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Factors that Influence Adoption Intention towards Retail Own-Brands

Ching Wei Ho*

Abstract

The study proposes a model that integrates Theory of Resonated Action (TRA) and Innovation Diffusion Theory (IDT) into a framework with the component of perceived risk in order to investigate the factors that influence consumers' adoption intention towards retail own-brands. This study uses a quantitative technique for collecting primary data via a structured questionnaire. A total of 260 questionnaires were distributed, of which 254 effective questionnaires were returned for data analysis. This study applied partial least squares to test the hypotheses and analyze the data. The findings indicated that attitude and subjective norms towards retail own-brands significantly affect their purchase intention, but perceived risk negatively affects purchase intention. The study proposes a model that integrates TRA and IDT into a fundamental framework with the component of perceived risk in order to investigate the features that influence consumers' adoption intention towards retail own-brands. Specifically, TRA aims to explore consumers' intended behavior towards the adoption of retail own-brands, IDT aims to measure attitude towards the adoption of retail own-brands, and perceived risk is considered to examine its relationship with purchase intention.

Key Words: Retail own-brand, theory of reasoned action (TRA), innovation diffusion theory (IDT), perceived risk, purchase intention

1. Introduction

While initially national brand products were dominant, recently more and

* Ching Wei Ho is Assistant Professor at Department of Marketing, Feng Chia University, Taiwan. E-mail: chingwei1121@yahoo.com.tw

more retail own-brand products are entering the consumer market. According to a survey, even the growth rate of retail own-brand products is higher than that of the national brand products globally (Huang, 2012). The subject of retail own brands is argued extensively in previous literature (e.g. Aaker, 1996; Kapferer, 1997; Wileman & Jary, 1997; de Chernatony & McDonald, 1998; Randall, 2000; Ailawadi & Keller, 2004) and the concept of retail own brands has been recognized and discussed since the 1960s (McGoldrick, 2002). Even retailer brands have been developed over the past half century, especially in the European market. However, the phrase "retail own-brands" is still considered to be a new concept and new product in Asia, particularly in Taiwan. Therefore, this research takes retail own-brands as a kind of innovation and applies IDT to explore the adoption intention towards retail own-brand products. Meanwhile, TRA) from Fishbein and Ajzen (1975) is a particularly well-researched intention model that has established successful in predicting and explaining behavior across a wide range of fields (Davis et al., 1989). Therefore, it would be an interesting topic to apply TRA to explore consumers' intended behavior towards retail own-brands.

Dishaw and Strong (1999) mentioned that an incorporated model might present more explanatory power than can either model alone (Hsu & Lu, 2004). Hence, this research proposes a model that integrates TRA and IDT as a fundamental framework with the component of perceived risk in order to investigate the features that affect consumers' adoption intention towards retail own-brands. Firstly, the study uses TRA to explore consumers' intended behavior towards the adoption of retail own-brands. Afterwards, IDT is applied as a construct to measure attitude towards the adoption of retail own-brands. Finally, the association between the factor of perceived risk and purchase intention is considered.

2. Background to Retail Own-Brands

According to de Chernatony and McDonald (1998), multiple retailers appeared around the era of 1870s and created their own ranges of brands in order to control production and packaging. The early versions of retailer

brands (usually referred to as own labels or private labels) tended to be basic grocery things. "The late 1960s was when own brands started to be widely noted as a threat to manufacturers' brands, especially in packaged grocery markets" (McGoldrick, 2002, p. 337). With the growth of retailer brands over the past half century, the development of these product ranges has moved from private labels providing consumers a lower quality product alternative for lower prices to retail own brands providing a true quality brand alternative (Burt, 2000). In Europe the growth of retail brands is much greater than that in any other countries. Compared with the mature European retailing market, in Asia the perception of retail own brands is in its infancy, and increasingly Western retail players are going global and entering the Asian market with their successful experiences.

Wang and Lu's (2005) research illustrated that the global retail own-brand market share is 17 percent and average retailer concentration is 60 percent (Figure 1). Both the UK and Switzerland had above average levels, implying well-developed private label brand markets. By contrast, the gray area, for example, Australia and New Zealand, had the highest potential market for retail own brand expansion. Although Taiwan was in the under-developed marketplace, it was expected to move towards the gray zone by increasing retailer concentration and retail own-brand share.

