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## **A DISCUSSION OF THE RELATIONSHIP MODEL OF THE PURCHASE INTENTION OF BRANDS, AS BASED ON FOOD SAFETY ISSUES**

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### **Abstract**

*In recent years, food safety issues have been occurring in Taiwan, making food safety increasingly concerned and valued. Some people think that they should not buy the brands that have had food safety problems, while others think they can continue to buy the brands that have had food safety problems because the brands have made adjustments. For brands that have had food safety issues, the complex and diverse consumer attitudes are worth discussing. This study examines the relationship model of the subjects regarding brand image, food safety certification trust, brand*

*trust, brand loyalty, and purchase intention of brands with food safety problems. The research methods used in this study include literature review, expert interview, and questionnaire survey, and data analysis methods include exploratory factor analysis, confirmatory factor analysis, and regression analysis. Finally, this study proposes the tested relationship model. The results of this study can provide certain reference and theoretical basis for solving the food safety problems of brands.*

### **Keywords**

Consumer Behavior, Brand Image, Brand Trust, Food Safety Certification Trust, Brand Loyalty, Purchase Intention

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## **1. Introduction**

With the development of the economy, people pay more and more attention to the quality of food (Sadilek, 2019); however, there are still many major food safety incidents in Taiwan every year (Y.-L. Huang, 2017). How to restore consumer confidence poses a challenge to the food industry in the wake of such food safety problems; at the same time, it is also politically significant to give the public confidence in food safety (Yeung & Morris, 2001). Therefore, it is important to study how brands deal with food safety problems and how they adjust the relationship between consumers and brands after food safety problems occur.

Many scholars have conducted research on consumer behavior; for example, brand image may serve as an intermediary variable to help brand ethics improve brand equity (Iglesias, Markovic, Singh, & Sierra, 2019). A series of verifications have shown that brand trust is significantly influenced by brand personality (Tong, Su, & Xu, 2018). The influence of brand experience on brand loyalty is comprehensively discussed by a relationship model jointly established from the behavioral dimension and attitude dimension (C.-C. Huang, 2017). Purchase intention is affected by subjective norms and perceived usefulness, which in turn has significant positive impact on network shopping behavior (Lim, Osman, Salahuddin, Romle, & Abdullah, 2016).

This study found a research gap. While the relationship models of several important aspects of consumer behaviors have been widely discussed, the tested results are only applicable to general situations, thus, the results may be different in the current special situation, which requires further verification. This study studies the brands that have had food safety problems, as this area is lacking

in current research. This study focuses on the problem of food safety, conducts more targeted model construction, and expects to obtain more in-depth and rigorous research results.

Due to the occurrence of food safety problems, the relationship between consumers and brands has become an important research topic, and relevant research results need to be referred to in the process of dealing with the consumer relationship. This study discusses the brands that have had food safety problems, which is more targeted and fills the gap of current research, introduces the concept of the dimensions of food safety certification trust, and forms the model by integrating the research perspectives of brand image, brand trust, brand loyalty, and purchase intention. The results of this study provide quantitative test results for reference, which can be used to help solve problems and avoid difficulties from a theoretical perspective.

## **2. Materials and Methods**

### **2.1. Research Architecture and Hypotheses**

This research refers to existing research results and the theories of consumer behavior during the selection of research perspectives, the establishment of the research hypotheses, and the design of the research items. This study examines the relationship model when a brand has had food safety problems. The processes of proposing the relationship model include: First, according to the research purpose, consult relevant literature materials, and collect important aspects related to brand. The aspects added to the research framework in this step include brand image, brand trust, brand loyalty, and purchase intention. At the same time, these research perspectives conform to the model building process in the related research of brand green-washing (Guo, Tao, Li, & Wang, 2017). As the research direction changed from brand greenwashing to food safety problems, the legitimacy dimension in the model was replaced with the dimension of food safety certification trust. Therefore, a total of 5 research perspectives are included in the research framework of this study: brand image (BI), food safety certification trust (FSCT), brand trust (BT), brand loyalty (BL), and purchase intention (PI). Secondly, the influence relations between models and dimensions, as constructed in relevant literatures, were searched; on the basis of such literature, a series of research hypotheses are proposed by this study.

