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The Influence of Product Assortment on Consumer Process Satisfaction

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Abstract

With the development of the market economy, the classification of products or *product assortment* affects *consumers' decision-making and satisfaction*. In recent years, many researchers have shown that classification has an important influence on consumer satisfaction, but most domestic and international studies have focused on the scope of classification. Some international literature has also discussed product classification, but not on classification types. Structural matching theory reveals the effect of different types of classification on consumer process satisfaction, and its impact mechanism. At the same time, *product involvement* is added as a regulatory variable to explore its role in product classification and consumer satisfaction. Product assortment is currently relevant to online shopping malls, product manuals, and other corporate communication tools. While companies provide a wide range of product information for consumers to choose, they need to pay attention to customers' differences in types and preferences coming into contact with such information. For marketers, there is also a varied perception of the assorted product types. In this regard, this research aims to (i) assort products into both high and low involvement products according to the extent to which the degree of involvement in each product can impact consumers' decision-making, and (ii) investigate whether different types of products yield different levels of consumer process satisfaction. The researcher used an online survey questionnaire to collect needed data from 183 voluntary respondents. Based on the obtained findings, it is expected that the adjustment effect of product involvement can impact the effect of assortment type on consumers' decision-making and process satisfaction, as practical implications for operations in marketing communications.

Keywords: *Product assortment, product involvement, decision-making difficulty, consumer process satisfaction*

1. Introduction

1.1 Research Background

Today consumers face increasing product selection and product information. There are 225 air-conditioning products on some shopping sites, and they can even search for 2.57 million sports shoes products. On the official website of Samsung mobile phone, consumers can find 98 different types of mobile phone products. Schwartz (2000) believes that having

many alternatives is considered to be a great achievement of the modern society; however, studies, by Chermev (2003a, b) and Iyengar & Lepper (2001) have pointed out that the human brain's ability to operate is limited. It is very difficult to make choices among many different alternatives. Many studies have shown that people face difficulties in dealing with complex choices. Studies by Dhar (1997) showed that consumers experience a psychological struggle when the attractiveness of other choices increases. As a result, they delay decisions, seek other new options, select the wrong choices, and even make no choices at all. Hauser & Wernerfelt explained in 1990 that when the choice of alternatives and available information is increasing, consumers are more inclined to consider fewer options, and only one of them is concerned about the information available for their choice. In fact, some studies have shown that the choice, weighing, and information integration are affected significantly by alternative numbers, suggesting that when consumers believe that choices begin to become complex and difficult, they simplify their decisions by relying on simple exploration. For example, in Timmermans' study of a consumer's choice strategy in 1993 when faced with a different number of choices, it was shown that 21% of consumers used the removal in the case of 3 alternatives. When the strategy and alternatives were 6, 31% of consumers took this strategy, and when the option was increased to 9, 77% of consumers took the removal strategy. Research by Mogilner et al. in 2008 showed that even if labels are simply labelled for meaningless products to assort, they still have a significant impact on consumers' perceptions of differences between different options. Since there are a wide variety of goods circulated in the market, consumers face so many choices. Therefore, *product assortment* is very important to consumers in coping with the difficulties caused by information overload, thus affecting *consumer process satisfaction*.

The existing research focuses on the number of assortments (categorical scale). Kahn & Wansink (2004) found that *assortment scale assembly* leads to *high and low product involvement*. The more diverse the choice, the more that consumers will find a better product that suits their preferences. Consumers are uncertain about future tastes, so more diversified choices can maintain the "openness of choice." The influence of assortment scale on the simplification of the selection process has not been fully explored in the research community. Mogilner et al. (2008) studied and asserted that *the assortment of difference labels* is not important. Regardless of whether this assortment makes sense, the consumer decision making will observe accurately. This is the so-called *"simple assortment effect."* Based on the above analysis, we can find that the greater the scale of assortment, the high and low involvement of product, and consumers can realize higher autonomy when improving the degree of consumer satisfaction.

1.2 Research Objectives

this research aims to (i) assort products into both high and low involvement products according to the extent to which the degree of involvement in each product can impact consumers' decision-making, and (ii) investigate whether different types of products yield different levels of consumer process satisfaction. It is expected that the adjustment effect of

product involvement can impact the effect of assortment type on consumers' decision-making and process satisfaction. The obtained findings are to generate practical implications for operations in marketing communications.