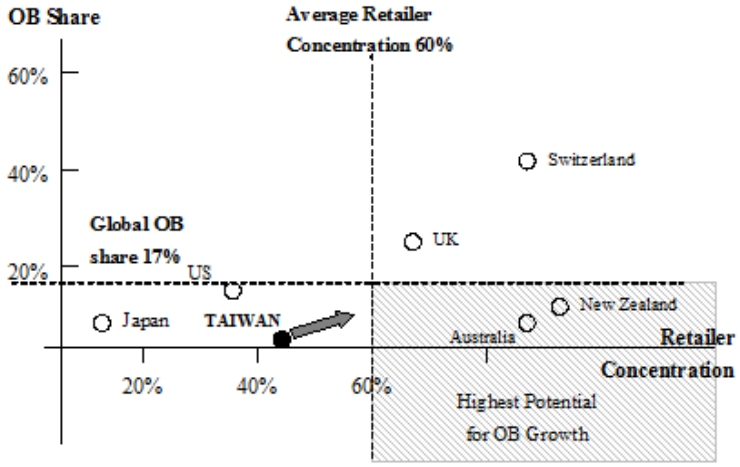

Fig. 1 Retail own-brand (OB) shares and retailer concentration
Source: Wang and Lu (2005)

According to Au-Yeung and Lu (2009), many international retail players believed that the use of retail own brands in Taiwan is important. Retail own brands in Taiwan were started by 7-Eleven in 1979, but during 1998–2000 they started to be introduced formally, coinciding with the entry of international retailers such as Costco and Tesco (Ho, 2008; Ho & Temperley, 2013). According to Ho et al. (2006), during the initial few years of the 21st century (until 2005), products stayed in the introduction stage. All products that were more price-sensitive and with lesser preference had the potential to develop as retail own-brand products (Wang, 2005). Until 2009, the quality and the quantity of own brand products both showed a huge development trend. So far, many retail sectors in Taiwan have created their own retail brands and product ranges, such as convenience stores, hypermarkets, and beauty shops (Huang, 2012). Therefore, this study explores Taiwanese consumers' adoption intention towards using retail own-brands after a decade of retail own-brand improvement in Taiwan.

3. Literature Review

3.1 Theory of Reasoned Action

Theory of reasoned action (TRA) is a commonly discussed model from social psychology concerned with the determinants of consciously intended behaviors (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980; Davis et al., 1989). According to TRA, an individual behavioral intention is jointly determined by his/her attitude and subjective norms. "Behavioral intention is a measure of the strength of one's intention to perform a specified behavior" (Fishbein & Ajzen, 1975, p. 288). As stated by Sanchez and Hueros (2010), TRA is a general system designed to explain almost every type of human behavior, and part of the importance of individual belief, in order to predict human conduct. It can help a company understand consumers' preferences for products and thus consumer behavior (MacInnis, (2003); Shimp and Kavas, (1984); Mykytyn and Harrison, (1993); and Liker and Sindi, (1997)). Therefore, this study applies TRA to explore consumers' intended behavior towards retail own-brands in Taiwan.

3.1.1. Attitude towards Behavior

According to TRA, "attitude is classified as an individual's positive or negative feelings about performing the target behavior" (Fishbein & Ajzen, 1975, p. 216). Attitude clarifies a person's favorable or unfavorable assessment regarding the behavior in question. Moreover, a favorable or unfavorable attitude directly affects the strength of behavior and beliefs regarding possible outcomes (Lee, 2009). Consumer's attitude have been employed to predict and explain behavioral intention across a wide range of domains, such as the rate of the adoption of services (Lopez-Nicolas et al., 2008; Teo & Pok, 2003), online products/services (Hsu & Lu, 2004; Yu et al., 2005; Wu & Chen, 2005), and private brands of wholesale stores (Huang, 2012). Ajzen and Fishbein (1980) also mentioned that attitude towards behavior positively influences behavioral intention. In the past, several studies havve found a positive association between attitude and behavioral intention, such as Dai (2011), Harrison et al. (1997), Klobas (1995), Ko (2009), Kung (2009), Lynne et al. (1995), Taylor and Todd (1995a, 1995b), and Mathieson (1991). Therefore, based on TRA and the previous researches mentioned above, this research defines attitude as a consumer's positive or negative evaluation of the purchase of retail own-brands and proposes that attitude towards retail own-brands affects their purchase intention. Accordingly, the following hypothesis is suggested:

H1: Attitude towards retail own-brands has a positive impact on the intention to purchase retail own-brands

3.1.2. Subjective Norms

"Subjective norms refer to the person's perception that most people who are important to him/her think he/she should or should not perform the behavior in question" (Fishbein & Ajzen, 1975, p. 302). A subjective norm states the perceived organizational or social pressure of a person who intends to perform the behavior being considered. In other words, it is related to normative beliefs about the expectations of other people (Lee, 2009).

