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Antecedents of Accepting Disruptive Innovation: The Perspective of Value Congruence*

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Abstract

Originating in value congruence theory, this study aims to give a clear understanding of the transformation process of consumers from incumbent technology to disruptive innovation technology. Moreover, the moderating effect of personal innovativeness in the process of consumers' switching to disruptive innovation is investigated. This study combines value congruence with expectation-disconfirmation theory, technology-switching theory, and the personal innovativeness of the disruptive innovation product, explaining why consumers have transformed from an incumbent product into a disruptive innovation. Data was collected through a questionnaire from 280 smartphone users in China. The respondents were mainly potential consumers who had never bought Redmi phones, namely, a smart product owned by the renowned Chinese company Xiaomi. The hypothesis of the research model is based on the example of the Redmi smartphone, which has been confirmed by existing smartphone users in China. Through investigation, the results of multivariable regression analysis show the decisive variables that influence consumer intentions, and we analyze the role of personal innovativeness in moderating between dissatisfaction with the incumbent product and purchase intention of a product based on disruptive innovation. The findings of this study can provide a certain reference for the sustainable growth of Xiaomi and the development of new products.

Keywords: Value Congruence, Disruptive Innovation, Personal Innovativeness, Expectation-Disconfirmation Theory, Technology Switching Theory

JEL Classification Code: O33, C12, C52

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1. Introduction

With the rapid rise of mobile Internet, our daily lives are assisted by all kinds of mobile techniques and applications, including wearable devices, online social networks, and mobile banking. As the major supporting platform, the mobile phone plays a pivotal role in the success of these applications. In particular, we can install and use various apps on mobile phones that can link us to the world and dramatically enrich our lives. The development of the mobile technology has not only greatly influenced the progress of the device itself, but has also promoted the flourishing of downstream techniques and applications (Giao & Vuong, 2020). Fortunately, the portability, functionality, and convenience of mobile phones are increasing every day with the growing number of users, thanks to new communication technologies and a shortened development cycle. Although we are currently in a period of slow global economic growth, we are still witnessing a rapidly growing mobile phone market.

The number of people using smartphones has exploded in recent years (Surucu, Yesilada, & Maslakci, 2020). China is a country with a huge number of smartphone users, because of its large population. According to the latest report by Mary Mickel, an Internet analyst at KPCB Ventures in the United States, the number of smartphone users in China surpassed that of the United States in 2019, making it the country with the largest number of smartphone users in the world. Under these circumstances, China has become an indispensable country in the global smartphone market. Meanwhile, with the continuous upgrading of China's mobile network infrastructure, the future battlefield of phones has turned to 5G. While the update frequency of smartphones is slightly slower than that of fast consumer goods, it is still much faster than for most durable products (Rahman, Ismail, Albaity, & Isa, 2017).

Currently, Chinese smartphone brands, such as Huawei, Xiaomi, and OPPO, have nearly dominated the Chinese market. Xiaomi has won the “king of mobile phone e-commerce” award for the past five consecutive years. Because the pace of releasing new products is accelerated with innovative features, large companies with advanced technology can avoid the risk of failure. Most Chinese smartphone producers are second-tier companies, constantly making efforts to change the structure of the smartphone market and as they aspire to become a leading company. Xiaomi, as a mainstay of the handset sector among Chinese brands, has made a breakthrough in smartphone development by pursuing a disruptive innovation strategy (Sun & Fan, 2016).

First proposed by Christensen and Rosenbloom (1995), the theory of disruptive innovation has proved to be a powerful way to think about innovation-driven growth. According to this theory, “disruption” is a process whereby a small company with fewer resources can successfully challenge an existing business giant. Specifically, thanks to the focus of existing businesses on improving products and services for their most demanding customers, they exceed the needs of certain segments while ignoring the needs of others. Disruptive innovation businesses, on the other hand, are successful in targeting neglected segments and then often find their footing at lower prices (Christensen & Raynor, 2013; Christensen, Raynor, & McDonald, 2015). As an emerging Chinese mobile brand and independently operated sub-brand of Xiaomi, Redmi is the first to launch a smartphone costing less than a thousand RMB when the price of smartphones is generally high. Redmi focuses on the low-demand customer market for smartphones, providing “good enough” products for low-end customers. After the successfully entering the market with disruptive innovation products, Redmi has since been committed to producing cost-effective smartphones, continuously improving its performance, and gradually attracting mainstream customers

to purchase Redmi smartphones after satisfying low-end users. What causes people to switch to purchasing disruptive innovations? This paper introduces the theory of value congruence, expectation-disconfirmation theory (EDT), and technology switching models (TSM), and on the basis of these theories, proposes a research model to account for the antecedents of people purchasing disruptive innovation products.