There is positive correlation between the perspectives of green brand image and green trust of brands with green-washing behaviors (Chen, 2010). The discussions and research of this study found that there may be certain similarities between brands with food safety problems and those

with green-washing behaviors. Therefore, after deducing this result of brands with food safety problems, this study proposes the following hypothesis regarding the relationship between the brand image and brand trust:

- Brand image has positive impact on brand trust (H1)

In general, through brand trust, customers' trust in a brand and its brand image in customers' minds will have positive impact on customers' brand loyalty (Anwar, Gulzar, Sohail, & Akram, 2011). When customers have stronger trust in a brand, or the brand image better meets the customers' expectations, the customers have stronger brand loyalty for the brand. After deducing this result for brands with food safety problems, this study proposes the following hypotheses regarding the relationship between brand trust, brand image, and brand loyalty:

- Brand trust has positive impact on brand loyalty (H2)
- Brand image has positive impact on brand loyalty (H3)

In the relationship between consumers and food safety certification, consumers have confidence in food safety certification, and then, believe that if the food has certification, it is not necessary to evaluate its suppliers; in this process, loyalty and trust are established between the brand and consumers through its food safety certification. It shall be noted that, although it is the food safety certification that promotes consumers' loyalty and trust for the brand, once food safety problems occur, the brand will suffer loss of reputation (Fagotto, 2014). After deducing this result regarding brands with food safety problems, this study proposes the following hypotheses for the relationship between trust in food safety certification, brand image, brand trust, and brand loyalty:

- Food safety certification trust has positive impact on brand image (H4)
- Food safety certification trust has positive impact on brand trust (H5)
- Food safety certification trust has positive impact on brand loyalty (H6)

In general, when a customer is about to make a purchase decision for food, brand safety certification is an effective way to make the brand more competitive (Caswell, 1998). Food safety certification is one of the important factors that determine the purchase process and results. After deducing this result regarding brands with food safety problems, this study proposes the following hypothesis for the relationship between food safety certification trust and purchase intention:

- Food safety certification trust has positive impact on the purchase intention (H7)

In general, customers' loyalty to a brand has positive impact on their purchase intention (Malik et al., 2013). When the customers have stronger loyalty to the brand, the stronger the corresponding

their purchase intention is also stronger. After deducing this result regarding brands with food safety problems, this study proposes the following hypothesis for the relationship between brand loyalty and purchase intention:

- Brand loyalty has positive impact on purchase intention (H8)

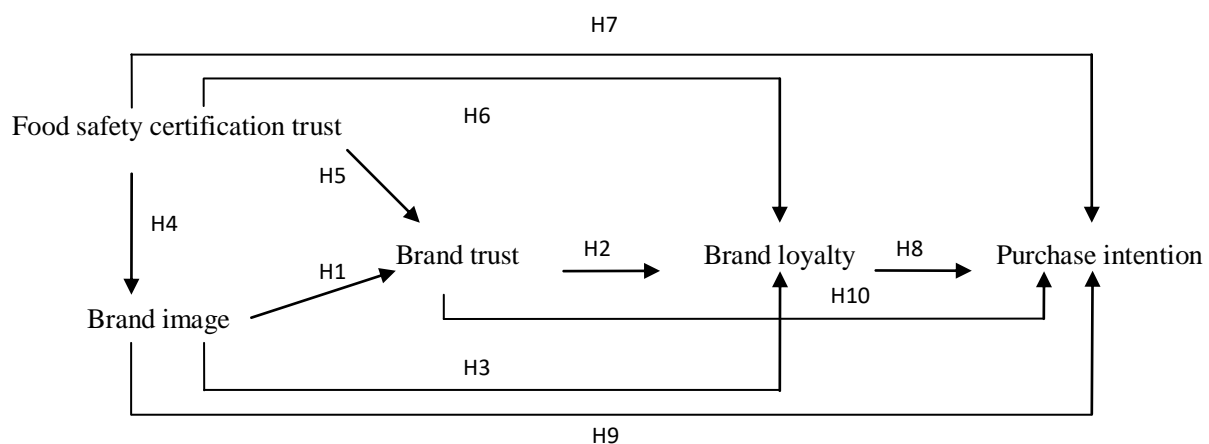
When customers make hotel reservation books hotels online, brand image has positive impact on their purchase intention (Lien, Wen, Huang, & Wu, 2015). As the image of a hotel brand can better meets the expectations of the customers, their higher intention for reservation is stronger. After deducing this result regarding brands with food safety problems, this study proposes the following hypothesis for the relationship between brand image and purchase intention:

- Brand image has positive impact on purchase intention (H9)

A consumer study on mobile marketing found that brand trust has positive impact on purchase intention (Bouhlel, Mzoughi, Hadiji, & Slimane, 2011). The higher the consumer’s trust in the brand, the stronger the purchase intention (Paais & Sui, 2018; Yang & Campos, 2019). After deducing this result regarding brands with food safety problems, this study proposes the following hypothesis for the relationship between brand trust and purchase intention:

- Brand trust has positive impact on purchase intention (H10)

After these steps, the possible relational patterns were proposed as the research architecture of this study, as shown in Figure 1. All the hypotheses are based on the premise that the brand encountered food safety problems, for a total of ten research hypotheses.



**Figure 1: Research Architecture (Source: This Study)**

## **2.2. Definition and Measurement**

### **2.2.1. Research Scope**

The scope of this study is: Taiwanese customers who knew of at least one brand with food safety incidents. A questionnaire survey was used to measure the subjects according to 21 items, including basic data and the formal survey. The survey of basic data in the scale includes 3 items, which were used to test whether the respondents fit the scope of this study: (1) Do you know of at least one brand that has had food safety issues? (2) Your gender? (3) Your age? In addition to gender and age, the subjects were asked to name the brands they were most familiar with that have had food safety problems, and if they could not name such brands, their answers would be classified as invalid questionnaires. The subsequent 18 items were designed as a Likert scale (anchored by 1 = strongly disagree and 5 = strongly agree), and the items used in the scale were from literature data. After collection of the items, the original description of the items was adjusted according to the situation and the research scope to make the items more appropriate for this study.

### **2.2.2 Dimension Definition and Scale**

- The Definition and Measurement of Brand Image

Brand image refers to consumers' cognition related to the benefits, senses, or emotions (Cho, Fiore, & Russell, 2015) generated from cultural value and consumer value (Park & Rabolt, 2009), which make consumers generate brand image. Brand image is the image expression of a brand in the hearts of consumers (Cretu & Brodie, 2007), which is a new cognition of a product, as generated by the consumers after association. Such cognition includes two dimensions, quality and emotion (Wu, Yeh, & Hsiao, 2011). To sum up, this study holds that brand image is the image of brand mapping in consumers' minds, which includes cognitive and emotional dimensions.

The brand image measurement consists of five items: (1) Too many of the foods I buy of this brand are defective in some way (-); (2) Most foods I buy of this brand spoil easily (-); (3) This brand does not care enough about the quality of its foods (-); (4) I like the foods of this brand very much; (5) I am satisfied with most of the foods I buy of this brand (Vahie & Paswan, 2006).

- The Definition and Measurement of Food Safety Certification Trust

Nutrition information organizations are regarded as one of the important leaders in the process of communication between food brands and consumers (Van Gunst & Roodenburg, 2019). The purpose of food safety certification is to ensure that food safety systems and procedures are reasonable and effective (Kotsanopoulos & Arvanitoyannis, 2017), and to improve the

competitiveness of the enterprises by differentiating products (Hammoudi, Hoffmann, & Surry, 2009). There are many food safety certification regulations or systems, such as GFSI, ISO2000, FSSC22000, SQF, and TQF (Fan, 2017). Trust is generally defined as a state of accepted vulnerability to the actions of another party with the expectation that the action provided is important to the trustor (Tanco, Rhondali, Park, Liu, & Bruera, 2016). When consumers are willing to check food safety certification, it means that food safety certification is trusted. Such trust occurs at varying degrees; for example, 35% of Italian consumers always check food safety certification, which is far higher than the average level of 22% in Europe (Eurobarometer, 2012). Food safety certification can give additional value to foods (Loureiro & Umberger, 2007). To sum up, this study holds that food safety certification is an added value to the product by means of endorsement, and food safety certification trust is this value-added effect.