People's subjective norms have been used to predict and clarify behavioral intention across a wide range of domains, for instance the rate of the adoption of services (Lopez-Nicolas et al., 2008; Teo & Pok, 2003), online products/services (Hsu & Lu, 2003; Yu et al., 2005; Wu & Chen, 2005), and the private brands of wholesale stores (Huang, 2012). Ajzen and Fishbein (1980) also showed that subjective norms towards behaviors positively influence behavioral intention. In the past, many researchers have explored the association between subjective norms and behavioral intention, such as Dai (2011), Harrison et al. (1997), Klobas (1995), Ko (2009), Kung (2009), Lynne et al. (1995), Taylor and Todd (1995a, 1995b), and Mathieson (1991). Moreover, many studies have verified that subjective norms have direct influence on behavioral intention (Yu et al., 2005). Therefore, based on TRA and the previous researches mentioned above, this research defines subjective norms as a consumer's perception that most people who are important to him/her think he/she should or should not present the behavior towards buying retail own-brands and propose that subjective norms towards buying retail own-brands affects their purchase intention. Accordingly, the following hypothesis is suggested:

H2: Subjective norms have a positive impact on the intention to purchase retail own-brands

3.2 Innovation Diffusion Theory (IDT)

According to Kotler et al. (2006), an innovation is any product, service, or idea that is perceived as new by someone. The idea could have a long history, but it is an innovation to the person who sees it as new. Innovations take time to spread through the social system. Rogers (1962, p.13) defined the process of innovation diffusion as "the spread of a new idea from its source of invention or creation to its ultimate users or adopters." The innovation diffusion is based on Rogers' (1995) contributions to the field of innovation diffusion research and has been widely used to explain the acceptance of the application of technology in previous studies of financial and mobile technologies (Szmigin & Bourne, 1999; Plouffe et al., 2001),

mobile banking services (Lee et al., 2003), and mobile commerce (Teo & Pok, 2003).

However, the application of IDT is not limited to the area of technology, as the innovation can be seen as a process. According to Pavitt (1984), Schumpeter (1939), and Tidd et al. (1997), it is identified as "encompassing the development of new ideas into marketable products/processes" (Wonglimpiyarat & Yuberk, 2005, p.412). In fact, IDT, which is commonly applied to consumer research in marketing, is a multidisciplinary theory and it has been broadly used to discuss the adoption of a range of topics, including intraorganizational buying behavior (Pae et al., 2001), service organizations (Greenhalgh et al., 2004), the relationships among emotional, aesthetic, ergonomic, and innovation acceptance (Tzou & Lu, 2009), and community recreation services (Schleien & Miller, 2010). The theory of innovation diffusion can help marketers recognize early adopters (Kotler et al., 2006). Therefore, this research sees retail own-brands as a kind of innovation and applies IDT to explore the adoption intention towards retail own-brand products. Meanwhile, compared with the Technology Acceptance Model (TAM) model (Davis, 1989; Davis et al., 1989), the original innovation diffusion theory was believed more suitable for this research because the subject is about consumers, not organizational users (Mallat, 2007).

The innovation diffusion theory includes five innovation characteristics that influence adoption: relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1995). Of these constructs, relative advantage, compatibility, and complexity have offered the most consistent explanation for adoption research (Mallat, 2007). Furthermore, Kelly and Kranzberg (1978) classified all innovation characteristics into two groups: those that are dependent on the consumer and those that are not. According to them, trialability and observability are consumer-independent. These factors can thus be expected to generate the same type of resistance across all consumers. All other characteristics such as relative disadvantage, compatibility, and complexity are consumer-dependent and create resistance

depending on how each consumer perceives the innovation on each of these attributes. In order to explore consumers' attitudes towards the adoption of retail own-brands, we investigate how each individual perceives retail own-brands in terms of these innovation features (Huang, 2000). That is to say, in this study, consumer-dependent characteristics (i.e. relative disadvantage, compatibility, and complexity) are used as the measuring constructs to investigate attitude towards the adoption of retail own-brands.

3.2.1 Relative Advantage

Relative advantage represents the degree to which an innovation is perceived as superior to the idea it supersedes (Rijsdijk & Hultink, 2009). An innovation can be better in terms of utility, social prestige (for example, Hirschman & Holbrook, 1982), convenience, or other benefits (Rogers, 1995). Some previous researchers (Holak, 1988; Ploufe et al., 2001) have suggested that relative advantage has positive influence on the rate of adoption.

In this study, it is estimated that retail own-brands are perceived as providing more relative advantage on the aspects of economic benefit, time saving, and shopping cost saving. Meanwhile, it is supposed that consumers' perceived relative advantages of retail own-brands influence attitude towards their adoption. A positive effect is therefore hypothesized:

H3: The perceived relative advantage of retail own-brands positively influences attitude towards their adoption

3.2.2 Compatibility

Compatibility concerns the degree to which an innovation is perceived as consistent with existing values, past experiences, and the needs of potential adopters (Rogers, 1995). A product or a brand that is more compatible is more familiar to the potential adopter and fits more closely with the individual's way of living (Rijsdijk & Hultink, 2009). Innovations with

superior compatibility have a superior rate of adoption than low compatibility innovations (Holak, 1988; Ploufe et al., 2001).

