

Using Fuzzy Set Qualitative Comparative Analysis for Revisiting Purchase Intention

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Abstract— This study contributes to combine relevant antecedents (i.e., relationship marketing, experiential marketing, perceived value, and perceived risk) into various causal recipes to explore the configurations for achieving high purchase intention based on asymmetric relationship. Specifically, this study focuses on purchase intention and investigates causal conditions of purchase intention based on symmetric and asymmetric thinking in data analysis. This study employs online questionnaires survey and collects primary data to assess the applicability of conceptual research model. Intermediate results produced from fsQCA display that there are four causal configurations found to be sufficient for high purchase intention funding in percentage with acceptable consistency and coverage levels. For instances, first sufficient condition proposes that when firm can take high levels of relationship marketing, experiential marketing, and perceived, they can arrival high customer's purchase intention.

Keywords— fsQCA, marketing, perceived value, risk, and purchase intention.

I. INTRODUCTION

Intention as a kind of psychology or intentional motivation that can predict or explain human behavior. If intent is larger, the possibility of the behavior occurring is higher. Intent can be used to explain entrepreneurial behavior, and similarly, can be used to predict consumer behavior. If you can understand the intentions of others in advance, the chances of success will likely be significantly improved. Bachleda, Fakhar, and Elouazzani (2016) indicates the purchase intent reflects the level of the consumer is willing to buy, and then how to cause the consumer's intention in marketing is an important issue. The idea is the intention, and one of the factors that affect the intention is the attitude. The gap between attitude and intention, as well as understand consumer's behavior based on intention is important for the company (Hassan, Shiu, & Shaw, 2016). Intentions affect behavior, it allows us to predict the controllable factors and flexibility of behaviors, knowing the outcome of the action beforehand. In purchase process, consumer may think about many factors and affect the decision-making. How to enhance the consumer's intention to purchase for the enterprise, it is meaningful. According to the literature, the intention is the main factor of human behavior, the strength

of the intention will affect the possibility of actual behavior. Therefore, this study focuses on purchase intention and investigates causal conditions of purchase intention.

There are several causal conditions that may impact on purchase intention in past researches. Regarding definitions of trust, commitment, closeness, and relationship quality, they are useful to develop the concept of relational marketing. Several studies in the field of relationship marketing focus on exploring the impacts of direct marketing, database marketing, customer partnering, CRM (Customer relationship management), or services marketing on customer satisfaction, customer loyalty, or customer retention. Kozlenkova et al. (2015) indicates relationship marketing can be described as the supply chain management and marketing hub, as a coordinating role, so that companies have to attach importance to relationship marketing. Brown, Mohan, and Boyd (2017) proposes by increase validity of relationship marketing, marketers are able to gain more benefit because they can create better strategy for success. In recent years, the product life cycle is decrease gradually and advancing all the time, how to attract consumers is a major issue for the firm. Customer's experience is the basis of customer value. Elena & Estela (2015) suggests enterprises should focus on experiential marketing and provide the ways to experience the product for customers, as it affects the reaction to product marketing and brand recognition.

Based on these regards, relationship marketing and experiential marketing are main sources to influent the purchase intention. With good relationship of cooperation, to raise the level of mutual trust and increase willingness. On the other hand, experiential activities allow consumers to gain access to understand products before they are decide to purchase and good experiences to increase consumer willingness to buy. Consumers face the unknown sellers, they will evaluate from buyer reviews. The online purchase reviews will affect the willingness of potential consumers to purchase, so that the perceived value of customers has become a competitive advantage among businesses (Deng, Liu, & Hinz, 2015). El-Manstrly (2016) proposes perceived value is the basis of competition among firm, high value will make consumers feel satisfied, and will form a loyalty to become an old customer,

developing a long-term and stable relationship. Perceived value is valued by the business, but also have a positive impact on business performance. After the appearance of mobile commerce, customers are undertake more at risk in online shopping than in physical stores. Therefore, consumers begin to value the perceived risk and minimize the risk. On the other hand, how companies reduce risk to retain consumers has become a major topics (Zheng et al., 2012). Chen and Chang (2013) suggests businesses are able to make consumers to understand product characteristics and reduce mistrust through information transparency and the inequality of information, otherwise it is difficult to convince consumers. Businesses provide information to reduce the perceived risk, gain consumer's trust, and then to create a long-term relationships (Chen & Chang, 2012). In internet shopping, perceived risk is an important factor for consumers, especially for the first time consumers, the risk associated with uncertainty, such as the two sides do not have direct interaction or picture and product do not match. Seo and Moon (2016) indicates perceived risk is the uncertainty of information for the enterprise, affecting the customer's final decision. If the risk is higher, not only may give the loyal consumers a negative impression, but also affect the potential consumer's purchase intention. Making the perceived risk is need to be concern. Perceived value is the consumer's positive feeling about the product or firm, and perceived risk is negative. Both can be enhanced or reduced by the cooperation experience or activities. In addition, high value, low risk will make consumers feel satisfied and increase their willingness to buy. According to the discussion, perceived value and perceived risk can be used as mediators in this study.