The food safety certification trust measurement consists of five items: (1) You feel that this brand's food safety commitments are generally reliable; (2) You feel that this brand's food safety performance is generally dependable; (3) You feel that this brand's food safety argument is generally trustworthy; (4) This brand's food safety concern meets your expectations; (5) This brand keeps promises and commitments for food safety protection (Chen, 2010).

- The Definition and Measurement of Brand Trust

Brand trust is consumers' sense of safety during their interaction with the brand (Delgado - Ballester & Munuera - Alemán, 2001). Trust can reduce uncertainty, and the process of adding value to brand trust depends on information dissemination (Laroche, Habibi, Richard, & Sankaranarayanan, 2012). Brand trust is the degree to which consumers are willing to rely on the brand's ability to fulfill its commitments (Ha & Perks, 2005). The concept of dependence is very important for the definition of brand trust, which indicates that a brand has two key components: reliability and expertise (Sung & Kim, 2010). In conclusion, this study holds that brand trust is the dependence the consumers are willing to pay after they recognize the reliability and expertise of the brand.

The brand trust measurement consists of three items: (1) I purchase a lot of this brand's foods; (2) This brand is a name I can always trust; (3) This brand's foods always deliver on what they promise (Shah Alam & Mohd Yasin, 2010).

- The Definition and Measurement of Brand Loyalty

Brand loyalty was originally considered to be customers repurchase behavior (Shang, Chen, & Liao, 2006). Brand loyalty may be divided into true loyalty and false loyalty (Kim, Morris, & Swait, 2008), which has been extended to include attitudinal loyalty and behavioral loyalty (Jacoby & Kyner, 1973). It is the customer's intention to repurchase the brand, word of mouth, and the consumption proportion of purchasing the brand (Kressmann et al., 2006). To sum up, this study holds that brand loyalty is the consumers' word-of-mouth evaluation and consumption proportion of the brand that can be tested in depth.

The brand loyalty measurement consists of two items: (1) My next meal will be the brand's foods again; (2) I recommend the brand to my friends and relatives (Kuenzel & Halliday, 2010).

- The Definition and Measurement of Purchase Intention

Consumers' purchase intention comes from their perception of benefits and value acquisition (Ching, 2011). Purchase intention is a personal behavioral tendency related to the brand (Bagozzi & Burnkrant, 1979), and is further considered to be brand-related (Spears & Singh, 2004). It is a person's intentional and planned efforts to buy a brand, and such planned efforts relate the possibility of the person's plan to buy a product or service in the future in a nearly promising way after judgment (Eagly & Chaiken, 1993). In summary, this study holds that purchase intention is the individual behavior tendency of consumers who believe that they can obtain benefits or values by purchasing a product.

The purchase intention measurement consists of three items: (1) I intend to purchase foods of this brand within the next fortnight; (2) I want to purchase foods of this brand within the next fortnight; (3) How likely is it that you will purchase foods of this brand within the next fortnight (Michaelidou & Hassan, 2008).

### **3. Research Results**

#### **3.1 Questionnaire Collection Results**

In this study, data were analyzed by SPSS 20 and AMOS 22. A total of 338 copies of this questionnaire were distributed through convenience sampling, among which 309 respondents knew at least one brand that had experienced food safety issues, and 309 copies of the valid questionnaires were recovered. There were 152 males and 157 females, with roughly the same number of genders. Age distribution: 47 under 20, 111 between 21 and 25, 51 between 26 and 30, 52 between 31 and 35, 25 between 36 and 40, 14 between 41 and 45, 5 between 46 and 50, and 4 between 51 and 55. There



were diverse definitions of the minimum number of research samples required for confirmatory factor analysis (Gallagher, Ting, & Palmer, 2008): some studies believed that at least 100 to 150 samples are needed for a reasonable sample size (Fabrigar, Wegener, MacCallum, & Strahan, 1999), while some others believed that there must be more than 200 samples (Kline, 2005; Loehlin & Beaujean, 2016; Wang & Ahmed, 2004), or 15 times the number of variables {Stevens, 2002 #62}, or 10 times the number of questions (Kääriäinen et al., 2011). Based on the suggestions of the above literature regarding sample size, this study meets the requirements, and its sample size is suitable for confirmatory factor analysis.