In this study, it is hypothesized that retail own-brands are perceived as offering more compatibility with consumers' existing values, past experiences, and present needs. Meanwhile, it is supposed that consumers' perceived compatibility of retail own-brands influence attitude towards their adoption. A positive effect is therefore hypothesized:

H4: The perceived compatibility of retail own-brands positively influence attitude towards their adoption

3.2.3 Complexity/ease-of-use

Complexity is determined as the degree to which an innovation is perceived as relatively difficult to understand and use (Rijsdijk & Hultink, 2009). Rogers (1995) confirmed that the complexity of an innovation is negatively related to its rate of adoption. The construct of complexity was also renamed "ease-of-use" to be consistent with other views of the adoption process (see Ploufe et al., 2001). Ease-of-use stands for the degree to which an innovation is perceived to be easy to understand and use.

In this study, it is expected that retail own-brands are perceived as relatively easy to understand, recognize, and transfer from other brands. Additionally, it is supposed that consumers' perceived ease-of-use of retail own-brands influence attitude towards their adoption. A positive effect is therefore hypothesized:

H5: The perceived ease-of-use of retail own-brands positively influence attitude towards their adoption

3.3 Perceived Risk

The concept of "perceived risk" originated in the field of psychology and

was introduced as a construct by Bauer (1960) and afterwards developed by Jacoby and Kaplan (1972) and Roselius (1971). Cox (1967) measured perceived risk as a function of the uncertainty of purchase outcomes and the consequences associated with unfavorable purchase outcomes. Wu et al. (2011) defined perceived risk as consumers facing products or services they are not certain of because of some kind of expected loss in mind. This causes unhappiness or imbalance.

Perceived risk theory has been used to clarify consumer behavior for over half a century (Lee, 2009). Most researchers claim that consumers' perceived risk is a multidimensional construct. Six forms of perceived risks have been recognized: financial, performance, social, physical, privacy, and time loss (Roselius, 1971; Jacoby & Kaplan, 1972; Kaplan et al., 1974). Wu et al. (2011) used three of these (i.e. financial risk, performance risk, and physical risk) to investigate perceived risk for private label brands. Therefore, the present research also applies these three main risks to measure the perceived risk of retail own-brand products.

Financial risk refers to the perceived probability that the price of the product purchased is higher than its value, which causes money loss. Performance is the possibility of the product being unable to provide consumers the expected benefit. Physical risk is the probability of the product being harmful to consumers' bodies when they buy a faulty product or when the product is overused (Wu et al., 2011).

Consumers tend to avoid risks (Bauer, 1960). When people perceive risks that influence the purchase decision seriously, they always experience decreased purchase intention (Wu et al., 2011). In particular, perceived risk is a vital issue in retail own-brand purchase (Bettman, 1974). If consumers associate an unfamiliar brand (e.g. own-brand) with high risk, it lowers their purchase intention (Tsen & Hwang, 2003). Conversely, when perceived risk is low, own-brand purchase intention is high (Bettman, 1974; Jacoby & Kaplan, 1972; Narasimhan & Wilcox, 1998; Richardson et al., 1996; Shimp & Bearden, 1982; Taylor, 1974). These findings lead to the following

proposed hypothesis:

H6: The perceived risk consumers have towards retail own-brands negatively affects their purchase intention of retail own-brands

In summary, the integrated theoretical framework is represented by H1–H6, as shown in Figure 2.

3.4 Research Model

Building on the research model, this is presented as an integrated model (Figure 1), which captures TRA and IDT as a basic framework with the perceived risk factor in this study. First, the study applies TRA to explore consumers' intended behavior towards the adoption of retail own-brands. The relationships between attitude and subjective norms towards retail own-brands and purchase intention are examined by H1 and H2. Subsequently, it uses IDT as a construct to measure attitude towards the adoption of retail own-brands (H3–H5). Finally, the association between perceived risk and purchase intention is examined by H6 in order to confirm whether the perceived risk consumers have towards retail own-brand products negatively affect their purchase intention towards retail own-brands.