2. Literature Review

This section covers five subtopics in support of the study's rationale: (i) consumer process satisfaction, (ii) difficult decision, (iii) product involvement, (iv) product assortment, and (v) product assortment method.

2.1 Consumer Process Satisfaction

In the early 1990s, a partner of Bain Management Consulting, and Sasser [not on the reference list], a professor at the Harvard Business School, first proposed that companies must cultivate *customer loyalty* in order to enhance their competitiveness and increase their economic efficiency (Dhar, 1997). In 1996 Vandermere, a professor at London Business School in the United Kingdom, also pointed out that *customer satisfaction* is difficult to measure, for its temporary and unstable psychological state. It is very difficult for companies to discover major innovation opportunities and gain competitive advantage through customer satisfaction surveys (Dhar, 1997). Although corporate management theorists and practitioners have reached a consensus on the importance of *customer loyalty,* there are still many debates in the business community and academia about whether customer satisfaction is irrelevant. In 1999, the famous American scholar Oliver published the article "Customer loyalty came from" in the "Marketing Quarterly" magazine. He conducted six different relationships among customers to find out depth and satisfaction of each customer based on business treatment; his method was used to find out customer satisfaction and loyalty. It should be noted that the empirical research conducted by many scholars point to a strong positive correlation between customer satisfaction and customer loyalty (Mogilner et al., 2008).

2.2 Difficult Decision

In the 20th century research, Miller (1956) proved through experimentation that if the two choices are similar in appeal or if one chooses the other that is similar, giving up one and choosing the other, such actions will cause delayed selection or a sense of conflict. Some researchers later proved this argument in that with the increase in the degree of similarity between choices, the sense of conflict that arises from this choice and concentration of choices will increase significantly. This argument was further explored in that the conflict of choice will increase, further contributing to confusion, anxiety, and even difficulty in making choices. Later studies have shown researchers' interest in analyzing *decision-making difficulties* caused by too many choices from the perspective of classification. Some also deal with the issue of excessive choices as significantly reducing the motivation for consumers to make choice decisions (Tversky & Shafir,1992; Schwartz, 2000).

2.3 Product Involvement

Product involvement is mainly affected by interactions between *product attributes* and *consumer traits*. Purchase decision involves the placement of important purchasing task. This will

encourage consumers to collect more relevant information, spend more time on product search, and ultimately aim to make correct purchase decisions. Purchase decision and product involvement, have a natural effect on each other. For example, the greater of product involvement, the greater level of involvement in purchasing decisions; and when the level of consumer purchase decision involvement is high, product involvement the degree of entry will also increase. The advertising degree of attention consumes place on advertisement information, the state of mind when they are exposed to advertisement, and the degree of cognitive response or information processing of advertisement information (Tversky, 1993; Chemev (2003a).

Consumer decision making is usually influenced by the involvement of factor product. The significance and importance of goods with different levels of involvement to consumers are very different. According to the difference between the risk and the effort required when consumers purchase goods, the goods can be divided into two categories: low and high involvement. Typical high-involvement commodities can be cars, houses, and pearls; typical low-involvement commodities include daily chemicals, cigarettes, and beverages. Research by domestic and foreign scholars has confirmed that consumer purchasing decisions are always affected by consumer product involvement. Products are involved in brand search, information processing, attitude change, and purchase intention formation in the field of consumer behavior. The importance lies consumers' perception in a product based on his or her own internal needs. According to this degree of difference, product involvement is usually divided into high involvement and low involvement. When consumers purchase high-involvement products, they will spend more time and energy to collect product and brand information than to purchase low-involvement products, which will affect their information processing and consumption (Wright, 1975; Dhar,1997; Chemev, 2003a; Chemev, 2003b).

2.4 Product Assortment

As known, traditional product assortment refers to the number of products under a certain product category. Assortment is very beneficial to the consumer selection process in various marketing activities. In general, providing information is the most important benefit of product assortment. The product provides tag information to help consumers understand the product's attributes and understand the differences between different assortments of goods so that consumers can establish preferences. The assortment of many alternatives can effectively help consumers improve their selection process. In fact, if a selector has a screening device, it can arrange a subset of available options in an orderly manner, and the selector can make a more high-quality choice. If categorization is beneficial to consumers, categorizing can guide consumers to choose their more preferred options among a wide variety of options (Hauser & Wernerfelt, 1990; Kahn & Wansink, 2004).