### **3.2 Reliability and Validity**

As the research framework of this study was designed on the basis of previous studies, we did not carry out exploratory factor analysis on all the items; instead, we conducted exploratory factor analysis on the extraction method of principal component analysis in each dimension. If there were second-order factors, we continued exploratory factor analysis on the second-order factors, and then, conducted confirmatory factor analysis after the completion of exploratory factor analysis. This study explored unidimensionality, convergent validity, discriminant validity, and composite reliability (Kohli, Shervani, & Challagalla, 1998), and tested Cronbach's alpha reliability and normal distribution.

Before the formal experiment, two experts were interviewed to test content validity; both experts agreed that item 1 and item 2 in the dimension of purchase intention were very similar in the Chinese context, and item 1 was easier to understand; therefore, item 2 was deleted. Information of expert interviews is shown in Table 1.

**Table 1:** *Information of Expert Interviews for Content Validity Test (Source: This Study)*

<b>Interviewee</b>	<b>Experience</b>	<b>Position</b>	<b>Expertise and work</b>
Expert A	8 years	Account Manage	4A advertising agency
Expert B	11 years	Lecturer	University teacher

#### **3.2.1 Unidimensionality Test**

The results of exploratory factor analysis on the dimensions of brand image show that the dimensions were divided into two second-order factors, which have eigenvalues greater than 1 after rotating the axes, and together explain 71.38% of the variance; there are no items with significantly lower commonalities. Items 1 and 2 were extracted as second-order factor 1; items 4 and 5 were

extracted as second-order factor 2; the factor load of item 3 was close to the two second-order factors; therefore, reliability testing was carried out on the items in the dimension. The results of reliability testing show that Cronbach's alpha coefficient increased from .52 to .64 when second-order factor 1 was added to item 3, and such coefficient decreased from .78 to .73 when second-order factor 2 was added to item 3; therefore, this study classifies items 1, 2, and 3 as second-order factor 1, and items 4 and 5 as second-order factor 2. Based on relevant literature, which defined item meanings and brand image as two dimensions of quality image and emotional image (Wu et al., 2011), this study named second-order factor 1 as brand quality image (BQI) and second-order factor 2 as brand emotional image (BEI).

Exploratory factor analysis of the food safety certification trust dimension show that only one second-order factor with an eigenvalue greater than 1 was extracted from the dimension after the rotating axis, explaining 58.07% of the variance, which is a low percentage; through commonality observation of item 5, the commonality value is .39, which is a significantly low value (Duhachek, 2005; Handelman & Arnold, 1999; Menon, Bharadwaj, Adidam, & Edison, 1999). After deleting item 5, the explanatory variance increased to 65.16%, while the Cronbach's alpha coefficient of the item in the dimension of food safety certification trust increased slightly from .81 to .82; therefore, item 5 was deleted in this study.

The results of the exploratory factor analysis of the brand trust dimension show that only one second-order factor with an eigenvalue greater than 1 was extracted after the rotating axis, which explains 69.96% of the variance. There were no items with obviously low commonality, and the Cronbach's alpha coefficient in the dimension was .79; therefore, the items were not deleted during the stage of exploratory factor analysis.

The results of exploratory factor analysis of the brand loyalty dimension show that only one second-order factor with an eigenvalue greater than 1 was extracted after the rotating axis, which explains 79.29 % of the variance. There were no items with obviously low commonality, and Cronbach's alpha coefficient in the dimension was .74; therefore, the items were not deleted during the stage of exploratory factor analysis.

The results of exploratory factor analysis of the purchase intention dimension show that only one second-order factor with an eigenvalue greater than 1 was extracted after the rotating axis, which explains 85.38% of the variance. There were no items with obviously low commonality, and

Cronbach's alpha coefficient in the dimension was .83; therefore, the items were not deleted during the stage of exploratory factor analysis.