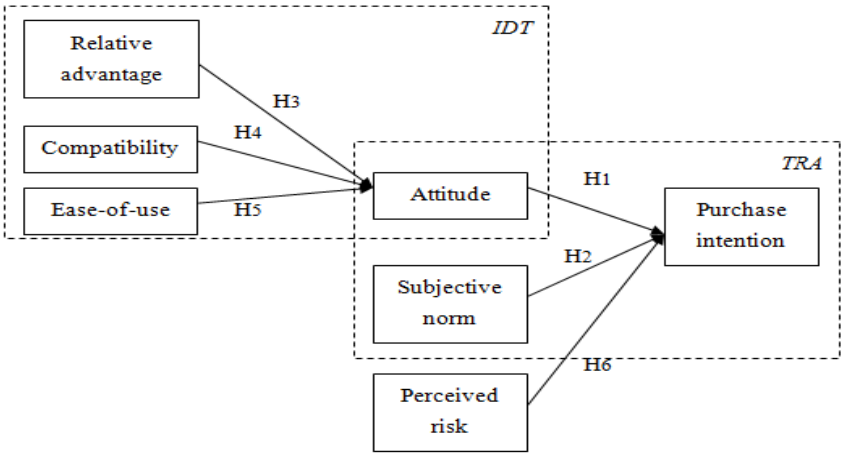

Fig. 2 The Integrated Research Framework

4. Research Methods

4.1 Sample

The data used to examine these hypotheses was gathered from the region of Taichung, the third biggest metropolitan area in Taiwan. Previous studies in Taiwan have only focused on retail own-brands by examining hypermarkets (e.g. Ho, 2013) or beauty & drug stores (e.g. Wu et al., 2011). Therefore, the target population in this study consists of consumers of all kinds of retail own-brands from any format of retail sector, namely hypermarkets, convenience stores, or beauty & drug stores. We followed the idea by Chin and Newsted (1999) that a sample size of 150–200 is required to achieve reliable coefficient values and used Partial Least Squares analysis (Hur et al., 2011). According to Hair et al. (2010), the ratio of observations to independent variables could not fall below 5:1, although the preferred ratio is 10 respondents for each independent variable (minimum ratio of observation to variables is 10:1) (Yap et al., 2012). Hence, bearing in mind the 22 variables used in the structural equation modeling (SEM), this research involved a minimum sample size of 220 respondents.

4.2 Data Collection Method

This study employs a quantitative technique for primary data collection via a structured questionnaire. The questionnaire was randomly distributed outside stores in the city center of Taichung where all kinds of retailers such as Carrefour (hypermarket format), 7-11 (convenience store format), and Cosmed (beauty & drug stores) are gathered. Every fifth consumer was asked to participate in the study after a random starting point. We asked participants to keep in mind the retail own-brands they have experienced and consumed while answering the questions. Participants were guaranteed confidentiality and anonymity. Self-administered questionnaires with assistance from the researchers were used to ensure a better response rate and decrease non-sampling bias throughout the survey procedure. An effort was made to randomize data collection at different times of the day and week. At

the end of data collection period, 260 questionnaires were distributed, of which 254 effective questionnaires were returned for data analysis.

4.3 Measurement of Variables

The survey questionnaire was developed by adapting measurements from various studies. To measure attitude towards retail own-brands, the four-item scale proposed by Lee (2009), Lopez-Nicolas et al. (2008), Sanchez and Hueros (2010), and Yu et al. (2005) was used, while to assess subjective norms, the three-item scale proposed by Lee (2009) and Wu and Chen (2005) was used. The perceived relative advantage of retail own-brands was assessed by using three items adapted from Chen (2010), Huang (2000), and Lee (2012), while the perceived compatibility of retail own-brands was evaluated by three items adapted from Chen (2010), Huang (2000), and Lu (2010). The perceived ease-of-use of retail own-brands was evaluated using three items adapted from Huang (2000) and Lu (2010). The construct of the perceived risk consumers have towards retail own-brands consisted of two items adapted from the work of Wu et al. (2011). The measure for the purchase intention of retail own-brands consisted of four items adapted from Hsu and Lu (2004) and Lopez-Nicolas et al. (2008). All items for measuring these constructs were attained through a five-point Likert scale from respondents to point out the extent to which they agreed or disagreed with the item. The items for each construct and their scales of measurements are presented in Table 1.

4.4 Data Analysis

This study uses the PLS approach to assess the hypotheses and analyze the data. The PLS allow each indicator to vary with how much it contributes to the composite score of the latent variable, instead of assuming equal weight for all indicators of a scale (Chin et al., 2003; Hur et al., 2011). According to Anderson and Swaminathan (2011), PLS is commonly used in marketing (Henning-Thurau, et al., 2007), international business (Henseler et al., 2009), and information systems (Burton-Jones & Hubona, 2006; Al-

Table 1
Constructs and their Measurement Items

Construct	Measurement items	Loading	α	CR	AVE
Attitude	I think that using retail own-brand is a good idea	0.83	0.82	0.88	0.65
	I want to be among the first people to try out new retail own-brand	0.73			
	I'll be positive about using retail own-brand	0.83			
	Overall, I like using retail own-brand	0.84			
Subjective Norm	People who are important to me would think that I should purchase retail own-brand	0.86	0.84	0.90	0.75
	People who influence me would think that I should purchase retail own-brand	0.89			
	People whose opinions are valued to me would prefer that I should purchase retail own-brand	0.85			
Relative Advantage	I think that the retail own-brand is value for money	0.86	0.71	0.84	0.63
	I think that the retail own-brand can help me save expenditures	0.76			
	I think that buying retail own-brand can save the time of selection of brand	0.77			
Compatibility	Buying retail own-brands is compatible with my lifestyle	0.83	0.77	0.86	0.68
	With the emergence of retail own-brand, it is more compatible with my imagination of the service provided by retailers	0.85			
	The products provided by retail own-brand are compatible with my needs	0.80			
Ease-of-use	Learning to recognize retail own-brands is not difficult for me	0.80	0.76	0.86	0.67
	It is easy for me to transfer to retail own-brand	0.82			
	It is easy for me to shop what I need from the products provided by the retail own-brand	0.84			
Perceived Risk	As I consider the purchase of retail own-brand for use, I worry about whether the product will really perform as well as it is supposed to	0.88	0.79	0.90	0.82
	Because some retail own-brand products may not be completely safe, when I contemplate purchasing this kind of product for use at home, I become concerned about potential physical risks associated with this product	0.94			
Purchase Intention	I will definitively keep buying retail own-brand	0.84	0.86	0.90	0.70
	I think other should buy retail own-brand as well	0.75			
	It is worth to buy retail own-brand	0.87			
	I'll frequently buy retail own-brand in the future	0.87			