The objective of this study is to explain the antecedents that influence people to purchase disruptive innovations. The rest of the paper is organized as follows. In Section 3, we propose a research model based on expectation-disconfirmation theory (EDT), technology switching models (TSM) and value congruence, in order to explore the factors influencing consumers' motivation when purchasing disruptive innovations; Section 4, examines the moderating role of personal innovativeness between dissatisfaction with an incumbent product and intention to purchase of disruptive innovations. Finally, the concluding remarks are given in Section 5.

2. Theoretical Background

2.1. Value Congruence

For different methodological and theoretical perspectives, current research on value congruence is primarily focused on personal-organization, which involves the correspondence between individual value and organizational value. That is to say, when organizational values correspond to employees' values, the employees' performance is relatively better, while employee satisfaction and loyalty to the organization are higher. Consequently, employees are less motivated to leave a company (Kristof-Brown, Zimmerman, & Johnson, 2005).

Value is the criterion that people use to guide their behavior. Values operate independently of any specific environment and function as normative criteria for selecting options from different behavioral patterns (Elizur & Sagie, 1999). Values play a decisive role in consumers' cognition as well as their behavior, and can influence their purchasing decisions (Brangule-Vlagsma, Pieters, & Wedel, 2002). In the marketing literature, Gutman (1982) has argued that values influence consumers' purchase patterns and behaviors. In the context of constant technological innovation, every consumer has values derived from their personal experience and beliefs. Similarly, every company plans the value perceived by a specific set of customers. However, prior to using value congruence the values of the consumer must first be determined, in order to reflect what the company anticipates those values to be (Cazier, Shao, & Louis, 2017).

Value congruence involves the correspondence between the individual value of the consumer and their perceived

value to a company. If a company's expected value is positively related to the values of the consumer, then it creates value support for the individual, which leads to value congruence (Cazier, Shao, & Louis, 2007). Sheng, Nah, and Siau (2008) have proposed a value-oriented thinking method for identifying and classifying users' perceptions toward information technology applications. It is worth noting that the company's values are based on customers' perceptions. Positive value congruence is not an endorsement of the value, or a judgment as to whether those values are good or bad, but rather an indication of a correlation between the value of the company and that of the individual (Cazier, Shao, & Louis, 2007).

From the literature above, we can easily conclude that value congruence is of great importance to a company (Steinmetz, 2016), although this has not been extensively studied in the field of information systems (IS). The purpose of this study is accordingly to determine to what degree value congruence is a motivating factor in consumers' decisions to purchase disruptive innovation.

2.2. Disruptive Innovation

Based on the previous studies by Tushman and Anderson (1986) as well as Christensen (2013), innovation can be classified as either sustaining or disruptive, depending on the organizational structure of innovation and the degree of market change. Sustaining innovation involves improving upon existing products and providing improved products to an existing market in terms of functions, attributes and prices. While this is very important for mainstream market users, however, disruptive innovation is capable of creating entirely new markets or value propositions (Christensen & Raynor, 2003; Christensen, 2013). Sustaining innovation means that companies continuously improve their techniques and services in order to maintain demand for high-end products, with mainstream consumers as the target audience. However, disruptive innovation usually provides low-end products or distinctive services to non-mainstream users or non-consumers. Companies pursuing a disruptive innovation strategy adopt entirely different technology and business models, occupy the low-end market, and thus gradually become industry leaders (Fajar, 2020). Among non-consumers are those who unwilling to purchase existing mainstream products, whether because of limited financial resources or other reasons.

The main background of disruptive innovation theory is business competition and innovation practice in developed countries. A problem arises from the fact that well-managed leading companies cannot maintain industry leadership in the face of certain kinds of market management and technological change. Christensen and Raynor (2003) have analyzed the theoretical framework of the failure

of a re-entrepreneur from the standpoint of a conspicuous enterprise; it was found that the re-entrepreneur was able to avoid disruptive innovation attacks from latecomers in four areas: product, investment, market, and management organization. Conversely, from the perspective of latecomers we can implement disruptive innovation strategies to draw up a theoretical framework for competitive advantage that attacks wealthier companies. Christensen (2013) believed that the technical paradigm or organizational mechanics alone could not explain the problem; he argued that breaking the trajectory of technological advances in the original value network would provide a competitive advantage for latecomer companies to implement disruptive innovation strategies.

Sun and Fan (2016) have explained that the Chinese company Xiaomi had a banner network of disruptive innovation, which was a powerful support for the company itself as a reason for producing disruptive innovation. In this study, the Redmi smartphone, i.e., a sub-brand of Xiaomi, is the representative of disruptive innovation, and the theory of disruptive innovation is elaborated from the perspective of value congruence.

