

Pre-purchase behaviour: Is there a cognitive dissonance?

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Abstract: The purpose of the study is to provide a better understanding of pre-decisional conflict between different states of buyers. The focus of the study is on the uncertainty; ambiguity, similarity, and overloaded uncertainty that induce post-decisional conflicts. On top of that, the researchers also analysed the mediating effects between the dependent and independent variables using Structural Equation Modelling (SEM) in Malaysia within the context of computer purchase experience. The findings show that ambiguity uncertainty is an important antecedent to emotional and wisdom of purchase conflict state after their purchase decision. Whereas, overloaded and similarity uncertainty was found to indirectly effect both types of post-decisional conflict but indirectly effect through ambiguity uncertainty.

Keywords: ambiguity, cognitive dissonance, overloaded, similarity, uncertainty.

INTRODUCTION

Classic conceptual models on buyer behaviour propose stages of a decision making process by buyer through pre-purchase, exchange and post-purchase (Engel, Blackwell and Kollat, 1978; Howard and Sheth, 1969). At pre-purchase stage, novice buyer often faces difficulty in choosing a product that they are not familiar. It is frequently seen that novice buyer will go through an indecisive situation either without proper product information or with overloaded information, which confuses and perplexes the customer thus their uncertainty and cognitive dissonance. Adapting definitions from Pavlou, Liang and Xue (2007), uncertainty is defined as the inability of buyers to correctly and consistently assess the product values due to the unavailability of comprehensive information and knowledge. Whereas for cognitive dissonance, Brown-Wright et al. (2013), Festinger (1957) and Harmon-Jones et al., (2011) described it as a psychologically uncomfortable state that motivates a person to reduce that dissonance by changing their attitudes, beliefs, and behaviours. Additional to that, the discomfort of cognitive dissonance also being linked with anxiety, uncertainty or doubt experience by the customer (Montgomery & Barnes, 1993). Cognitive dissonance phenomenon frequently happened when there is a residue of cognitive inconsistency after the product purchase decision has been made. Cooper (2007) affirmed that inconsistency between expectation, and actual experience will invoke unpleasant and uncomfortable state of cognitive dissonance where a customer will feel emotionally perplexed, agitated and disappointed thus dissatisfied. Oliver (1997) takes a wider view of cognitive dissonance, examining the concept over the entire purchase decision process.

The objective of the study is intended to understand buyer's different types of uncertainty, which may lead to cognitive dissonance at later stage hence uncomfortable experience of the decision making process. It is also expected to understand specifically the relationship in between ambiguity uncertainty, similarity uncertainty, overloaded uncertainty and the cognitive dissonance of the buyer. Each of these forms of projected behaviour presents a unique opportunity for marketers to engage in dissonance reduction through reassurance and reinforcement (Wilkie, 1986). Therefore, enable marketers to refine and optimize their marketing strategy which in line with market underserved needs particularly reducing buyer psychological cost in product evaluation stage thus a more comfortable and convinced buying process.

REVIEW OF PAST LITERATURE

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In contrast with dynamic theorizing and experimental research on post-purchase processes, there is paucity of theoretical and empirical research that characterizes the psychological state at pre-purchase stage. Since dissonance theory is a theory of post-decision behaviour (Brehm and Cohen, 1962), it does not provide a useful foundation for explanation and prediction of buyer behaviour before a purchase is made. Ellithorpe, Ewoldsen and Fazio (2014) conceptualized uncertainty as a psychological state. Sources of variability in the perception of uncertainty considered are attributes of the environment, individual cognitive processes, the variety of an individual's experience, and social expectations. Under this study generally two stimuli have been categorized as an effect on buyer uncertainty. External (e.g. seller's communication, information, advertisements, and brochures) and internal (e.g. buyer's experience, knowledge, predictability) drive stimuli which respectively are seller and buyer drive uncertainty. Adapting definitions from Pavlou, Liang and Xue (2007), uncertainty is defined as the inability of buyers to correctly and consistently assess the product values due to the unavailability of comprehensive information and knowledge.