2.5 Product Assortment Method

Consumers are faced with objects that can be assorted in various ways. The characteristics of different assortments or breeds will significantly affect the perception of these consumers in their environment, and will influence their decision-making by affecting the differentiation of dependence and seeking diversity. Kahn & Wansink (2004) have studied

the formation of more choices through assortment, and the assortment based on goals, assortment based on brands or feature levels, or based on their supplements or the assortment of alternatives. In addition, these researchers believe that the consistency of the organization and symmetry of the assortment, and the organization of consumer and retailer plans, influence consumer decision-making. These externally applied various assortment methods and some consumption situation factors will comprehensively influence important decisions. For example, the difficulty and time of selection have an impact on the satisfaction of product types and consumption. In this regard, assortment commodities affect the consumer's response in the same context of decision-making (Wright, 1975; Tversky, 1993).

As seen, research proves that when consumers are only exposed to many narrow categories, they will be able to evoke a more complex world view of the consumer than a few and broad categories. Therefore, exposure to narrower assortments or extensive assortment will lead consumers to multi-dimensional analysis when dealing with given stimuli, and can perceive subtle details from each sub-category, thus affecting their decisions in particular contexts (Wright, 1975; Tversky, 1993; Kahn & Wansink, 2004).

3. Research Hypotheses and Research Framework

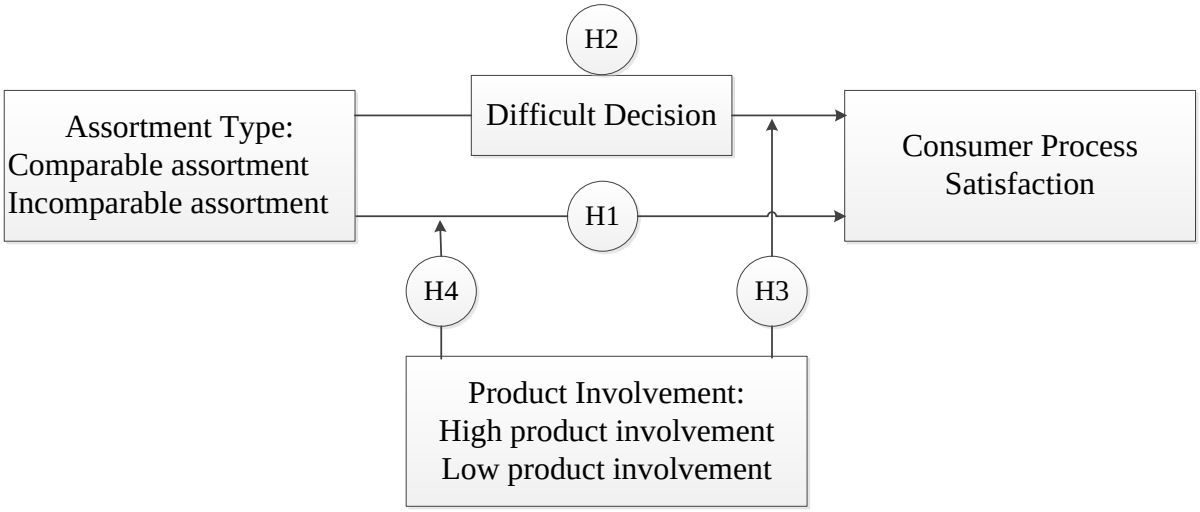
According to the theory of structural matching model, consumers are willing to give higher weight to comparable differences, because in the values of consumers, the difference in information caused by comparable attributes is more useful for their decisions, resulting in their willingness to use comparable attributes. Consumers guide their own judgments, because the comparable attributes are more in line with their own values. At this time, they have a stronger sense of autonomy and a better customer experience. When the attributes are incomparable, consumers are not involved in the consumer comparison process. Their decision-making may bring difficulties to consumers' choices, causing decision difficulties. On this ground, this present research extends this theory to product assortment domain. Assortment types are divided into *comparable* and *incomparable* assortments, and assortment types can affect process satisfaction.

The researcher made the following assumptions, hypotheses, and the conceptual model for this study, based on the literature review, as shown in Table 1 and Figure 1.