2.3. Personal Innovativeness

According to Agarwal and Prasad (1998), the more capable a company is in coping with uncertainty, the more positive it is about embracing new technology, and the more innovative it is. Innovation here refers to new types of service, products and management, processes, or simply technologies or ideas that are different from previous ones (Lestari, Leon, Widyastuti, Brabo, & Putra, 2020). Receptivity to innovation is not just an act, but a process that involves adopting and using innovation through persuasion, decision-making, and confirmation, beginning with knowledge of innovation. Midgley and Dowling (1978) as well as Vandecasteele and Geuens (2010) define innovation as a strong desire to make the first attempt at new adoption and experience for new products, which affects consumer behavior. In this process, consumers go through many stages and the relationship between innovative products and individuals has been created through experience, reason, intuition, and authority (Miettinen & Virkkunen, 2005; Jang & Lee, 2018).

This innovation increases the desire of some consumers to be the first to adopt new products, and these people are known as the leading adopter. Leading adopters act as communicators, spreading new technologies to other potential customers by acquiring personal innovativeness, accepting new products and actively using them. Companies also strive to spread innovation by using these leading adopters, and the behavior of leading adopters is important because they influence the decisions of other customers.

In previous research models (López-Nicolás, Molina-Castillo, & Bouwman, 2008), personal innovativeness has a positive effect on usage attitude or intention to use and is set as a variable. A study by Choi (2011) on the effects of individual innovativeness, user interface, and social influence as factors in smartphone acceptance, found that the greater an individual's perceived innovativeness, the greater the perception of the ease, amusement and utility of a smartphone; the innovativeness of consumers, they argue, has a direct influence on the intention of acceptance.

In light of previous research, personal innovativeness can be regarded as an important factor in the entrance of the Redmi into the market for new information technology. Therefore, we would like to consider personal innovativeness, which is a personal tendency to accept the purchase intention of Redmi, which is a representative product of disruptive innovation.

3. Research Model and Hypothesis

3.1. Research Model

This study constructs and proposes a research model based on expectation-disconfirmation theory (EDT), technology-switching models (TSM), and value congruence, as presented in the theoretical background section. In addition to the cognitive of the value congruence between an incumbent smartphone and a disruptive innovation smartphone, such as the Redmi, personal innovativeness is also a crucial factor in the transformative process of disruptive innovation.

We investigated the impact of a number of independent variables on satisfaction with an incumbent product, including product congruence, brand congruence, and social congruence. Dissatisfaction with incumbent products has been the antecedent of purchase intention in disruptive innovation, while personal innovativeness is simultaneously used as a moderator between them. To verify this hypothesis, we present a research model as shown in Figure 1.

3.2. Research Hypothesis

EDT jointly determines customer satisfaction through the value congruence between IS expectations and actual post-adoption performance evaluations. Confirmation represents the extent to which the expectations of the user are contradicted during the actual user experience (Bhattacharjee & Premkumar, 2004; Bhattacharjee, Limayem, & Cheung, 2012). Verification can be divided into two categories. First, when the value presented by the company is consistent with the value perceived by customers, people will feel satisfied, because the product successfully meets their expectations. On the contrary, when the customer recognizes that the product does not achieve the expected benefits of using the IS, this will lead to dissatisfaction. Accordingly, this study proposes the following hypothesis.

H1a: Product value incongruence on an incumbent smartphone will have a positive effect on dissatisfaction with an incumbent product.

H1b: Brand value incongruence on an incumbent smartphone will have a positive effect on dissatisfaction of the incumbent product.

H1c: Social value incongruence on an incumbent smartphone will have a positive effect on dissatisfaction of the incumbent product.

Expectation is another factor in determining satisfaction with the EDT. The composition of expectations from the original EDT consider customer expectations of the product or service before use and make a comparison with performance after use (Bhattacharjee, 2001). However, expectations in the study in question are defined as value congruence of disruptive innovation. For the value congruence of disruptive innovation, we believe that high-value congruence of disruptive innovation will exacerbate dissatisfaction with the incumbent product (Fan & Suh, 2014). This is because consumers get more profit from disruptive innovation and cannot gain satisfaction from incumbent products. On the other hand, if customers have high-value congruence on disruptive innovation, they will attempt to purchase and use it. Therefore, value congruence of disruptive innovation will affect the switching from the incumbent product to the disruptive innovation. Accordingly, this study proposes the following hypothesis.

H2a: Product value congruence on the Redmi will have a positive effect on dissatisfaction with the incumbent product.

H2b: Brand value congruence on Redmi will have a positive effect on dissatisfaction with the incumbent product.

H2c: Social value congruence on Redmi will have a positive effect on dissatisfaction with the incumbent product.

H3a: Product value congruence on Redmi will have a positive effect on purchase intention of disruptive innovation.

H3b: Brand value congruence on Redmi will have a positive effect on purchase intention of disruptive innovation.

H3c: Social value congruence on Redmi will have a positive effect on purchase intention of disruptive innovation.

As shown in Figure 1, in contrast to the original EDT model, this model explains the switching behavior of consumers by testing value congruence of different aspects. The hypotheses discussed below apply logically from the EDT. The original confirmation-satisfaction relationship directly affects change in behavioral intention only when satisfaction is seen as the opposite of dissatisfaction. Dissatisfaction is considered an influence, theorized and verified in a TAM-based study as an important pioneer of intent to use IS, such as Davis (1989). Accordingly, this study proposes the following hypothesis.