Therefore, each factor scale should be unidimensional (Kohli et al., 1998).

### **3.2.2 Convergent Validity Test**

The results of confirmatory factor analysis show that the exception of item 1, the factor load of the second-order factor brand quality image was .29, which is too low, while the adjusted factor load of all items was greater than .50, thus, the item was considered for deletion. Then, exploratory factor analysis was conducted again; after item 1 was deleted from the second-order factor brand quality image, the explanatory variance increased from 58.66% to 77.59%, and Cronbach's alpha reliability increased from .64 to .71, thus, the item was deleted. The results of exploratory factor analysis in each dimension of the new model show that only one factor able to explain a variation greater than 65% was extracted. At the same time, confirmatory factor analysis was carried out again, and the results show that the factor loads of all items are greater than .50, thus, model fitness is good ( $\chi^2/df = .160$ , GFI=.95, NFI=.95, IFI=.98, TLI=.97, all of which are greater than .095, RMSEA=.04). In addition, in the Average Variances Extracted (AVE) test results, the convergent validity of brand quality image is .61, brand emotional image is .64, food safety certification trust is .54, brand trust is .55, brand loyalty is .59, and purchase intention is .71, The AVE values of all dimensions are above .50. In the Composite Reliability (CR) test results, the composite reliability of brand quality image is .75, that of brand emotional image is .78, food safety certification trust is .82, brand trust is .79, brand loyalty is .74, and purchase intention is .83. The CR values of all dimensions are above .70, indicating that these dimensions have good composite reliability (Hair, Black, Babin, Anderson, & Tatham, 2006). Indicating that these dimensions have good convergent validity (Fornell & Larcker, 1981).

### **3.2.3 Discriminant Validity Test**

This study used Pearson correlation analysis to test whether there was a linear relationship between the dimensions. The correlation coefficients of the same dimensions in Pearson correlation results were replaced by the square roots of the AVE values in each dimension. The discriminant validity verification table shows that the correlation coefficients among potential variables are less than .80, and the square roots of AVE among potential variables are greater than the correlation coefficient between the potential variables and other potential variables; therefore, there is discriminant validity (Fornell & Larcker, 1981).

### 3.3 Regression Analysis

In this study, simple regression and multiple regression were used to test the influence relationship in the model.

The Relative Importance of Factor and Collinearity Testing is shown in Table 2. The Durbin-Watson test is an autocorrelation test for the error sequence, which should approach 2 (Nerlove & Wallis, 1966). According to the regression model, the D-W test results are near 2, thus, the autocorrelation of the error sequence is not significant. With the change of brand quality image, there is no significant difference in brand trust ( $t=1.05$ ,  $\text{Sig}.>.05$ ). There is significant difference in brand trust with the change of brand image ( $t=7.14$ ,  $\text{Sig}.<.05$ ). There is significant difference in brand trust with the change of food safety certification trust ( $t=5.96$ ,  $\text{Sig}.<.05$ ). VIF less than 10 are indicative of inconsequential collinearity (Hair et al., 2006), thus, there is no collinearity between variables ( $\text{VIF}<10$ ). Standardized Coefficients Beta is used for determining the relative importance of the explanatory variables (Bring, 1994), and the relative importance of brand quality image is .05, the relative importance of brand emotional image is .41, and the relative importance of food safety certification trust is .32. In summary, H1 is partially supported and H5 is supported.

**Table 2:** Relative Importance and Collinearity Test on Independent Variables of BI and FSCT for Dependent Variable of BT (Source: this study)

Model	Unstandardized		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	$\beta$	Std.Error	Beta			Tolerance	VIF
(Constant)	.12	.21		.56	.58		
BQI	.05	.05	.05	1.05	.29	.81	1.23
BEI	.44	.06	.41	7.14	.00	.55	1.83
FSCT	.40	.07	.32	5.96	.00	.61	1.64