Table 1: Research Hypotheses

Summary of Assumptions	
No	**Research Hypotheses**
H1	The product assortment type has an effect on consumer process satisfaction.
H2	The influence of product assortment type on consumer process satisfaction is mediated by decision-making difficulties.
H3	The product assortment type has an impact on consumer decision-making difficulties.
H4	Product involvement regulates the impact of assortment type on consumer process satisfaction

Figure 1: The Conceptual Model of the Study



4. Research Methodology

The researcher approached research methodology as follows:

4.1 Participants

In this study, a total of 200 participants in the field of marketing management were selected on a voluntary basis to respond to the survey questionnaire online. The researcher approached college students in the area of business management as providers of data in product assortment, involvement, decision difficulty and process satisfaction, on the ground that they are active consumers in retail trade operations.

4.2 Research Instrument

The survey questionnaire was constructed in two sections with demographic information, followed by question items on product assortment, product involvement, process satisfaction, and decision difficulty (see Table 2). The question items were on a rating scale of 1 low to 4 high in agreement, as perceived by the participants under study. The instrument was assessed for reliability and data validity by SPSS 19.0 software.

4.3 Data Collection and Data Analysis

The researcher collected data in the second quarter of 2024. Data analysis was carried out by SPSS 19.0 software, executing reliability and data validity analysis, descriptive statistics, followed by paired sample t-test, variance analysis, and regression analysis on the variables and dimensions indicated in the research hypotheses on product type assortment, consumer decision, consumer process satisfaction and consumer product involvement. (See Table 1 and Figure 1.)

5. Results of the Study

5.1 Operational Definition of Variables

The independent variable of this research is the *assortment type*, which is assortment variable. The dependent variable is the *process satisfaction*, the intermediary variable is the *decision-making difficulty*, and the adjustment variable is the *product involvement degree.* The

three dependent variable scales have been well tested in previous studies. The scales used in three variables are shown in Table 2:

Table 2: Dependent Variable Scales

Variable	Scale Item Description		Meter Source
Product involvement	Important	unimportant	Johar (1995)
	Boring	interesting	
	Related	not related	
	Excited	not exciting	
	Meaningless	Significant	
	Attractive	Unattractive	
	Charming	Not charming	
	Worthless	Valuable	
	Related to me	It has nothing to do with me	
	Not required	Required	
Process satisfaction	Very annoying to decide which product to buy; a lot of good options for me to choose; satisfied with the optional process experience; choice is right; choose from a similar list of products when I next buy something; the process of deciding which product to choose is very interesting		Fitzsimons, Greenleaf & Lehmann (1997)
Difficult decision	When choosing among the above brands, it feels difficult that can easily explain choice/ making choices in the above brands is a nuisance		Chatterjee & Heath (1996

5.2 Effect of Product Assortment on Process Satisfaction

Product Involvement

The researcher needed to distinguish between the levels of *involvement* of the product selected in the study. Considering three products well-known at work, the researcher selected the notebook computer, U-disk, and shampoos as stimuli to prompt different levels of involvement (see Tables 3 and 4). It is necessary to check whether there is indeed a significant difference in the degree of involvement of laptops, USB flash drives, and shampoos. These three types of products are commonly used by consumers as familiar products. Johar's involvement scale was used to calculate the mean values of these three types of products and calculate the average value. The products were assorted into high/medium/low involvement

products. Of 200 questionnaires distributed, 175 were recovered, 4 invalid questionnaires were removed, and 171 valid questionnaires were obtained. Among them, 74 questionnaires were for notebook recovery, 59 questionnaires for shampoo recovery, and 38 questionnaires for U disk recovery.

In this study, reliability test was performed on the obtained data and scales measured. Reliability coefficient of the tested whole scale was as high as 0.95, indicating three types of selected products quite high in internal consistency. Overall, this scale has a very high degree of confidence, especially with respect to internal consistency, proving that this scale can serve as the official test in this research.