II. LITERATURE REVIEW

In the field of relationship marketing, suppliers can enhance perceived value and take concrete actions by giving consumers a high sense of trust. On the other hand, suppliers will also want to customers' return. The reciprocal conduct of both parties can create a long-term cooperative relations (Luu, Ngo, & Cadeaux, 2018). Arslanagic-Kalajdzic and Zabkar (2017) proposes relationship marketing is the mutual trust and cooperation developed by both sides. Thus, consumers are increase confidence to reduce risk and increase perceived value with the trust of business. Trust in relational marketing is one of the important factors which influence the perceived value and finally affect the purchase intention. The higher of the recognition, the higher the perceived value. When the consumer buy online, they will measure the electronic word of mouth. In addition, the purchase decision may be affect. Businesses should provide consumers with complete information in order to achieve the goal that gain trust. Once the trust relationship between the two sides is established, can reduce the uncertainty and concerns about marketing. Reducing perceived risk to increase willingness to buy (Chen & Chang, 2012). Businesses can increase consumer's trust by providing reliable information. Consumers' trust can dramatically reduce perceived risk. In order to avoid a fall from expectations, consumers will reduce perceived risk. Perceived risk is the uncertainty of the consumer and the potential risk after the purchase.

Providing an experience will enable to become co-producers of value for consumers. The strategy of experiential marketing can form the perceive value after the experience, in turn, reduce the perceived risk. When consumers are satisfied with this experience, enhance the perceived value, ultimately, affect the purchase decision (Mulcahy, Russell-Bennett, & Rundle-Thiele, 2015). By experience, consumers can produce the perceived value. Perceived value arises from the emotional or practical aspects that consumers' experience. After the experience of feelings, is subjective, these feelings will be retain by customers, and affect the decision-making (Wu, Cheng, & Ai, 2018). Consumer in reduction of risk, personal experience is a major factors. During the purchase process, consumers will reduce the high-risk of occurrence through their personal experience in the past. To minimize the risk is important. Therefore, the strategy of experiential marketing is effective (Zheng et al., 2012).

Wu and Chang (2016) proposes perceived value is a measure of expectation about the usefulness or emotional aspects of a product. When perceived value is higher, such as the function of product as expected, it will increase the consumer's willingness to buy. By increasing the value, to enhance the consumer's purchase intention. Deng, Liu, and Hinz (2015) indicates perceived value and trust are the keys of purchase intention. In e-commerce, consumers seek confirmation of trust through information. When two suppliers exist at the same time, one provides high value, one value is low, and consumer's choice must be the former. Thus, we can know that the perceived value is important in consumers' purchasing decisions. The higher the perceived value, the greater the willingness to buy (Ponte, Carvajal-Trujillo, & Escobar-Rodríguez, 2015). Consumers in the purchase decision-making, will measure the value of the goods, whether in line with expectations. In online shopping, because of the inability to reach out to entities in advance, consumers will more emphasis on the value of the product. Judgment of the perceived value, will affect the purchase intention, both is proportional (Liu et al., 2015). Perceived risk plays an important role in decision-making. For the new users, they will consider perceived risk in order to avoid insecurity.

Hussain et al. (2017) suggests perceived risk is expectance about the unpleasant feelings. In order to reduce the odds of making bad decisions, consumers choose goods based on comments. It is not only increases the credibility, but also reduces the risk. From this, perceived risk will affect consumer decisions, low-risk products will increase the purchase intention. Chao et al. (2016) indicates the formation of behavioral intention of primary factor is the willingness of consumers. Thus, behavior cannot be formed. Perceived risk is negatively correlated with the purchase intention, and firms can improve their purchase intentions by reducing perceived risk. In the consumers use e-commerce, because it is more at risk than buy at the physical storefront, more consider of the factors. It is important for the seller to achieve the goal by understanding consumer behavior. In the study of consumer behavior, the research pointed out that belief and risk will affect consumers' intention, which has significant influence and high

risk, which will reduce purchase intention (Yang et al., 2015).