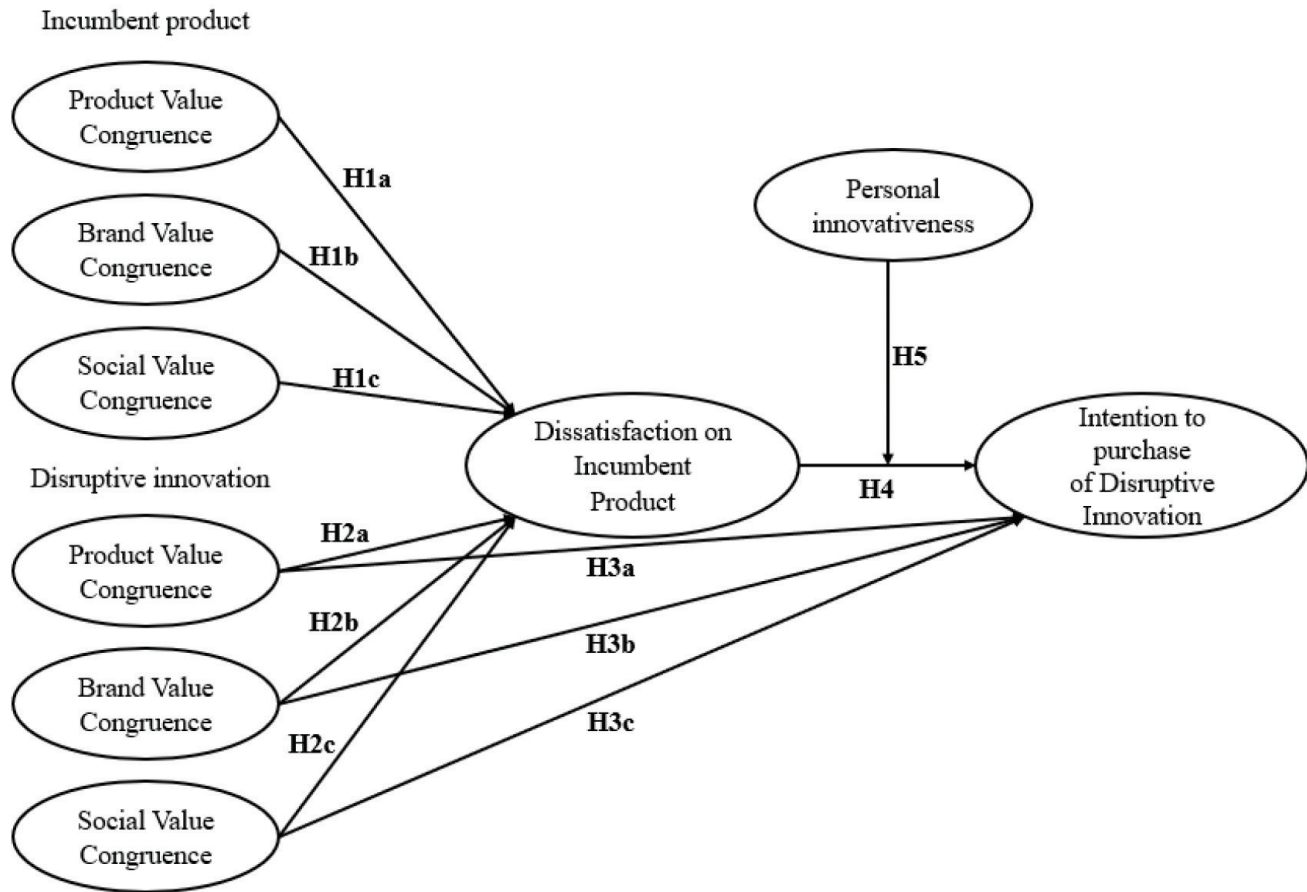


Figure 1: Research Model

H4: Dissatisfaction with an incumbent smartphone will have a positive effect on purchase intention of disruptive innovation.

Personal innovativeness refers to the tendency to accommodate new technologies and innovative products relatively easily, and personal innovativeness can affect the acceptance and speed of innovative technologies and products (Midgley & Dowling, 1978; Hirschman, 1980). In the information age, personal innovativeness can be defined as the willingness of certain individuals to try out new information technology (Teas & Agarwal, 2000). People with high personal innovativeness tend to have positive intentions to use new information technology because they are actively pursuing new ideas and have greater patience with uncertainty (Lu, Liu, Yu, & Wang, 2008). In addition, researchers have observed that a high level of personal innovativeness is associated with a more active attitude toward acceptance of new information technology, as well as a heightened intention to use new technologies (Lu, Liu, Yu, & Wang, 2008; Kim, Mirusmonov, & Lee, 2010). A person with a high degree of individual innovativeness for

a smartphone and an innovative product will have a positive impact on the intention to accommodate a new product in the current product. Accordingly, this study proposes the following hypothesis.