Oliver (1997) also believes dissonance includes concern about unknown outcomes, in terms of anticipated regret, and a feeling of apprehension on the buyer's part. Therefore, concerns about the lack of product transparency and clearness arise when the true product characteristics are not easily captured and comprehend (Strader and Shaw, 1999). Rothenberg (1979) defined ambiguity is a term that describes multiple meanings that may or may not be connected and focus on unaligned meanings (Weick and Roberts, 2001). Some may be connected but without clear distinctive meaning. This ambiguity uncertainty can also be due to the particular market conditions make it difficult for buyers to process the necessary information (Achrol & Stern 1988). According to Cox (1967), buyers perceive unclarity when they feel uncomfortable with information ambiguity and incongruity. Ambiguity uncertainty buyers are likely to be unclear about product characteristics, which can be largely attributed to buyers' inexperience, low knowledge and inconsistent information on the same product from many different sources. Walsh, Hennig-Thurau and Mitchell (2007) commented that marketer dominated external stimuli are more likely to prompt confuse uncertainty because they are more likely to be inconsistent with the buyer's prior beliefs and knowledge, which can cause ambiguity.

According to Jiang and Benbasat (2007) in view of overloaded product presentations using multimedia-based features, high task complexity can reduce the beneficial effects of video and virtual product experience (VPE) formats on actual product knowledge thus buyer uncertainty (Sproles and Kendall, 1986). Research on working memory assumes that people only have limited working memory to process incoming information; therefore, if one's working memory is overloaded, the learning effect will deteriorate (Baddeley, 1992). Since buyers have limited cognitive abilities, their capacity for choice is not infinitely expandable, and once the amount of stimuli passes a certain threshold, it overloads and uncertain the buyers (Lurie, 2004). The hypotheses for the study are in table 2 and 3.

METHODOLOGY

Further to that, multi-stage systematic random sampling technique was applied in the data collection phase. In order to assume for the central limit theorem, 300 random samples were collected through a random mall intercept. Questionnaire items were obtained from the following sources; Cognitive Dissonance (Emotional) from Sweeney, Hausknecht & Soutar, (2000), Cognitive Dissonance (Wisdom of Purchase from Sweeney, Hausknecht & Soutar, (2000), Ambiguity Uncertainty from Walsh, Hennig-Thurau & Mitchell (2007), Similarity Uncertainty from Walsh, Hennig-Thurau & Mitchell (2007), while for Overloaded Uncertainty, the items were obtained from Walsh, Hennig-Thurau & Mitchell (2007) and Wright (1975).

FINDINGS

Estimates of the reliability and variance extracted measures for each construct are needed to assess whether the specified items sufficiently represent the constructs. The Composite Reliability of the constructs of similarity uncertainty, overloaded uncertainty, ambiguity uncertainty, cognitive dissonance (emotional) and cognitive dissonance (wisdom of purchase) was 0.84, 0.76, 0.84, 0.88, and 0.83, respectively. All constructs exceeded the recommended level of 0.70 (Hair et al., 1998) (table 1).

Table 1: Convergent Validity: Items Loading, Composite Reliability and Variance Extracted

Constructs	Item 1	Item 2	Item 3	Average Variance Extracted (AVE)	Composite Reliability (CR)
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SU	0.83	0.83	0.74	0.64	0.84
OU	0.61	0.78	0.76	0.52	0.76
AU	0.80	0.89	0.71	0.65	0.84
CDE	0.81	0.86	0.87	0.72	0.88
CDW	0.77	0.87	0.72	0.62	0.83

Notes: All loading are standardized and significant at *** $p < 0.001$ between 0.5-0.9; AU= Ambiguity Uncertainty; Similarity Uncertainty; Overloaded Uncertainty; CDE= Cognitive Dissonance (Emotional); CDW= Cognitive Dissonance (Wisdom of Purchase); e=error term for measured variable.