Table 3: The Test Results for Laptops, U-disks, and Shampoos

	Laptop	U-disk	Shampoo	Mean	Sample
Laptop	6.352"			5.7477	74
U-disk				4.1393	38
Shampoo	10.614"	-4.347"*		3.2436	59
Mean	9.615"	1.013	-5.256**	4.0000	

Among the three products under study, the average degree of involvement of notebook computers is the highest (Pmean = 5.75), followed by U-disk involvement (Pmean = 4.14), and the involvement of shampoos with the lowest degree (Pmean = 3.24). In order to determine which products are high, medium, and low-involvement products, the researcher compared the mean value of these three products with the median value of the scale 4, using a single-sample t-test. It was found that laptops and shampoos showed a significant difference between the mean and the median, but no significant difference between the U-mean and the median (1 = 1.013, p = 0.320), indicating the three products corresponding to the high, medium, and low levels of involvement. In order to verify whether there is a statistical difference in the average value of the involvement of the three products, an independent sample t-test was conducted. The results of the independent sample t-test are: (i) there is a significant difference between the high-involvement products and the low-involvement products (t=10.614, p=0.000) (SPSS19.0 software indicating the significance level of p value less than 0.001). There is also a significant difference between the high-involvement products and the mid-involvement products (t =-6.352, p=0.000); and there is a significant difference between the low-involvement product and the consumer-involved product (t=4.347, p=0.000).

Table 4: Product U-disk Properties Selection

Number	U-disk properties	Selected number	Ratio to the total value
1	Capacity	32	38%
2	Interface	21	25%
3	Exterior	16	19%
4	Use	8	10%
5	Characteristic	4	5%
6	Warranty time	2	2%
7	Others, please specify	1	1%

6. Results and Discussion

6.1 The Participants

A total of 200 questionnaires were collected from the participants. There were 17 invalid questionnaires and 183 valid questionnaires remained after exclusion. To exclude subjects who did not read the material carefully, the experiment set up two filtering issues. One was to set a direct question after each material: Do you read the above materials? The second was to set up test questions: "If you will choose this brand for the next purchase?" and "If you choose the next purchase, will you choose another brand?" Table 5 reports the participants' demographic information.

Table 5: Participants' Demographic Information (N=183)

Variable	Content	Coding	Frequency	Percentage
Sex	Male	1	95	51.91%
	Female	2	88	48.09%
Age	Under 25	1	111	60.66%
	Between 20-25	2	56	30.60%
	More than 25	3	16	8.74%
Education level	Undergraduate	1	161	87.98%
	Master	2	17	9.29%
	Doctor	3	5	2.73%

6.2 The Effect of the Assortment Type on Process Satisfaction

The effect of the assortment type on process of satisfaction was analyzed by comparing the consumer selection process under the two assortment types. In order to verify Hypothesis 1, the researcher compared the process satisfaction under the comparable assortment with the incomparable assortment, and uses the paired sample t-test to verify the hypothesis.

In the case of incomparable assortment, the average value of process satisfaction of consumers is $M_{non\text{-}comparable}$ assortment = 3.0051. In the case of comparable assortment, the average degree of process satisfaction rises to $M_{comparable}$ assortment = 3.5960, and the difference in mean change is significant (t = 7.910, p = 0.000). The results explain that the assortment type has a significant impact on process satisfaction. Hypothesis 1 is therefore established, as shown in Table 6.

Table 6: Descriptive Statistics and Paired Sample Test Results for Comparable and Incomparable Assortments

Variable t variable	**Type**	**N**	**Mean**	**Deviation**	**Error**
Process satisfaction	Non comparable	33	3.0051	0.40286	0.07013
	Comparable	33	3.5960	0.39094	0.06805

Dependent variable	Pair difference					t	df	Sig.
	Mean	Deviation	Error	95%confiden interval for difference				
				Lower limit	Upper			
Comparable- non comparable	0.59091	0.42917	0.07471	0.43873	0.74309	7.910	32	0.000

The standard error estimated from the regression statistics table is 0.23592, which indicates the error between the actual value and the estimated value. The purpose of the analysis of variance is to test the regression effect of the regression equation. The F statistic is equal to approximately 0.705, which is greater than the significance level of 0.05, indicating that the regression effect of the equation is significant. At least one regression coefficient in the equation is not significantly zero.

The regression formula is: $Y=7.910+0.07x_1+0.06x_2$, The p-value of the t-statistic of the product classification regression coefficient is approximately equal to 0.000. This indicates that the original hypothesis was rejected at a significance level of 0.05, and the null hypothesis was accepted at a 0.001 significance level. The p-value in this question proves that product classification is relevant to consumer process satisfaction.