H5: Personal innovativeness will control the impact of dissatisfaction with the incumbent product on the purchase intention of disruptive innovation.

4. Results and Discussion

4.1. Collecting Research Objects and Data

This study adopted the questionnaire survey method, and was mainly targeted at Chinese smartphone users, including but not limited to users of the Redmi brand. Before answering the questionnaire, we briefly explained the characteristics of the Redmi series to the respondents. At the same time, specific information about a representative smartphone in the Redmi series is given. A total of 280 questionnaires were distributed and 256 valid questionnaires were collected and employed for analysis.

Table 1: Reliability analysis results on measured variables

Variable	Number of metrics	Cronbach's α
Product Congruence (Incumbent) (PRI)	3	0.865
Brand Congruence (Incumbent) (BNI)	3	0.858
Social Congruence (Incumbent) (SOI)	4	0.825
Product Congruence (Disruptive) (PRD)	3	0.918
Brand Congruence (Disruptive) (BND)	3	0.840
Social Congruence (Disruptive) (SOD)	4	0.926
Dissatisfaction on Incumbent Product (DSF)	4	0.915
Intention to purchase of Disruptive Product (IN)	3	0.919
Personal Innovation (PI)	3	0.843

4.2. Demographic Characteristics of the Sample

The demographic characteristics of the data are shown below. There are 102 (39.8%) male and 154 (60.2%) female. The monthly income of the sample was 64 (25%) earning less than 1,000 yuan, 47 (18.4%) earning between 1,000 and 3,000 yuan, 101(39.5%) earning between 3,001 and 5,000 yuan, 32(12.5%) earning between 5,001 and 8,000 yuan, and 12(4.7%) earning more than 8,000 yuan. The number of students with middle and high school education was 13 (5.1%), the number of high school graduates was 10 (3.9%), and the number of university graduates was 202 (78.9%). The age of the sample reveals that three persons (1.2%) were under 18 years old, 154 persons (60.2%) were between 18 and 25 years old, 83 persons (32.4%) were between 26 and 35 years old, 14 persons (5.5%) were between 36 and 50 years old, and two persons (0.8%) were over 50 years old. With regard to occupation, there are 52 civil servants (20.3%), 97 employees (37.9%), 13 self-employed (5.1%), seven farmers (2.7%), 67 students (26.2%), and 20 from other professions (7.8%).

4.3. Reliability and Validity of Measured Variables

4.3.1. Reliability Analysis

In this study, we utilize a 5-points Likert scale. The first step in the feasibility assessment of a measurement model is to examine the internal consistency between

items, which is investigated by calculating Cronbach's Alpha. In this process, we can construct items of high internal consistency by eliminating items that interfere with internal consistency. Two points should be noted here. In the first place, we should not mechanically remove items to improve Cronbach's Alpha. Removing an item means a loss of information. Therefore, if Cronbach's Alpha is slightly increased by removing an item, that item should not be removed according to the principle above. Secondly, we should consider whether internal consistency is expected between the original items. In general, this can be regarded as significant for a reliability coefficient of 0.6 or more (Hair, Black, Babin, Anderson, & Tatham, 2006). The Cronbach's Alpha reliability results for each factor are shown in Table 1. According to the reliability analysis, the value of Cronbach's Alpha is 0.8 or more, indicating that all items in the study have internal consistency. The reliability of measurement items is therefore valid.

4.3.2. Exploratory Factor Analysis

In order to analyze the validity of the model, a factor analysis was performed by Principal Component Analysis (PCA), and the normal rotation method according to Varimax is utilized. In the analysis of acceptance, we grouped the correlated measurement items into one factor to maintain mutual independence among factors. In the factor extraction process, it was explained that a factor loading of 0.5 or more is significant (Hair, Black, Babin, Anderson, & Tatham, 2006).

The KMO (Kaiser-Meyer-Olkin) measure is an index of how well a variable is interpreted by the variables of a pair. If the aberration is small, the adoption of measurement variables for factor analysis is not good. Generally, if the aberration is 0.9 or more, it is regarded as significant, while if it is less than 0.5, it is regarded as unacceptable. In this study, we first performed factor analysis on the questionnaire items of eight variables and achieved a KMO value of 0.905, which is quite good. The Bartlett composition test value was 6847.195. Since the significance probability of this value is 0.000, the null hypothesis was rejected, and it was proved that the correlation matrix of the population is not a unit matrix. The results of the factor analysis are shown in Table 2.

4.3.3. Confirmatory Factor Analysis

In this study, p-value and χ^2 , GFI, NFI, RMR, RMSEA, and GFI are used to evaluate fitness. In order to avoid the limitations of the study purpose, three items were removed (SOI4, SOD1, and DSF2) and the confirmatory factor analysis is repeated. The results of confirmatory factor analysis for this study were as follows: $\chi^2 = 383.411$, CMIN / DF = 1.327, RMR = 0.027, GFI = 0.905, CFI = 0.979, NFI = 0.940 and RMSEA = 0.036.

