Title: Australian consumers’ automobile decision-making styles and an application of consumer styles inventory (CSI).

Dr. Tahmid Nayeem, Swinburne University of technology. tayneem@swin.edu.au
Dr. Steven J. Greenland, Swinburne University of Technology. sgreenland@swin.edu.au

Keywords: Consumer styles inventory, automobile purchases, Australia

Abstract

The investigation of consumer decision-making styles has a long tradition in marketing and consumer behaviour research. The most commonly used measure of consumer decision-making styles is Sproles and Kendall’s (1986) Consumer Styles Inventory (CSI). A major limitation of the CSI is that it measures general shopping orientation, with studies focusing on non-specific product types or low involvement purchases. However, not enough research has been done on consumer decision-making styles for high involvement purchases. This research investigates the decision-making styles, and compares high involvement consumers’ decision-making styles with Sproles and Kendall’s (1986) model. Based on a sample of 202 respondents from Australian automobile consumers, exploratory factor analysis was conducted on Sproles and Kendall’s (1986) CSI adapted for automobile purchases. Results showed that only two factors (brand and habitual) of the original model were retained and some other factors such as investigation process; dealers, enjoyment; value within budget and innovation consciousness factor were also confirmed for high involvement decision-making styles. As such the validity of the CSI in the context of high involvement purchases can be known.

Introduction

Consumer decision-making styles can be defined as a cognitive and affective or ‘mental’ orientation characterising a consumer’s approach to the overall decision-making process (Sproles & Kendall 1986). The CSI is based on preliminary work done by Sproles (1983), in which he argued that there are certain fundamental styles that all consumers apply to their shopping and buying. These styles included brand, price or quality consciousness, and provided a conceptual framework for describing consumer decision-making styles. Sproles, together with Kendall (1986), later developed a revised model of eight consumer decision-making styles based on cognitive and personality characteristics. Each of these styles independently characterises a fundamental intellectual approach to consumption (Hanzaee & Aghasibeig 2008). Sproles and Kendall’s eight consumer decision-making styles are provided below:

1. Perfectionist, high quality conscious
2. Brand conscious
3. Recreational, fashion conscious
4. Price conscious
5. Impulsive, careless
6. Confused by overchoice
7. Habitual/brand loyal
8. Novelty fashion conscious
Several studies have confirmed Sproles and Kendall’s (1986) original eight consumer
decision-making styles (see Durvasula et al., 1993; Hafstrom, Chae and Jung 1992; Leo,
Bennette and Hartell 2007) although other studies have recommended modifications of the
scale (Fan and Xiao 1998; Lysonski et al., 1996; Mitchell and Bates 1998; Burns and Brady
2001, Leo et al. 2005). The reliability and validity of the CSI was originally established based
on a sample of female high school students (studying home economics) in the US (Sproles
and Kendall 1986). Many subsequent studies were also based on US consumers (see e.g.,
Burns and Brady 2001; Hafstrom, Chae and Jung 1992), however the CSI has also been
applied in several other countries (Canabal 2002; Fan and Xiao 1998; Hartell 2007; Hiu et al,
2001; Mitchell and Bates 1998; Radder and Pietersen 2001; Shim 1996; Walsh, Mitchell and
Henning-Thurau 2001; Wang 2003), including Australia (Leo, Bennette and Hartell,
2005). Thus, the CSI is generally accepted as a suitable methodology for measuring consumer
decision making styles.

However, the CSI has some limitations. Firstly, previous studies using the CSI have either
focused on non-specific product types (see, for example, Hafstrom, Chae & Chung 1992; Leo,
Bennett & Hartel 2005), or low involvement products (see, Radder, Lee & Pietersen 2006).
Secondly, most of the research using the CSI has focused on student samples (Sproles &
Kendall 1986; Hafstrom, Chai & Chung 1992; Durvasula, Lysonski & Andrews 1993;
Lyonski, Durasula & Zotos 1995; Shim 1996; Fan & Xiao 1998) that have limited income
and marketplace experience, and are still learning their consumer styles. However, it is not
known whether the CSI, validated with student samples, can be generalised for use with
various types of consumers. For example, students may be different from non-students with
respect to demographics such as income or social class and other psycho-social variables (Fan
& Xiao 1998). Such differences might affect decision-making styles and purchase preferences
(Lyonski, Durvasula & Zotos 1996). It is necessary that the CSI be tested on samples other
than students if the instrument is to be used with the general population or adult samples (Fan