The p-value of the regression coefficient statistic of the product classification is not high. Although the regression coefficient is close to the regression coefficient used for product classification to process satisfaction, such a small p-value indicates the difference between the product classification and the consumer process satisfaction. If there is a correlation, the probability that the extracted regression coefficient is zero is not necessarily the p-value (0.000). Given a 95% significance level, it cannot be rejected. Under the null hypothesis, the regression coefficient of product classification is significant.

The results confirm the existence of significant influence of assortment type on process satisfaction, and the comparable assortment ratio influences process satisfaction positively. This is in contrast to the consumers proposed in the Markman Structure Matching Model, who prefer to use comparable properties to help their decision-making. The conclusion of the process satisfaction has a certain degree of agreement: when product involvement is relatively high, consumers will increase their attention to incomparable attributes.

6.3 Mechanism of Product Assortment Affecting Process Satisfaction

The researcher tested whether the product of the selected high-involvement and low-involvement products is significantly different. An independent sample t-test is performed on these two products. The test results are shown in Table 7 below (t=10.614, p=0.000). It can be seen that the variance between the two is significant, demonstrating that the study can select notebooks and shampoos to represent both high-involvement and low-involvement products.

Table 7: Notebook and Shampoo Product Involvement: Independent Sample t-test Results

	Levene test of variance equation		**T-test of mean equation**				
Dependent variable	F	Sig.	t	df	Sig. (Bilateral)	Mean difference	Standard error value
Product involvement	0.705	0.403	10.614	81	0.000	2.50414	0.23592

The researcher designed the problem of product attribute selection, listed some of the most common attributes of the three products, and allowed consumers to make choices. According to statistics, it can be seen from Table 8. When consumers buy laptops, they respectively value: CPU, memory capacity, heat dissipation, graphics card, and hard disk capacity. When buying shampoos, they look for hair efficiency, specifications, origin, and gifts.

Table 8: Notebook and Shampoo Property Selection

Number	Notebook properties	Selected number (132)	Ratio to the total value	Shampoo properties	Selected number (88)	Ratio to total value
1	CPU	28	21.21%	Suitable for hair	34	38.63%
2	Memory capacity	26	19.69%	Effect	34	38.63%
3	Heat dissipation	18	13.63%	Specification	8	9.10%
4	Video card	14	10.61%	Origin	5	5.68%
5	Display size	9	6.82%	Gifts	1	1.14%
6	Hard drive capacity	13	9.85%	Others, please specify	6	6.82%
7	Weight	8	6.06%			
8	Battery life	5	3.79%			
9	Warranty time	5	3.79%			
10	Expand performance	4	3.03%			
11	Others, please specify	2	1.52%			

The data processing of this study uses variance analysis and regression analysis. The researcher first validated the main effect of assortment type on process satisfaction, using analysis of variance. Comparing the comparable assortment group with the incomparable assortment group, $M_{\text{comparable assortment}} = 3.2978$, $M_{\text{incomparable assortment}} = 2.9325$, the mean change was significant $t = -3.942$, $p = 0.000$, indicating that the assortment type has a significant impact on process satisfaction, preliminary verification Hypothesis 1. In the subsequent section, the author will further verify Hypothesis 1 in the case of the dependent variable—process satisfaction, as shown in Table 9:

Table 9: Sample t-test Results for Assortment Types

	Livened test of variance equation		T-test of mean equation				
Dependent variable	F	Sig.	t	df	Sig. (Bilateral)	Mean difference	Standard error value
Process satisfaction	0.655	0.420	-3.942	152	0.000	-0.36529	0.09266

As for the mechanism of the assortment type's effect on consumer process satisfaction, the researcher examined the mediating relationship between assortment type and process satisfaction, the decision-making difficulties, whether there is an intermediary effect. The analysis was in four steps:

(1) The effect of the independent variable on the outcome variable (Hypothesis 1, which has been supported);

(2) The effect of the independent variable on the intermediary variable. Based on the introduction of control variables, the researcher put the independent variable (assortment type) into the regression equation, and analyzed the influence of the assortment type on the decision-making difficulty;

(3) The influence of the mediation variable on the dependent variable. Based on the introduction of control variables, the researcher put mediation variables (difficulties in decision making) into regression equations to analyze the influence of decision-making difficulties on process satisfaction;

(4) Mediating effects (Hypothesis 2).