Gahtani et al., 2007) where studies have to simultaneously estimate the factor loadings of the measurement model and the path coefficients of the structural model. This research used PLS because it places minimal restrictions on sample size and residual distribution (Hur et al., 2011; Phang et al., 2006). We also used the bootstrapping method (2000 resamples) in this research to verify the significance level for loadings, weights, and path coefficients (Gil-Garcia, 2008; Chin, 1998).

5. Results

5.1 Demographic Profile of Respondents

Of the 254 respondents, 116 (45.7 percent) were male while 138 (54.3 percent) were female. The age groups of 25–34 (35.0 percent) and under 25 (29.9 percent) accounted for the biggest portion of the sample followed by 35–45 years (24.0 percent) and age 45 above (11.0 percent). For personal monthly incomes, the majority of respondents (79.5 percent) earned less than 30 thousand NT dollars (approximately 1000 US dollars), while 16.1 percent were 30–40 thousand and 4.3 percent were over 40 thousand.

5.2 Measurement Model

This research uses the two-step approach mentioned by Anderson and Gerbing (1988). Firstly, it assessed reliability and convergent validity, as shown in Table 1, and then discriminant validity (Table 2). To examine reliability, Cronbach's alpha showed that all constructs had values above 0.6 (adopted from Bagozzi & Yi, 1988). To test for convergent validity, construct reliability, factor loading, and average variance extracted (AVE) were all examined. It is acceptable if an individual item loading is bigger than 0.7, construct reliability exceeds 0.7, and AVE is greater than 0.5 (Gefen et al., 2000).

In order to examine the discriminant validity for the constructs, this research applies the Fornell and Larcker (1981) criterion whereby the

average variance shared between each construct and its measures should be larger than the variance shared between the construct and other constructs. As listed in Table 2, the correlations for each construct are less than the square root of AVE for the indicators measuring that construct, indicating adequate discriminant validity.

Table 2
Discriminant Validity of Constructs

	Att	SN	RA	Com	EOU	PR	PI
Att	0.808						
SN	0.421	0.867					
RA	0.616	0.283	0.796				
Com	0.712	0.351	0.659	0.825			
EOU	0.685	0.314	0.626	0.677	0.821		
PR	-0.197	-0.270	-0.018	-0.215	-0.186	0.908	
PI	0.776	0.400	0.565	0.682	0.672	-0.226	0.836

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations

5.3 Structural Model

The structural model was tested and the results are presented in Table 3 and Figure 3. The explanatory power of the structural model was evaluated by looking at the R2 values. From Figure 3, the R2 for the structural model explaining the variation in purchase intention is 0.617 and in attitude is 0.609.

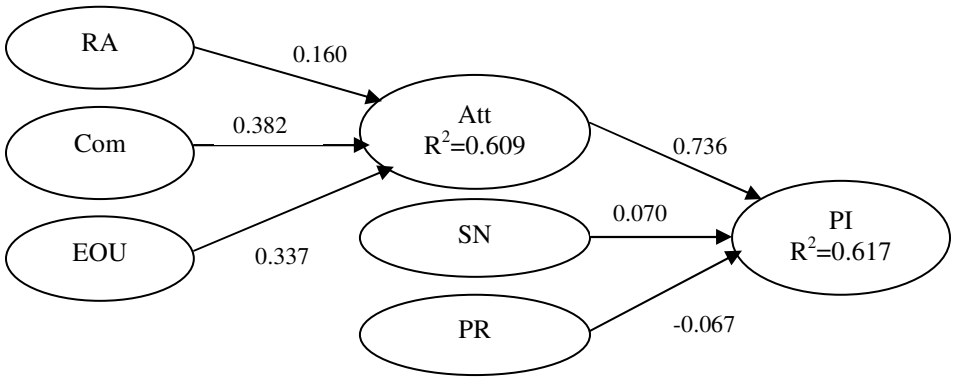

Fig.2 Results of the Structural Model Analysis (⟶ significance)

In total, six paths were examined in the structural model (Table 3). Firstly, from the viewpoint of TRA, this study explored consumers' intended behavior towards the adoption of retail own-brands by examining H1 and H2. Attitude towards retail own-brands exerted a significant and positive influence on purchase intention (H1, β=0.736, $p<0.05$). In addition, subjective norms towards retail own-brands had a positive influence (H2, β=0.070) with a t-value of 1.492, which was significant at $p<0.10$ for a one-tailed test (Anderson & Swaminathan, 2011). Hence, H1 and H2 were both supported. However, of them, attitude had a much stronger influence than subjective norms.