With so much interest in the CSI, it is surprising to note that there is a very little research
involving use of the measure for high involvement purchases. Application of the CSI to high
involvement purchases may result in findings that differ from previous studies (Hanzaee &
Aghasibeig 2008). For example, high involvement purchases require more knowledge and
preparation, such as an extensive information search to enable a consumer to learn about the
product, and more time to process and evaluate the available information so as to reach an
appropriate purchase decision. As a result, the consumer’s behaviour towards high
involvement, high risk, and important purchases may differ from that engaged in when
making low involvement, low commitment and unimportant purchases (Keller 2003). There is
not enough research have examined decision-making styles for high involvement purchases
(Radder, Lee & Pietersen 2006). Therefore, in order to fully investigate the consumer
decision-making styles, researchers need to use the CSI with high involvement purchase of
products such as automobiles. In light of the above limitations, this research administered the
CSI to an adult sample in the general population and focused on a specific product: automobiles. The generalisability of the CSI was tested within this context.

Research Design

This research can be classified as replication with modification category, for example, Type
III (see Easley, Madden & Dunn 2000). Easley, Madden and Dunn described replication
research and its relationship to knowledge advancement, identifying four types of replication:
Type 0, Type I, Type II and Type III. This research can be classified as Type III replication under the Easley, Madden and Dunn (2000) framework, in that it uses similar concepts to previous consumer decision-making styles research but uses an adapted version of the popular consumer styles inventory (CSI) and incorporates with automobile purchases.

The CSI is an established scale consisting of 45 statements that assess eight consumer decision making styles. Participants rated their agreement with each statement on a six-point scale ranging from “strongly disagree” (1) to “strongly agree” (7). For the purpose of this research, original item wording was altered to be specific to automobile purchases. A sample item is, “A car does not have to be perfect, or the best, to satisfy me”. Participants consisted of 202 men (46.5%) and women (53.5%) from Australian consumers that had purchased a car within the last 12 months. Twelve months was expected to be a reasonable time frame for recalling consumer decision-making styles (Park & Kim, 2003). The participants were recruited through 12 motor vehicle dealerships in Melbourne, Australia.

Participants were informed about the project via a written project information statement. Consent was implied by the return of a completed questionnaire. Participants completed the questionnaire at a location and time that was suitable for them, and returned questionnaires by mail in pre-paid envelopes, ensuring complete anonymity. The survey took approximately 20 minutes to complete. Surveys were either collected as they were completed, or were returned by mail. A post-paid envelope was provided with each questionnaire. Among the prerequisites that had to be met by respondents in order to be eligible to participate in the research were that they had to (a) be at least 18 years of age, (b) be holders of a current driver’s license, and (c) have purchased a car within the past twelve months. Out of 422 surveys that were distributed for this study, 212 were returned, of which ten incomplete surveys were discarded. These 10 incomplete surveys were discarded because more than 10% of the results were missing values. For thorough estimates and analyses, only those surveys that were filled out correctly and completely were used for this study (48% of the total distribution).

This research retained all of the Sproles and Kendall (1986) subscales, except novelty fashion-conscious. This subscale was excluded because many of the items were specific to low involvement purchases or clothing-specific purchases and, consequently, were not applicable to automobiles. For example, two of the excluded items were, “I usually have one or more outfits of the very newest style” and “I keep my wardrobe up to date with the changing fashions”. To assess the ‘novelty’ aspect of consumer decision-making styles for automobiles, one subscale, ‘innovation consciousness’ (Raju, 1980) was added alongside the seven factors retained from Sproles and Kendall (1986). The innovation conscious decision-making style is a characteristic of consumers who seek novelty and variety in their purchase decisions. Innovativeness requires one to initiate behaviours that differ from others. Consumers scoring high on this factor enjoy taking chances in buying unfamiliar brands just to get some variety. They are also not very anxious about trying new makes of products.

As discussed previously, although the CSI is a well-established measure, it has not been used before to identify consumer decision-making styles for automobile purchase behaviour. Therefore, it was appropriate to find out which items strongly loaded on each factor in relation to this high involvement purchase situation (see Diamantopoulos & Winklhofer 2001) to confirm the existence of a specific factor structure. Exploratory factor analysis (EFA) is usually performed in the early stages of research to consolidate variables and generate hypotheses about underlying processes (Rossiter 2002).
Results

In the first step of the factor analysis, EFA was conducted on the 45 items of the consumer styles inventory (CSI) using the calibration sample (N = 202) with maximum likelihood extraction and oblique rotation (OBLIMIN). Oblimin rotation is a general form of performing an oblique rotation and is similar in nature to the orthomax orthogonal rotation procedure (Nunally 1978). Results showed that a seven-factor solution was more interpretable. All seven factors had eigenvalues was over 1. The value of loadings of 0.50 was used as a guideline in the factor analysis (see Nunally, 1978). This resulted in the removal of eight items. This resulted in an accepted seven-factor solution, and is also shown in Table 1. Table 2 shows the comparison between Sproles and Kendall (1986) and the current study.