The results of the hierarchical regression analysis are shown in Table 10

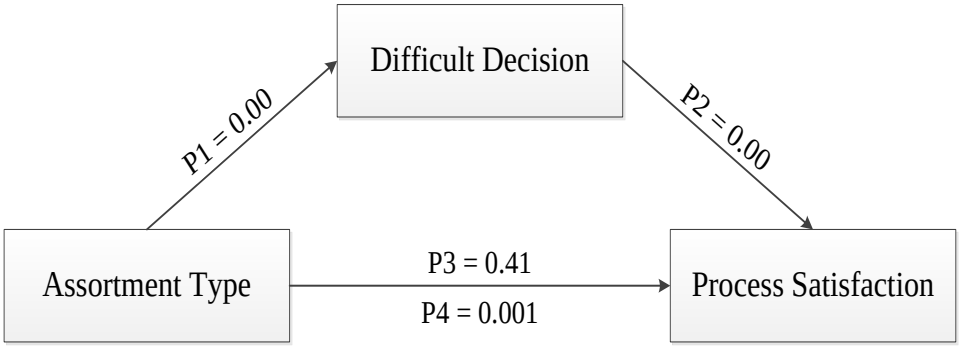
Table 10: Hierarchical Regression Statistics

Explanatory variables	**Difficult decision**		**Process satisfaction**					
Dependent variable	M1	M2	M3	M4	M5	M6	M7	M8
Control variable								
Sex	-0.162	0.186	-0.201	-0.213	-0.154	-0.171	-0.179	-0.177
Age	0.034	-0.032	0.026	0.025	0.016	0.018	0.013	0.010
Education level	-0.056	0.082	-0.087	-0.101	-0.071	-0.083	-0.075	-0.076
Independent variable								
Assortment type		-0.730		0.372		0.210	0.192	0.191
Mediating variables								
Difficult decision					-0.289	-0.221	-0.247	-0.237
Moderator								
Product involvement							-0.143	-0.143
Interaction items								
Difficult decision Product involvement								-0.126
R2	0.020	0.250	0.034	0.129	0.124	0.188	0.201	0.207
△R2	0.020	0.230	0.034	0.096	0.131	0.059	0.013	0.006
F	1.022	12.447	1.738	5.530	7.333	6.850	6.165	5.442
△F	1.022	45.807	1.738	16.373	23.343	10.689	2.413	1.802

From the results in Table 10, it can be seen that the assortment type has a significant influence on decision making difficulties (M2, b=-0.730, t=6.768, p=0.000). At the same time, decision-making difficulties have a significant negative effect on process satisfaction (M5, b=-0.289, t=4.831, p=0.000). After the mediation variable was added, decision-making difficulties still had a significant effect on process satisfaction (M6, b=-0.221, t=3.269, p=0.001), while the effect of assortment type on process satisfaction remained significant (M6, b= 0.210, t=2.067, p=0.041). Therefore, Hypothesis 2 is supported by the obtained data, that is, *decision-making difficulties play an intermediary role in the relationship between assortment type and*

process satisfaction, but decision-making difficulties only play a part here in the role of the intermediary.

Figure 2: Regression Test of the Mediating Role of Decision-Making Difficulties under Assortment Type



In Figure 2, P1 is the regression test value of the classification type for decision making difficulty, P2 is the regression test value of decision difficulty for process satisfaction, and P3 is the regression test value of classification type for process satisfaction. P4 is added in after the mediation variable, showing the regression test value of the classification type on process satisfaction.

Table 11: Assortment Type, Product Involvement, and Process Satisfaction in Two-Factor Variance Analysis Results

Source	Type III Sum of Squares	df	Mean square	F	Sig.
Correction model	6.9173	3	2.306	7.142	0.000
Intercept	1490.298	1	1490.298	4615.979	0.000
Assortment type	5.355	1	5.355	16.585	0.000
Product involvement	0.098	1	0.098	0.305	0.582
Assortment Type Process Satisfaction	1.663	1	1.663	5.150	0.025
Error	48.428	150	0.323		
Total	1545.222	154			
Corrected total	55.346	153			

Note: R^2= .125 (Adjustment R^2= .107)

As shown in Table 11, under the two-factor analysis of variance, the main effects of assortment type are significant (F=16.585, p<0.001), which indicates that the effects of incomparable assortment and comparable assortment on process satisfaction are significantly different, which further validates Hypothesis. 1.