Table 2: Factor Analysis of Measured Variables

Metric	Constituent factor							
	1	2	3	4	5	6	7	8
PRI1	.828							
PRI2	.853							
PRI3	.805							
BNI1		.773						
BNI2		.581						
BNI3		.762						
SOI1			.802					
SOI2			.831					
SOI3			.857					
SOI4			.792					
PRD1				.742				
PRD2				.736				
PRD3				.714				
BND1					.855			
BND2					.760			
BND3					.816			
SOD1						.547		
SOD2						.797		
SOD3						.638		
SOD4						.868		
DSF1							.809	
DSF2							.797	
DSF3							.763	
DSF4							.638	
IN1								.800
IN2								.851
IN3								.900

Note: Analytical method: Neutral analysis; Rotation method: Berimax with Kaiser regulations.

The results of the confirmatory factor analysis for each item in this study are elaborated in Table 3. The standardized factor loading for each latent factor is 0.7 or more, which indicates the intensive feasibility of the measurement item. We can also observe that the magnitude of the AVE value is 0.5 or more.

4.3.4. Feasibility of Discrimination

Discrimination validity depends on different structural concepts. The method of evaluation is based mainly on confirmatory factor analysis, using the extracted AVE

value to determine whether the measurement tools between the two sides can be empirically distinguished. In order to analyze the discriminant validity of the measurement model, the correlation should be compared. Therefore, we performed a confirmatory factor analysis and then conducted a discriminant validity analysis of the measurement model by comparing the correlations. Based on the analysis results, we could confirm whether the measurement tools between the two variables were empirically distinguishable using the extracted AVE. Thus, the values of the square root of all AVEs were greater than the correlation between the variable and the other variables. The results are shown in Table 4.

Table 3: Result of Feasibility analysis

Division	PRI	BNI	SOI	PRD	BND	SOD	DSF	IN
PRI	0.801							
BNI	0.778	0.785						
SOI	0.615	0.632	0.789					
PRD	0.649	0.650	0.681	0.835				
BND	0.160	0.004	0.211	0.122	0.806			
SOD	0.082	-0.063	0.097	-0.006	0.231	0.803		
DSF	0.089	0.037	0.204	0.048	0.167	0.023	0.884	
IN	0.528	0.617	0.454	0.518	0.062	-0.202	-0.108	0.890

Table 4: Concentration Feasibility Analysis Results

Potential factor	Measurement variable	Standardization factor	t-value	S.E	p-value	CR	AVE
PRI	PRI3	0.786	-	-	-	0.909	0.641
	PRI2	0.838	13.758	0.083	***		
	PRI1	0.777	12.645	0.077	***		
PRI	PRI3	0.786	-	-	-	0.909	0.641
	PRI2	0.838	13.758	0.083	***		
	PRI1	0.777	12.645	0.077	***		
SOI	SOI1	0.752	-	-	-	0.876	0.624
	SOI2	0.867	13.044	0.084	***		
	SOI3	0.744	11.480	0.087	***		
PRD	PRD3	0.856	-	-	-	0.912	0.697
	PRD2	0.833	15.527	0.062	***		
	PRD1	0.815	15.104	0.065	***		
BND	BND3	0.768	-	-	-	0.895	0.649
	BND2	0.892	12.555	0.088	***		
	BND1	0.749	11.755	0.071	***		
SOD	SOD4	0.881	-	-	-	0.926	0.781
	SOD3	0.873	18.827	0.054	***		
	SOD2	0.897	19.690	0.054	***		
DSF	DSF4	0.783	-	-	-	0.869	0.645
	DSF3	0.836	13.561	0.073	***		
	DSF1	0.790	12.701	0.072	***		
IN	IN1	0.871	-	-	-	0.922	0.792
	IN2	0.928	20.790	0.051	***		
	IN3	0.870	18.727	0.053	***		

$\chi^2=383.411(P=0.000)$, CMIN/DF=1.327, RMR=0.027, GFI=0.905, CFI=0.979, NFI=0.940, RMSEA=0.036

Note: ***: $P < 0.001$.