III. EMPIRICAL RESEARCH

3.1 Measure Development

Based on Ding and Tseng (2015), Ju et al. (2016), Wang and Ngamsiriudom (2015), this study defines experiential marketing as consumers are encouraged to understand products through experience activities, and increase their willingness to buy. Sense, feel, think, act, relate of five factors, developing the two topics content respectively to measure. According to Chen and Chang (2012), perceived value defines as the consumer’s subjective judgment of the product which the level of value will affect the purchase intention. The measure factor is two kind of the functional value and the emotional value, and develops the topic content of six questions accordingly. Based on Chang and Ko (2017) and Yang et al. (2015), perceived risk is defined as the behavior that consumers consider in all aspects of purchasing, attempting to reduce, and avoiding risk. Performance risk, financial risk and time risk as measurement of perceived risk, developing into six items. According to Lin (2016) and Nduneseokwu et al. (2017), purchase intention can defined as motivated and planned to buy. The strength of the consumer’s purchase intent will affect the likelihood of

purchase. And to develop four items of content.

3.2 Sampling Design

This study applied a questionnaire survey method to collect empirical research data, and consumers with purchasing or consumption experience were selected as the main research subjects. Subjects were asked to fill in with the most impressed purchase or consumption experience in the past as the basis for answering the questions. The questionnaire mainly consists of six parts. The questionnaire items including five research constructs (i.e., relationship marketing, experiential marketing, perceived value, perceived risk, and purchase intention) and the basic information (i.e., gender, marital status, occupation, age, education level, and average monthly income).

IV. RESULTS OF THE DATA ANALYSIS

The results of descriptive statistical analysis indicated that subjects is mostly female (183 cases, 52.6%), single (210 cases, 60.3%), service industry or manufacturing (242 cases, 69.5%), in the majority of age is 26-35years old (174 cases, 50%), education level is main of bachelor (211 cases, 60.6%), average monthly income is USD20,001-40,000 (186 cases, 54.3%).

TABLE 1. Descriptive statistical analysis for sample

Variable	Item	Frequency	Percent (%)	Variable	Item	Frequency	Percent (%)
Gender	Male	165	47.4	Marital status	Married	138	39.7
	Female	183	52.6		Single	210	60.3
	Student	53	15.2		Junior high school	3	0.9
Occupation	Service industry	127	36.5	Education level	High school	79	22.7
	Manufacturing	115	33.0		Bachelor	211	60.6
	Government officer	51	14.7		Master	42	12.1
	Others	2	0.6		Doctor (Ph.D)	13	3.7
	Under 20 years	0	0.0		Less than 20,000	86	24.7
Age	21-25 years	75	21.6	Average monthly income (USD)	20,001- 40,000	186	53.4
	26-30 years	88	25.3		40,001- 60,000	45	12.9
	31-35 years	86	24.7		60,001- 80,000	21	6.0
	36-40 years	74	21.3		80,001- 100,000	8	2.3
	Over 40 years	25	7.2		Over 100,001	2	0.6

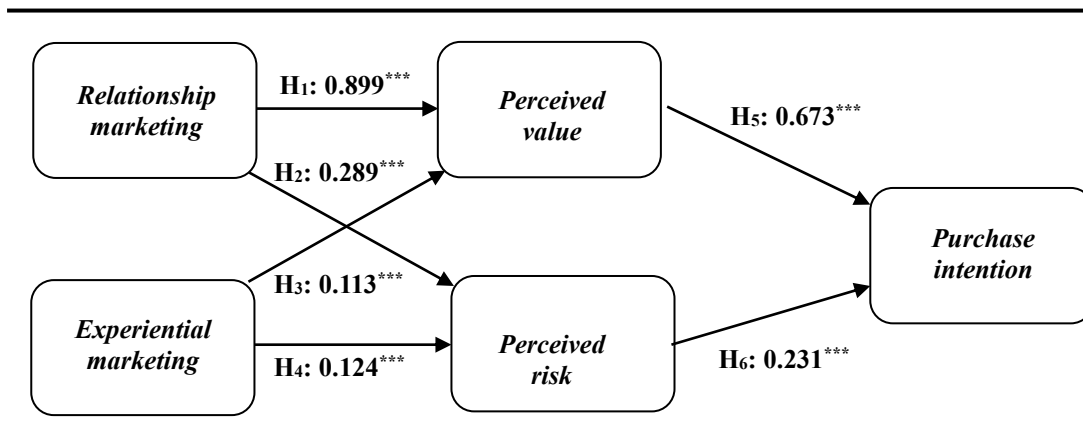
TABLE 2. Result of fsQCA

Path no.	RM	EM	PV	PR	Coverage		Consistency	Solution	
					Raw	Unique		Coverage	Consistency
1	●	●	●		0.835	0.015	0.991	0.984	0.924
2	●		●	○	0.821	0.021	0.978		
3	●	●	●	○	0.912	0.065	0.969		

Notes: Black circles“●”indicate the presence of causal conditions (i.e., antecedents). White circles“○”indicate the absence or negation of causal conditions; RM means relationship marketing, EM means experiential marketing, PV means perceived value, PR means perceived risk.