Next, from IDT's point of view, we measured attitude towards the adoption of retail own-brands by examining H3–H5. The perceived relative advantage of retail own-brands (H3, β=0.160, $p<0.05$), the perceived compatibility of retail own-brands (H4, β=0.382, $p<0.05$), and the perceived ease-of-use of retail own-brands (H5, β=0.337, $p<0.05$) all had a significant and positive influence on attitude towards their adoption. Therefore, H3, H4, and H5 were supported.

Finally, the relationship between perceived risk consumers have towards retail own-brands and purchase intention was negative (H6, β=-0.067) with a t-value of 1.608, which was significant at $p<0.10$ for a one-tailed test (Anderson & Swaminathan, 2011). As we a priori hypothesize a negative association between perceived risk and purchase intention towards retail own-brands, according to Anderson and Swaminathan (2011), a one-tailed t-test is the most appropriate to determine significance (p. 228). Hence, H6

Table 3
Results of Testing

	Hypothesized relationship	Coefficient	T-value	Supported
H1	Att → PI	0.736**	16.452	Yes
H2	SN → PI	0.070*	1.492	Yes
H3	RA → Att	0.160**	1.867	Yes
H4	Com → Att	0.382**	6.498	Yes
H5	EOU → Att	0.337**	5.117	Yes
H6	PR → PI	-0.067*	1.608	Yes

Note: *p<0.10; **p<0.05

was supported.

Furthermore, the mediating effect of attitude towards retail own-brands was tested as well. From Figure 4, among the direct paths of these three constructs from the IDT model, the influence of perceived compatibility and perceived ease-of-use on purchase intention was significant, but the influence of perceived relative advantage was not. After introducing attitude as a mediator of the path between the three constructs and purchase intention, the indirect paths for the effect of all three on purchase intention were significant. Therefore, in this research, attitude towards retail own-brands indicated a fully mediating effect on perceived relative advantage and a strong partial mediating effect on both perceived compatibility (β=0.381 >β=0.183) and perceived ease-of-use (β=0.335 >β=0.188).

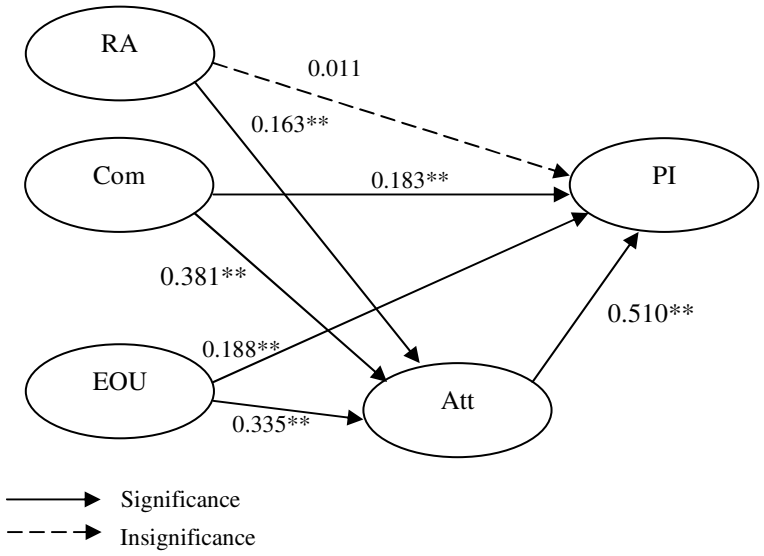

Fig.4 The Mediating Effect of Attitude

6. Conclusion and Discussion

The aim of this research reported here was to propose a model that integrates TRA and IDT into a fundamental framework with the component

of perceived risk in order to explore the factors that influence consumers' adoption intention towards retail own-brands. Specifically, TRA aims to explore consumers' intended behavior towards the adoption of retail own-brands, IDT aims to measure attitude towards the adoption of retail own-brands, and perceived risk is considered to examine its association with purchase intention. It is concluded that attitude and subjective norms towards retail own-brands positively and significantly affect their purchase intention, but perceived risk has a significant negative influence on purchase intention. Meanwhile, the three consumer-dependent characteristics of IDT (i.e. relative disadvantage, compatibility, and ease-of-use) all positively and significantly affect attitude towards the adoption of retail own-brands. The results achieved from this research offer significant contributions and implications for both marketing academia and practitioners.