Only two factors ‘brand conscious’ and ‘habitual, brand loyal’ from the original scale (e.g., Sproles and Kendall 1986) were retained. Five new factors were developed. Note that ‘Investigating process’ factor (factor 1) had four items from Sproles and Kendall’s ‘perfectionist, high quality conscious’ and one factor from ‘brand’ was retained. In the ‘information search’ factor (factor 2) four items from ‘confused’ and one item from ‘impulsive’ was retained. The original impulsive factor was not supported; none of the items for this factor loaded strongly. ‘Dealer, enjoyment’ factor (factor 3) has four items from the original ‘recreation conscious’ factor. ‘Value within budget’ factor (factor 4) has four items from original ‘impulsive’, two items from ‘price’ and one item from ‘perfectionist, high quality conscious’ factor. ‘Brand conscious’ factor (factor 5) has retained four items from the original ‘brand conscious’ and one item from the original ‘price conscious’ factor. ‘Habitual brand loyal’ (factor 6) has also retained three items from the original ‘habitual, brand loyal’ factor and one item from the original ‘perfectionist, high quality conscious’ factor. ‘Innovation consciousness’ (factor 7) had four items that loaded strongly and therefore, appeared as one of the important factors in relation to automobile purchases. The seven factor solution explained 78 precents of the variance. The results of the exploratory factor analysis (see Table 1) indicated that the factors ‘information search’, ‘habitual, brand loyal’, and ‘innovation conscious’ decision-making styles had good internal consistency with Cronbach’s alpha coefficients of .738, .731 and .721 respectively, while other factors like ‘investigation process’, ‘value within budget’, and ‘brand conscious’ decision-making styles exhibited a moderate internal consistency with Cronbach’s alpha coefficients of .649, .689 and .671 respectively. ‘Dealer, enjoyment’ displayed a poor internal consistency with a Cronbach’s alpha coefficient of .474. Consistent with recent CSI studies (see Hiu et al. 2001; Hanzae & Aghasibeig 2008), only factors with Cronbach’s alpha > 0.6 were accepted. Therefore, ‘dealer, enjoyment’ decision-making style was not recognised and also not reported in Table 2.

Table 1: Results of exploratory factor analysis: 7 factor model

<table>
<thead>
<tr>
<th>Factors and Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1</strong></td>
</tr>
<tr>
<td>Investigation process</td>
</tr>
<tr>
<td>Investigating new brands of cars is generally a waste of time*</td>
</tr>
<tr>
<td>I shop quickly for cars, buying the first car or brand I find that seems good enough*</td>
</tr>
<tr>
<td>When it comes to buying a car, in general, I usually try to buy the best overall quality</td>
</tr>
<tr>
<td>The most advertised car brands are usually very good choices</td>
</tr>
<tr>
<td>I really don’t give my car purchases much thought or care</td>
</tr>
<tr>
<td>Getting a very good quality car is very important to me</td>
</tr>
</tbody>
</table>

| **Factor 2** |
| Information search |
| All the information I get on different cars confuses me |
The more I learn about cars, the harder it seems to choose the best
I should plan my shopping for cars more carefully than I do
It’s hard to choose which dealers to shop at for cars
There are so many car brands to choose from that often I feel confused

**Factor 3 Dealer, enjoyment**
I take advantage of the first opportunity to find out more about a new dealer selling a car that I would like to purchase
I enjoy shopping for cars just for the fun of it
Going shopping for cars is an enjoyable activity for me
I would rather wait for others to try a new dealer than try it myself in making my purchase*
I would buy a new or different brand of car just to see what it is like

**Factor 4 Value within budget**
When shopping for cars, I look carefully to find best value for money
When buying a car, I carefully watch how much I spend
I am willing to change brands when buying a new car
When it comes purchasing cars, I try to get the very best or perfect choice
When shopping for cars, I take the time to shop carefully for best buys
I prefer to buy cars at sale prices
When buying a car, I do not want to make a careless purchase I later wish I had not

**Factor 5 Brand conscious**
A car does not have to be perfect, or the best, to satisfy me *
The more expensive car brands are usually my choice
The higher the price of a car, the better its quality
The lower price cars are usually my choice (CSI 23)*
I go to the same dealer each time I shop for cars