In addition, the interactions between the assortment type and product involvement were also significant (F=5.150, p=0.025), indicating a significant interaction between the independent variables and the adjusted variables. Hypothesis 4 was therefore supported by these data.

6.4 Research Hypotheses

As reported, the results in Table 2-11 support three hypotheses with the obtained empirical evidence.

Table 12: Summary of Research Results

Number	Hypothesis	Result
H1	Assortment type has an effect on process satisfaction. Comparable assortment can improve process satisfaction more than incomparable assortment.	Valid
H2	The influence of assortment type on process satisfaction is mediated by decision-making difficulties.	Valid
H3	The product assortment type has an impact on consumer decision-making difficulties. Decision-making difficulties when determined by product involvement affects process satisfaction. Specifically, relative to high-involvement products, low-involvement products are promoting the impact of decision-making difficulties on process satisfaction.	Invalid
H4	Product involvement regulates the effect of assortment type on process satisfaction. Specifically, when the level of product involvement is low, compared with the incomparable assortment, the comparability assortment can more easily improve the process satisfaction; when the level of product involvement is high, the impact of comparability and incomparability assortment on process satisfaction is not significant.	Valid

7. Discussion and Conclusion

This research investigated consumer process satisfaction with assortment types to further enrich studies in product assortment. Some recent papers have already started the domestic research on product assortment scales. This study examined how the consumer's process satisfaction could be affected by the product assortment type. Throughout the study, three of four hypotheses have been verified.

The researcher proved that the assortment type does have a significant effect on process satisfaction. When consumers face a comparable assortment (M comparable assortment = 3.5960), their process satisfaction is higher than facing incomparable assortment (M cannot be compared assortment = 3.0051) (t=6.047, p=0.000). The researcher further confirmed that the proof of this main effect can help marketers handle decision-making difficulties that confuse consumers when encountered with complex product assortment. It was also found that the

mediating role of decision-making difficulties having its intermediary effect between the assortment type and consumer process satisfaction. The decision-making difficulty will arise when consumers are faced with various choices (Payne et al., 1988; Schwartz, 2005). It bridges in the middle of process satisfaction experienced by consumers; however, the study found that decision-making difficulties only play a partial intermediary role.

The adjustment effect of product involvement was carefully examined. In the case of low product involvement, consumers do not use much effort to compare and measure different assortments. If consumers are faced with incomparable assortment, their satisfaction will be significantly lower than the comparable assortment. In the case of high product involvement, for some psychological reason, consumers attach great importance to their own personal choice. This seems to suggest to marketers to consider the mobilization of cognitive resources to distinguish optimal choices (Wright, 1975; Tversky & Shafir,1992; Timmermans, 1993; Mogilner et al., 2008). As shown in this study, the comparable assortment effect can be adjusted lower, so that the difference in impact between incomparable assortment and comparable assortment on process satisfaction will not generate a significant effect.

8. Research Limitations and Further Suggestions

In this study, the researcher verified the main effect of assortment type on process satisfaction, and examined its impact mechanism. Decision-making difficulties were found as only playing a partial intermediary role. The issue of impact mechanism of product assortment on other consumer-related variables could be further studied.

The size of the product assortment under study was rather limited, and the issue of assortment impact could be further studied to shed more light onto marketing strategies in directing consumer process satisfaction as desired. As emphasized by cognitive psychologist Miller (1956), the human brain can process up to six messages at a time and people's short-term memory can remember up to seven information points at a time. In this regard, further research can expand the scale of assortment. The interaction between assortment size and assortment type can also be pursued in future research.

Finally, this study can provide some support for research on consumer choice regarding how consumers react to a series of options using the same dimension description compared to the options used to describe the unique characteristics. As shown in this study, consumers are exposed to incomparable assortment, and in turn, it has increased the decision-making difficulty. Under such condition, the two options are not easy to compare, and consumers are more likely to have unsatisfactory emotions. When consumers choose among incomparable attributes, consumers will be more steadfast in deciding on deferred choices, and deferring choices are more likely to occur. When the satisfaction of the selection process is high, it will be easier to generate a search for a decision. It is expected that later studies may consider the choice of will as a dependent variable and consider the assortment type as one of the influencing factors. For marketers, they need to update their knowledge on product assortment,

decision-making mechanism, and consumer process satisfaction so that they formulate their consumer-based strategies for success in business operations.

9. The Author

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