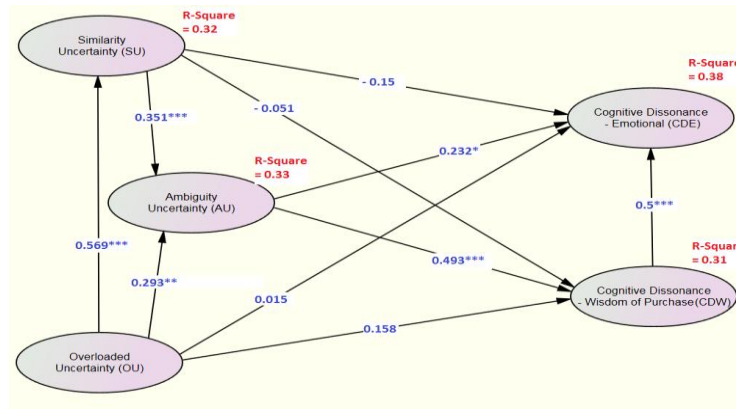


Fig 1: Path Diagram

Notes: Fit indices: $\chi^2=188.723$ ($p=0.000$), $df=80$, $\chi^2/df=2.359$, GFI=0.902, AGFI=0.853, CFI=0.938, RMSEA=0.079. S.E. is an estimate of the standard error of the covariance. C.R. is the critical ratio obtained by dividing the covariance estimate by its standard error. Underlined values are critical ratios exceeding 1.96, at the 0.05 level of significance. All statistics reported are standardized parameter estimates and significant at * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; AU= Ambiguity Uncertainty; Similarity Uncertainty; Overloaded Uncertainty; CDE= Cognitive Dissonance (Emotional); CDW= Cognitive Dissonance (Wisdom of Purchase).

In sum, the tests of the structural model in Figure 1 showed that ambiguity uncertainty positively affects cognitive dissonance (emotional and wisdom of purchase). Overloaded uncertainty and similarity uncertainty positively affects ambiguity uncertainty, which ultimately affects cognitive dissonance. The above findings are consistent with those discussed earlier in literature review.

Table 2: Summary of Tested Hypotheses

Hypotheses		Estimate		Supported?
H₁	: Ambiguity Uncertainty has a positive effect on Cognitive Dissonance (Emotional)	0.232	*	Yes
H₂	: Ambiguity Uncertainty has a positive effect on Cognitive Dissonance (Wisdom of Purchase)	0.493	***	Yes
H₃	: Similarity Uncertainty has a positive effect on Cognitive Dissonance (Emotional)	-0.15		No
H₄	: Similarity Uncertainty has a positive effect on Cognitive Dissonance (Wisdom of Purchase)	-0.051		No
H₅	: Similarity Uncertainty has a positive effect on Ambiguity Uncertainty	0.351	***	Yes
H₆	: Overloaded Uncertainty has a positive effect on Cognitive Dissonance (Emotional)	0.015		No
H₇	: Overloaded Uncertainty has a positive effect on Cognitive Dissonance (Wisdom of Purchase)	0.158		No
H₈	: Overloaded Uncertainty has a positive effect on Ambiguity	0.293	**	Yes

	Uncertainty			
H₉	: Overloaded Uncertainty has a positive effect on Similarity Uncertainty	0.569	***	Yes
H₁₀	: Cognitive Dissonance (Wisdom of Purchase) has a positive effect on Cognitive Dissonance (Emotional)	0.5	***	Yes

Notes: All hypotheses supported are significant at * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3: Summary of Tested Mediating Effects