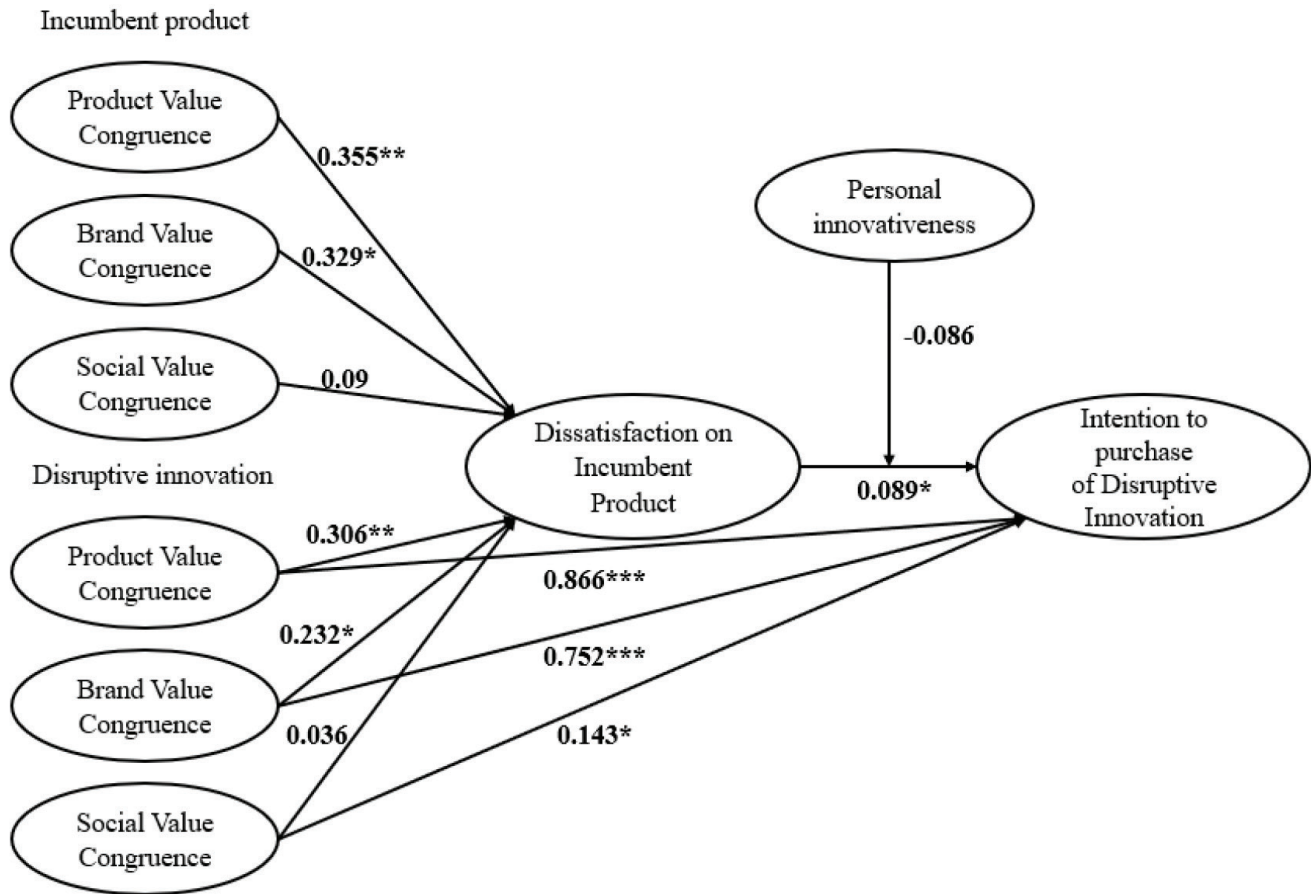


Figure 2: Hypothesis Verification Result

4.4. Evaluation and Hypothesis Testing of the Structural Equation Model

4.4.1. Path Analysis Results

Based on the analysis results, the path coefficients between constituent concepts are shown in Figure. 2.

4.4.2. Hypothesis Testing

The path coefficient between product value incongruence on the incumbent smartphone and dissatisfaction with the incumbent product is 0.355, with a t-value as of 2.987, meaning that the positive effect is statistically significant at $p=0.003$, and the hypothesis H1a is accepted.

The hypothesis H1b is adopted because the path coefficient between product value incongruence on the incumbent smartphone and dissatisfaction with the incumbent product is 0.329, with a t-value of 2.262. The

significance level is $p=0.024$ and a statistically significant positive influence is accepted.

The path coefficient between product value incongruence on the incumbent smartphone and dissatisfaction with the incumbent product is 0.09, while the t-value is 0.092. $p=0.927$ is statistically insignificant and, thus, the hypothesis H1c is rejected.

The path coefficient between product value congruence on the Redmi smartphone and dissatisfaction with the incumbent product is 0.306, with a t-value of 2.617. This means that the positive effect is statistically significant at $p=0.004$, and the hypothesis H2a is accepted.

Hypothesis H2b is adopted because the path coefficient between product value congruence on the Redmi smartphone and dissatisfaction with the incumbent product is 0.232, with a t-value of 2.262. Since the significance level is $p=0.024$, a statistically significant positive influence is accepted.

The path coefficient between product value congruence on the Redmi smartphone and dissatisfaction with the

incumbent product is 0.036, with a t-value of 0.681. Since $p=0.46$ is confirmed as statistically insignificant, the hypothesis H2c is rejected.

