBA) and Conjunctive (CON) strategies in an iterative process to eliminate unacceptable alternatives until an alternative was found to be acceptable; consumers then chose that alternative using a Satisficing decision rule. Further, consumers may use Satisficing (SAT), Conjunctive (CON), and Compatibility Test (COM) strategies without confining themselves to alternative-based processing.

Many decisions made do not conform to any of the literature-based decision strategies suggesting more work is required to document and detail these additional strategies. This finding supports the view of Huber (1980) that consumer decision research should not be limited to literature-based decision strategies. This research demonstrates that some of the simple decision strategies used by consumers’ are yet to be defined, suggesting this is a rich arena for future research.

REFERENCES

Psychologica. 66 (3): 201-220.
Dawes, R. M. 1964. “Social selection based on multidimensional criteria.” Journal of Abnormal and Social


Table 1: Consumer Strategies: Descriptive statistics

<table>
<thead>
<tr>
<th>Decision strategies</th>
<th>Frequency</th>
<th>Using part of a strategy</th>
<th>A straight forward execution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage (%)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Elimination by Aspects (EBA)</td>
<td>167</td>
<td>165</td>
<td>99</td>
</tr>
<tr>
<td>Satisficing (SAT)</td>
<td>151</td>
<td>135</td>
<td>89</td>
</tr>
<tr>
<td>Lexicographic (LEX)(^1)</td>
<td>114</td>
<td>86</td>
<td>75</td>
</tr>
<tr>
<td>Compatibility test (COM)</td>
<td>114</td>
<td>65</td>
<td>57</td>
</tr>
<tr>
<td>Conjunctive (CON)</td>
<td>76</td>
<td>35</td>
<td>46</td>
</tr>
<tr>
<td>Dominance (DOM)</td>
<td>47</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Additive Difference (ADD)</td>
<td>26</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Maj. of conf. dimensions (MCD)</td>
<td>23</td>
<td>10</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>718</strong></td>
<td><strong>499</strong></td>
<td><strong>219</strong></td>
</tr>
</tbody>
</table>

\(^1\) Including Minimum Difference Lexicographic (LED) strategy