The relative importance and collinearity testing on the factors is shown in Table 3. With change of brand trust, brand image, or food safety certification trust, there is significant difference in brand loyalty ( $F=83.68$ ,  $\text{Sig}.<.05$ ). Among them, with the change of brand trust, there is significant difference in brand loyalty ( $t=10.66$ ,  $\text{Sig}.<.05$ ). With the change of brand quality image, there is no significant difference in brand loyalty ( $t=.30$ ,  $\text{Sig}.>.05$ ). With the change of brand emotional image, there is significant difference in brand loyalty ( $t=3.42$ ,  $\text{Sig}.<.05$ ). With the change of food safety certification trust, there is no significant difference in brand loyalty ( $t=.13$ ,  $\text{Sig}.>.05$ ). There is no collinearity between variables. ( $\text{VIF}<10$ ). The relative importance of brand trust is .57, the relative importance of brand quality image is .01, the relative importance of brand emotional image is .20, and the relative importance of food safety certification trust is .01. In summary, H2 is supported, H3 is partially supported, and H6 is not supported.

**Table 3:** Relative Importance and Collinearity Test on Independent Variables of BT, BI and FSCT for the Dependent Variable of BL (Source: this study)

Model	Unstandardized		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	$\beta$	Std. Error	Beta			Tolerance	VIF
(Constant)	-.09	.23		-.40	.69		
BT	.64	.06	.57	10.66	.00	.54	1.85
BQI	.01	.05	.01	.30	.77	.81	1.23
BEI	.24	.07	.20	3.42	.00	.47	2.14
FSCT	.10	.08	.01	.13	.90	.55	1.83

The relative importance of the factor is shown in Table 4. With the change of food safety certification trust, there is significant difference in brand quality image ( $F=30.14$ ,  $\text{Sig}.<.05$ ). The relative importance of food safety certification trust is .30. The relative importance of the factor is

shown in Table 5. With the change of food safety certification trust, there is significant difference in the brand emotional image (F=194.93, Sig.<.05). The relative importance of food safety certification trust is .62. In summary, H4 is supported.

**Table 4:** *Relative Importance of the Independent Variable of FSCT for the Dependent Variable of BQI (Source: This Study)*

Model	Unstandardized		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	$\beta$	Std. Error	Beta			Tolerance	VIF
(Constant)	.85	.19		4.46	.00		
FSCT	.73	.05	.62	13.96	.00	1.00	1.00

**Table 5:** *Relative Importance of the Independent Variable FSCT for the Dependent Variable BEI (Source: This Study)*

Model	Unstandardized		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	$\beta$	Std. Error	Beta			Tolerance	VIF
(Constant)	2.09	.26		8.16	.00		
FSCT	.39	.07	.30	5.49	.00	1.00	1.00

The relative importance and collinearity test results on the factors are shown in Table 6. With the change of food safety certification trust, brand loyalty, brand image, or brand trust, there are significant differences in purchase intention (F=124.24, Sig.<.05). Among them, there is no significant difference in purchase intention with the change of food safety certification trust (t=45, Sig.>.05). There are significant differences in purchase intention with the change of brand loyalty (t=7.94, Sig.<.05). There is no significant difference in purchase intention with the change of brand

quality image ( $t=-1.61$ ,  $\text{Sig.}>.05$ ). There are significant differences in purchase intention with the change of brand emotional image ( $t=4.68$ ,  $\text{Sig.}<.05$ ). There are significant differences in purchase intention with the change of brand trust ( $t=6.43$ ,  $\text{Sig.}<.05$ ). Thus, there is no collinearity among variables ( $\text{VIF}<10$ ). The relative importance of safety certification trust is .02, brand loyalty is .38, brand quality image is .06, brand emotional image is .23, and brand trust is .34. In summary, H7 is not supported, H8 is supported, H9 is partially supported, and H10 is supported.