Based on Hair *et al.* (2014), extracting common factors with eigenvalues greater than 1. The results demonstrates five construct’s factor loading (more than 0.7), and Item-to-total Correlation (more than 0.6), and Cronbach’s α (more than 0.8). Thus, the contents of this study represent a good construct validity and the content of the construct of relationship marketing has a high degree of internal consistency. fsQCA is used to explore the configuration or sufficient conditions for high purchase intention in data analysis to provide solutions based on Ragin (2008). When one of these factors may reduce the consumer’s willingness to purchase, it can remedy by

simultaneously raising in the other two factors. Table 2 displays that there are three sufficient conditions for high purchase intention. First path indicates that when firm can take high levels of relationship marketing, experiential marketing, and perceived, they can arrival high customer’s purchase intention. Second path represents that high levels of relationship marketing and perceived value with low level of perceived risk is high can achieve high purchase intention. Furthermore, final path shows that firms can increase relationship marketing experimental marketing, and perceived value with low level of perceived risk to achieve high purchase intention.



Note: * = P-value < 0.1, ** = P-value < 0.05, *** = P-value < 0.01; CMIN/DF = 1.202, GFI = 0.953, AGFI = 0.924, NFI = 0.966, RMSEA = 0.024
 Fig. 1. Results of SEM

V. DISCUSSION

This study contributes to apply asymmetric thinking approach (i.e., fsQCA) to explore the configurations or sufficient conditions for achieving high purchase intention. According to results of fsQCA, there are three sufficient conditions for high purchase intention and perceived value is the major causal condition in these sufficient conditions. Compare first path and second path, when relationship marketing and perceived value are exist simultaneously, high experiential marketing and low perceived risk have the alternative. In other words, choosing to improve one of both factors will increase consumers’ purchase intentions and have the same effect. Specifically, there is a substitution effect between high experiential marketing and low perceived risk. Similarly, in the case of high relationship marketing and perceived value with low perceived risk, experiential marketing and don’t care have a substitution effect based on second path and third path. Regardless of which factor is be raised, can achieve the purpose of increasing purchase intention. Furthermore, compare path first path and third path, high relationship marketing, experiential marketing, and perceived value are exist, low perceived risk and don’t care are alternative relationships. Therefore, anyone of them can create a high purchase intention.

According to the results of fsQCA, First path indicates that the enterprise is able to strengthen purchase intention when managers cannot reduce perceived risk in short run, through increasing experiential marketing and perceived value simultaneously. Based on the construct of EM03 and PV05, in a short period of time, when the perceived risk is high, this study suggests that company can regularly disclosed business reports. This can make consumers feel satisfied and bring positive responses to the company. To raise experiential marketing and perceived value at the same time Second path represents that both relationship marketing and perceived value are increase, even though perceived risk is high, purchase intention will be enhance. Based on the item of RM04 and PV03, in order to increase experiential marketing and perceived value,

companies can by product information must be consistent with the actual product, and it must be promptly repaired in the case of malfunction. Consumers feel that the company is paying attention to them, so that increase perceived value while improving experiential marketing. Moreover, final path shows that perceived value of produce, firms can increase relationship marketing and experimental marketing to achieve high purchase intention. According to the content of item RM05, EM04 and PV05, if the information from the company is accurate, then consumer feel good about this enterprise. Thence, firms update related information about operating status regularly and ensure data transparency, it can gain a positive impression from consumers.

The limitations of this study include the research framework, methods, period, and sample. First of all, in terms of research framework, this research mainly includes relationship marketing, experiential marketing, perceived value, perceived risk, and purchase intention. Therefore, the follow-up research can consider adding the factors such as utilitarian value, hedonic value, etc., and external disturbances such as competitor brand, politics, and society etc. In research methods, this study uses questionnaires to collect empirical data and makes use of descriptive statistical analysis, factor analysis, reliability analysis, structural equation modeling (SEM), and fuzzy set qualitative comparative analysis (fsQCA) to conduct multivariate empirical studies. Other multivariate methods are suggested that for follow-up studies. For example, multivariate analysis of variance, cluster analysis, or regression analysis. In addition, further study can also consider qualitative research such as field investigation methods or observation methods. The research period of this study was from January 2121 to June 2021, and surveyed people who had consumption experience that is a cross-sectional study. Thus, the follow-up study may conduct longitudinal research or add to the time factor to lengthen the study period. Finally, research sample can aim on specific industries or specific brands.

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