**Factor 6 Habitual, brand loyal**
Once I choose a car brand I like, I stick with it
I have favourite car brands I buy over and over
I make a special effort to choose the very best quality cars
Shopping around dealers wastes my time

**Factor 7 Innovation conscious**
I am the kind of person who would try a new make of car
I would be worried about trying a new make of car *
I am very cautious about trying new makes of cars *
I enjoy taking chances in buying unfamiliar brands of cars just to get some variety

*reversed score

**Table 2: The comparison between Sproles and Kendall (1986) and the current study**

<table>
<thead>
<tr>
<th>Sproles and Kendall (1986)</th>
<th>Perfectionist, high quality conscious</th>
<th>Price-value conscious</th>
<th>Confused by overchoice</th>
<th>Brand conscious</th>
<th>Habitual, brand Loyal</th>
<th>Impulsiveness</th>
<th>Recreational shopping consciousness</th>
<th>Novelty fashion conscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>α = .69</td>
<td>α = .48</td>
<td>α = .55</td>
<td>α = .63</td>
<td>α = .53</td>
<td>α = .48</td>
<td>α = .76</td>
<td>α = .74</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current study</th>
<th>Investigation Process</th>
<th>Information search</th>
<th>Value within Budget</th>
<th>Brand conscious</th>
<th>Habitual, brand loyal</th>
<th>Innovation conscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>α = .64</td>
<td>α = .73</td>
<td>α = .68</td>
<td>α = .67</td>
<td>α = .73</td>
<td>α = .72</td>
<td></td>
</tr>
</tbody>
</table>

α = Cronbach’s alpha
Discussion

The investigation of consumer decision-making styles has a long tradition in marketing and consumer behaviour research (Bauer, Sauer & Becker 2006). It is useful to identify consumers’ decision-making styles so advertisers and marketers can use such a profile to segment consumers into profitable clusters (Lyonski, Durvasula & Zotos 1996). The most commonly used measure of consumer decision-making studies is Sproles and Kendall’s (1986) Consumer Styles Inventory (CSI) (Radder & Pieterson 2006; Bauer, Sauer & Becker 2006; Hanzae & Aghasibeig 2008). However, the CSI has not been found to be particularly reliable, and this may cause problems for current and future interpretations of its generalisability (Hui et al. 2001; Bauer, Sauer & Becker 2006). As mentioned previously, it is unclear whether the CSI, validated with student samples, is suitable for use with different types of consumers. The CSI needs to be tested on non-student samples in order to establish its generalisability to broader consumer groups (Mitchell & Bates 1998; Leo, Bennett & Hartel 2005). In light of above limitations, the CSI was administered to an adult sample and measured high involvement purchases such as automobiles.

In comparison with Sproles and Kendall’s (1986) study, only two factors (brand and habitual) of the original model were retained and some other factors such as ‘investigation process’, ‘dealers, enjoyment’, ‘value within budget’ and ‘innovation consciousness’ factor were also confirmed for high involvement decision-making styles. This confirms that the application of the CSI to high involvement purchases results in different findings from generic (see Sproles and Kendall 1986) or low involvement (see Radder & Pieterse 2006) purchase situations. As a result, the research extends our knowledge of the CSI in terms of its applicability to high involvement purchase situations. By studying the CSI in this context, this research builds an understanding that the CSI can become a good instrument for automobile segmentation and positioning for marketers. The results suggest that while many of the original CSI factors are useful in this context, some are not relevant. Therefore, further work on consumer decision-making styles in this context is needed to identify the most relevant factors for measurement.

Limitations

The CSI (Sproles & Kendall 1986), which has not previously been used for high involvement purchases, was applied to test consumer decision-making styles in relation to automobile purchases. Only two of the original eight CSI factors were confirmed in the current research. Furthermore, scales were modified by the addition or deletion of items. In addition, reliability (Cronbach’s alpha) was relatively low for the dealer, enjoyment decision-making style and, therefore, this factor was not included in the final model (see Table 2). This suggests that more refinement and development of the CSI is needed for high involvement purchases. Further work might improve the validity of the CSI for high involvement purchases by using a more inductive and exploratory approach, such as a focus group with consumers to generate additional new items and dimensions of consumer decision-making styles in this context.

Conclusion

This research was a first attempt at verifying the applicability of the Sproles and Kendall (1986) model within Australian consumers automobile purchase environment. The results of this study established that certain characteristics of decision-making styles are statistically different for high involvement purchases (i.e., automobiles). Future research on the CSI
should focus on its applicability more in terms of high involvement purchases such as apartments, and specialty products. The CSI is useful to marketers because it determines consumer behaviour and is relatively stable over time, as well as being relevant for market segmentation.

References