**Table 6:** *Relative importance and collinearity test on independent variables of FSCT, BL, BI and BT for the dependent variable PI (Source: this study)*

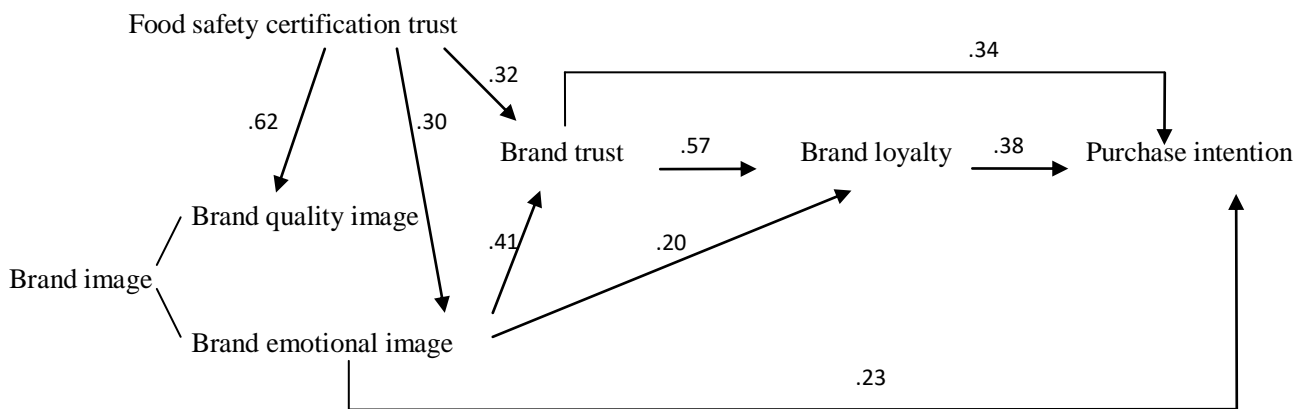
Model	Unstandardized		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	$\beta$	Std. Error	Beta			Tolerance	VIF
(Constant)	-.16	.20		-.83	.41		
FSCT	.03	.07	.02	.45	.65	.55	1.83
BL	.40	.05	.38	7.94	.00	.78	2.10
BQI	-.07	.04	-.06	-1.61	.11	.81	1.23
BEI	.29	.06	.23	4.68	.00	.45	2.22
BT	.40	.06	.34	6.43	.00	.39	2.54

#### 4. Discussion

According to the above, this study proposes a proven relationship pattern, as shown in Figure 2.

Based on analysis of the data results, this study put forward a relationship pattern between the dimensions, which has been validated by consumers in Taiwan under the premise of food safety.

It was found that brand image can be divided into two second-order factors: brand quality image and brand emotional image. While brand quality image does not play any role in the pattern, brand emotional image plays an important role, and can have direct impact on brand trust, brand loyalty, and purchase intention. After a brand has had food safety problems, its safety certification trust cannot directly affect brand loyalty or purchase intention, but it can have positive impact on brand loyalty and purchase intention through the intermediary of brand trust. At this time, the intermediary effect of brand trust is completely intermediary. Food safety certification trust has positive impact on both brand trust and brand image. Brand trust can directly have positive impact on purchase intention, and can also have positive impact on purchase intention through the intermediary of brand loyalty. At this time, the intermediary effect of brand loyalty is partially intermediary.



**Figure 2: Proven Relationship Pattern (Source: This Study)**

## 5. Conclusions

This study found that when a brand encounters food safety problems, it can consider the issue from the two directions of brand emotional image and food safety certification trust. For example, it can improve its brand image through an emotional perspective, advocate that the existing food safety certification is trustworthy, and try to regain more trustworthy food safety certification. Enhancing brand emotional image and food safety certification trust can have the effect of rebuilding consumers' purchase intention, meaning it is not contradictory to the promotion process of brand emotional image and food safety certification trust. During the process of obtaining better food safety certification trust, brand emotional image is simultaneously promoted. It is worth



mentioning that brand quality image cannot work, meaning it is meaningless for the brand to emphasize its brand quality image after the occurrence of a food safety problem.

The research limitation of this study lies in its use of convenient sampling to distribute questionnaires to consumers in Taiwan. The contribution of this study is that it has improved and validated the scale applicable to this model. In addition, by means of testing the influence relationship between the dimensions, it provides theoretical references for brands with food safety problems to rebuild the purchase intention of Taiwanese consumers. Future research can further test whether the models obtained in this study are still valid when age, work, and other factors of consumers are investigated separately.

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