6.1 Theoretical Implications

First, even though retailer brands have been developed over the past half century and the topic of retail own brands has been argued a large amount by previous researchers, no study has examined retail own-brands as a kind of innovational identity for retailers or considered it to be a new concept or a new brand compared with traditional manufacturer brands or national brands. However, this thought actually exists in a consumer's mind, especially in Asia and particularly in Taiwan. Therefore, this study focused on this issue and re-conceptualized retail own-brands as a kind of innovation based on Kotler's et al. (2006) definition that an innovation is any product, service, or idea that is perceived by someone as new.

Subsequently, regardless of the TRA or IDT models applied, extended, or integrated with other models for decades into many research areas, combining them as an integrated model is rare. This study proposed a unique model to explore consumers' intended behavior towards the adoption of retail own-brands by TRA and then measured attitude towards the adoption of retail own-brands via IDT. The main findings from the section of TRA are consistent with previous researches that show a positive and significant relationship across a wide variety of domains, such as Hsu and Lu (2004),

Lopez-Nicolas et al. (2008), Teo and Pok (2003), Wu and Chen (2005), Yu et al. (2005), and particularly Huang's research (2012) on the private brands of wholesale stores in Taiwan. Similarly, the findings from the section of IDT are consistent with previous studies across a wide variety of topics that show a positive and significant relationship, such as Greenhalgh et al. (2004), Pae et al. (2001), Tzou and Lu (2009), and particularly with Huang's (2000) research on three consumer-dependent characteristics. This confirmed that the IDT model was appropriate for investigating attitude towards the adoption of retail own-brands.

Third, previous studies have indicated that when perceived risk is low, own-brand purchase intention is high (Bettman, 1974; Jacoby & Kaplan, 1972; Narasimhan & Wilcox, 1998; Richardson et al., 1996; Shimp & Bearden, 1982; Taylor, 1974). This study proved the negative relationship, showing that the perceived risk consumers have towards retail own-brands negatively affects their purchase intention. The findings of this research are also consistent with the current work from Dursun et al. (2011) and Wu et al. (2011) on retail private label brands in Turkey and Taiwan, respectively.

Finally, this study recognizes that attitude plays a mediating role between IDT characteristics and purchase intention. This study emphasizes on the mediating role of attitude towards retail own-brands, and found that it fully mediates perceived relative advantage and purchase intention but had a partial mediating effect on both perceived compatibility and perceived ease-of-use. This result is not easy to find in previous researches, and thus it could be viewed as a benchmark for future research.

6.2 Managerial Implications

Retail marketing managers can effectively apply the findings of this research since the use of retail own-brands is a critical strategy for a retailer. This study provides guidelines for enhancing the purchase intention of retail own-brands. First, it indicates that attitude towards retail own-brands has a positive effect on their purchase intention. Therefore, retail managers can increase consumers' purchase intentions by improving their positive attitudes

towards retail own-brands. Meanwhile, from the results of the mediating analysis, retail managers can enhance consumers' attitudes by offering the positive perceived relative advantage, compatibility, and ease-of-use of retail own-brands.

For example, a retailer could develop relative advantage by providing value-for-money retail own-brands or products that claim to save consumers money. They could also create perceived compatibility by exploring target customers' needs and insights and develop own-brand products that are compatible with their lifestyles. Moreover, they could improve the perceived ease-of-use of retail own-brands by clearly communicating information on retail own-brands to consumers and rearranging shelf space for retail own-brands to be easily found and transferred from other national brands.

Second, the study points out that subjective norms have a positive and significant influence on the purchase intention of retail own-brands. The opinions of friends or relatives thus have a significant impact. Retail brand operators may take this finding into account when they carry out the most popular social media marketing for their own-brands through social network platforms for example Facebook. However, subjective norms cannot influence purchase intention as strongly as attitude does according to this result. It is still necessary for managers to keep observing the perceived social pressure of the further development of retail own-brands in the future.

Finally, the study results also show that consumers' perceived risk of retail own-brands has a negative effect on purchase intention. Retail managers should be aware of the significance of this finding. They can price retail own-brands properly to reduce perceived financial risk, and offer retail own-brand products with fine quality and trustworthy performance to decline perceived performance risk and physical risk, which would, in turn, increase purchase intention.

6.3 Limitations and Future Research

There are some limitations to this study. First, because the proposed

model in this research was only examined in one culture and a single market, its findings may not be applicable to other Taiwanese or international consumers. Another limitation is that we surveyed retail own-brands in general; future research could identify retail own-brands by each specific retail sector (e.g. hypermarket, convenience store, beauty & drug store) or product category (e.g. own-brands for food and non-food). Finally, a limitation of the construct of perceived risk used in this study was that it was generic in nature. Future researchers could test this construct in more detail by distinguishing the difference among the three kinds of perceived risks, namely financial risk, performance risk, and physical risk.

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