	Hypotheses	Conclusion
H₁₁	: Ambiguity Uncertainty mediate the relationship between Similarity Uncertainty and Cognitive Dissonance (Wisdom of Purchase)	Total Mediator
H₁₂	: Ambiguity Uncertainty mediate the relationship between Similarity Uncertainty and Cognitive Dissonance (Emotional)	Total Mediator
H₁₃	: Ambiguity Uncertainty mediate the relationship between Overloaded Uncertainty and Cognitive Dissonance (Wisdom of Purchase)	Total Mediator
H₁₄	: Ambiguity Uncertainty mediate the relationship between Overloaded Uncertainty and Cognitive Dissonance (Emotional)	Not Mediator
H₁₅	: Similarity Uncertainty mediate the relationship between Overloaded Uncertainty and Ambiguity Uncertainty	Partial Mediator
H₁₆	: Similarity Uncertainty mediate the relationship between Overloaded Uncertainty and Cognitive Dissonance (Wisdom of Purchase)	Not Mediator
H₁₇	: Similarity Uncertainty mediate the relationship between Overloaded Uncertainty and Cognitive Dissonance (Emotional)	Total Mediator
H₁₈	: Cognitive Dissonance (Wisdom of Purchase) mediate the relationship between Ambiguity Uncertainty and Cognitive Dissonance (Emotional)	Partial Mediator
H₁₉	: Cognitive Dissonance (Wisdom of Purchase) mediate the relationship between Similarity Uncertainty and Cognitive Dissonance (Emotional)	Not Mediator
H₂₀	: Cognitive Dissonance (Wisdom of Purchase) mediate the relationship between Overloaded Uncertainty and Cognitive Dissonance (Emotional)	Total Mediator

Notes: All hypotheses supported are significant at * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

IMPLICATIONS AND DISCUSSIONS

A major theoretical and empirical contribution of this study is that it provides a clear understanding of how ambiguity uncertainty influences emotional and wisdom of purchase of cognitive dissonance. This coincides with the statement that dissonant buyer experience doubts about their choice are uncertain in their choices and decisions (Montgomery & Barnes, 1993). The affirmation of the theory is very crucial in marketing implication. As Kahn and Sarin (1988) highlighted that buyers not only consider ambiguity in making decisions under uncertainty, but they are willing to pay to avoid it. This again assures that lack of product transparency and clearness in the product characteristics are the key element that leads to both discomfort in the cognitive dissonance (Strader and Shaw, 1999).

Regarding this ambiguity uncertainty will assist marketers in developing clearer communication content and reduce ambiguity uncertainty in designing consumer products (e.g. Clear brochures, clear product label, well trained sales personnel for assistant, etc.) with more consumers oriented rather than too technical, which subsequently reduce chances of getting into a negative emotional cognitive dissonance state like disappointment, angry, uneasy and frustrated once they engage with the product. The lesser the ambiguity uncertainty was also significantly proven that it will lead to lesser wisdom of purchase in cognitive dissonance such as buyer doubt on their decision or engagement with the product.

Base on the findings, Similarity and overloaded uncertainty was significantly proven to have positive effect on ambiguity uncertainty. This concurs with Walsh, et al. (2007) that the two dimensions stimulus similarity and stimulus overload need to be complemented by ambiguity uncertainty. In addition, the results also affirm that uncertainty has linked to information overload (Jacoby, Speller & Kohn, 1974) and ambiguous information (e.g., Keiser & Krum 1976; Golodner, 1993). This indeed a crucial factor for marketers, as in Stigler's (1961) cost-benefit model predicts that greater perceived similarity between choice alternatives will produce less search in the buyer which subsequently may lead to the ambiguous situation due to insufficient information for different justification.

As for managerial implication, marketers should design less similar or more distinctive product in order to avoid invoking ambiguity uncertainty which buyers are not clear in product that suits them due to many equally attractive choices. In line with the result, providing less overloaded information by simplified and reducing buyers' psychological cost where required less mental processing power in their decision making process are able to reduce ambiguity uncertainty. This will subsequently facilitate buyer to easily digest and carry out the evaluation of the product with clearer mind. For overloaded uncertainty as a significant predictor of similarity uncertainty. The marketers should carefully provide relevant product distinctive information that matches with what been required in avoiding overloaded of information to the buyer which subsequently reduces chances of buyers experience similarity uncertainty in the shopping process.