The path coefficient between product value congruence on the Redmi smartphone and purchase intention of disruptive innovation is 0.866, with a t-value of 10.781, meaning that the significance level is $p=0.000$. The statistically significant positive influence is thus confirmed and the hypothesis H3a is accepted.

The path coefficient between product value congruence on the Redmi smartphone and the purchase intention of disruptive innovation is 0.752, with a t-value of 11.615, meaning that the significance level is $p=0.000$. A statistically significant positive influence is thus confirmed, and the hypothesis H3b is accepted.

The path coefficient between product value congruence on the Redmi smartphone and the purchase intention of disruptive innovation is 0.143, with a t-value of 2.089, and a significance level of $p=0.037$. A statistically significant positive influence is thus confirmed, and the hypothesis H3c is accepted.

Hypothesis H4 is adopted because it is confirmed that the path coefficient between dissatisfaction with the incumbent product and the purchase intention of disruptive innovation is 0.089, with a t-value of 2.078 and a significance level of $p=0.0493$, which is statistically significant.

The hypothesis test of whether a user's personal innovativeness plays a moderating role in the relationship between dissatisfaction with the incumbent product and the intention of conversion is based on a test method that measures the magnitude of the moderation effect. In order to analyze the moderating effect, the two-step approach should be leveraged to analyze the control variables of the latent variable. First, after evaluating the measurement model, the values corresponding to the structural model were fixed and estimated using the obtained model values. We added the variable 'Dissatisfaction*Personal Innovativeness' because it was necessary to estimate the analysis process. 'Dissatisfaction * Personal Innovativeness' is a variable that can indicate the adjustment effect.

The P-value from "Dissatisfaction * Personal innovativeness "to" intention of conversion" was 0.456. The survey results showed that there was no moderating effect because it was not significant. In other words, hypothesis H5, that "personal innovativeness will control the effect of dissatisfaction with the incumbent product on purchase intention of disruptive innovation," was rejected.

4.5. Discussion

Drawing on the theory of value congruence, this study explored the antecedents that influence consumer intention to purchase products based on disruptive innovation.

Through investigation, we validated the decisive variables that influence consumer intentions and analyzed the role of personal innovativeness in moderating between dissatisfaction with the incumbent product and purchase intention of a product based on disruptive innovation. According to our observations, dissatisfaction with the incumbent product will affect intention to purchase a disruptively innovative product, while product value congruence, brand value congruence, and social value congruence, are factors that influence consumer dissatisfaction with the incumbent product. We found that social value congruence does not have a significant effect on dissatisfaction with a product, whether incumbent or innovative. The impact of personal innovativeness on consumers' purchase of products based on disruptive innovation is also not significant.

Personal innovativeness is influenced by dissatisfaction with the incumbent product and its effect on intention of conversion. This observation is consistent with Yu, Lee, Ha, and Zo (2017), as a result of previous empirical studies. Christensen, Raynor and McDonald (2015) have suggested that disruptive innovation began with the development of low-cost markets or emerging markets, and that disruptive innovation will not reach mainstream customers until they improve product quality in order to meet mainstream customer standards. In this study, a proportion of the research subjects are mainstream customers who are not interested in low-priced products like the Redmi smartphone, and the control effect of personal innovativeness is therefore lost.

This study has many implications both in terms of theory and evidence, but it still has some limitations. Future research should be carried out cautiously. In the first place, with regard to demographics, since the subjects of the study were mainly young people aged 20-30, so they do not have the age preference for sampling. In future studies, therefore, questionnaire surveys should be conducted for a wider range of ages and occupational classes. Secondly, since at this point there remain no clear metrics for defining disruptive technologies, a more systematic review of the disruptive innovation literature is needed, as well as measurement of strategies of disruptive innovation itself. With that being said, since the subject of disruptive innovation select for this case study is the Redmi smartphone, we hope that it may serve as a model for analysis of similar technologies. Thirdly, this study has focused on the antecedent for consumer purchases of products of disruptive innovation. A longitudinal study of satisfaction associated with conversion behavior and the continuous consumption of technological innovation represents a promising direction for future research.

5. Conclusion

The subjects of this study were mainly potential consumers who have never bought Redmi phones. In the

early stage of Redmi, Chinese smartphones have not yet occupied the market on a large scale, while international brands such as Apple's iPhone and Samsung's Galaxy dominate the smartphone market. Interestingly, Redmi phones have caused such a stir among young people because they offer high performance at a previously unimaginably low price. However, Samsung and Apple have the capacity to develop and produce core technologies, so they are constantly improving the capabilities of their devices in terms of design and manufacture. By contrast, Chinese brands occupy the low end of the smartphone industry due to their less developed technological capabilities. In this highly competitive environment, Xiaomi should not be satisfied with the standards of non-mainstream customers, and should continue to innovate based on its original successful products, with the aim of achieving the advantages of the mass market.

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