In this research finding, it is significantly proven that cognitive dissonance in emotion arose when buyer experience cognitive dissonance in their wisdom of purchase. This consistent with the previous researcher statement that the discomfort of cognitive dissonance is linked with buyer emotion such as anxiety, uncertainty or doubt experience (Menasco & Hawkins, 1978; Montgomery & Barnes, 1993; Mowen, 1995) and related to regret or remorse (Insko & Schopler, 1972) in terms of wisdom of their purchase. This again a crucial step to reduce doubt cognition with more consonant justification in the buyer before it evolves to emotional dissonance in their product engagement.

This research also affirms that ambiguity uncertainty make it difficult for buyers to process the necessary information (Achrol & Stern 1988). The result as well coincides with other researchers' statement. That external drive uncertainty stimuli can be due to ambiguous information or false product claims on equally compatible (Reece & Ducoffe, 1987; Cohen, 1999; Chryssochoidis, 2000) that cause problems of understanding on unclear similarity at buyer cognition (Hoch & Ha, 1986) which subsequently leads to cognitive dissonance after the buyer engage with the product.

Base on major findings on mediating effects, the research result recommended that marketers should resolve ambiguous uncertainty, which embedded with similarity uncertainty in order to reduce experience of cognitive dissonance in buyer wisdom of purchase and emotional. Therefore, product value should be communicated with clear distinction to the buyer before they decide to buy so that chances of being dissonance will be reduced.

Indeed the results also concur with Dhar's (1997) findings, which showed that buyers who expressed more cognition alternative comparisons found the options more difficult and were more ambiguity proneness, that liable to experience cognitive dissonance in wisdom of purchase (Walsh, Hennig-Thurau and Mitchell, 2007). This recommends that for ambiguity uncertainty, which was rooted from overloaded uncertainty, marketers may opt to simplify the information with clear product values such as provide a product comparison table in reducing self-evaluation burden for those potential buyers. This will subsequently reduce cognitive dissonance in doubting buyers' own wisdom of purchase once they have vivid product choices to engage.

Similarity uncertainty is also found to be one of the important mediators which fully mediate overloaded uncertainty and emotional cognitive dissonance. These findings consistent with Warlop et al. (2005) assertion which revealed some buyers have difficulties to learn and remember quality differences. This can be true when too much information can induce an equally attractive situation which perplexed the buyer, even after they engage with one of the products. For reducing this kind of emotional dissonance, the result recommends that marketers may focus in providing more distinctive and with less mental processing product information to the buyer such as pre calculation benefit or product categorization to differentiate their own product line. However, similarity uncertainty only partially mediates the relationship in between overloaded uncertainty and ambiguity uncertainty. This implies that, marketers may either through similarity uncertainty or overloaded uncertainty to reduce ambiguity uncertainty. This result again provides another crucial insight for marketers to consider when they design their product line. They may highlight the different product values or simplified the product information in order to increase clarity in the buyer when they are facing ambiguity uncertainty while assessing the product.

Cognitive dissonance in wisdom of purchase is significantly proven as one of the important mediators which fully intervene in overloaded uncertainty and emotional cognitive dissonance. This consistent with Lindsey-Mullikin (2003) and Foster and Misra, (2013) findings, a researcher asserted that one of the modes of reducing the dissonance is seeking constant information. In line with the findings, emotional dissonance can be reduced by providing simplified and constant product information to the buyer such as a pre-calculation benefit with reliable source or product categorization and making sure there is no doubtful in the buyer while making the decision or after engage with the product. The simplified information should be exposed constantly (e.g. website or advertisement) and make it easy accessible to existing or potential buyer which gives more reasons for justification when they feel dissonance.

However, a result shows that cognitive dissonance in wisdom of purchase only partially mediates the relationship in between ambiguity uncertainty and emotional cognitive dissonance. This consistent with Dessalles (2011), Stalder (2012) and Tversky et al. (1992), that ambiguity or cognitive dissonance in wisdom of purchase is equally important, which produces choice conflict. This implies that, marketers may either through cognitive

dissonance in wisdom of purchase or ambiguity uncertainty to reduce their emotional dissonance. Again practitioner can achieve lesser emotional dissonance through reducing chances of buyer fall into doubtful purchase dissonance such as after sales service or enrich product clarity for justification at pre-purchase stage.

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