APPLICATION OF THE THEORY OF PLANNED BEHAVIOR TO PREDICT CONSUMERS' INTENTION TO VISIT GREEN RESTAURANT

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Abstract - This research attempts to investigate empirically the Korean consumers' intention to visit green restaurants using the Theory of Planned Behavior(TPB). Its major purpose is namely to identify the key influencing factors that determine the Korean consumers' intention to visit green restaurants. The results of this study are as follows. Each corresponding set of beliefs(behavioral belief, normative belief and control belief) showed a positive effect on the attitude, subjective norm and behavioral control respectively. Then attitude, subjective norm and behavioral control had positive effects on intention to visit green restaurants. The results will provide important implications in developing successful marketing strategies for green restaurants.

Key words - Theory of Planned Behavior, Beliefs, Attitudes, PLS Structural Equation Modeling

I. INTRODUCTION

Environmental issues are getting increased attention worldwide and becoming an important task to be solved by the mankind. As the quality of life improves, consumers are increasingly concerned about health and environment and show environment friendly behaviors. The integrity of the surrounding natural environment is very often a key ingredient for hospitality and tourism businesses. Hotels located in natural areas such as mountains or beaches, are especially dependent on the 'healthiness' of their sites. Accordingly, there are numerous examples of lodging businesses that have been engaging in 'green' practices and eco-tourism for several years. But restaurants are often less dependent on such environmental factors and have consequently shown less concern for such issue. However, a restaurant can benefit considerably from introducing environmentally friendly practices, principally through direct savings in operating costs(Schubert et al., 2010).

Various efforts related to environmental management of operations led consumer thoughts and behaviors to change, also in connection with the foodservice operations. In specific, consumers of the contemporary society believe that restaurants' role in protecting the environment is considered beneficial and are likely to pay premiums for eco-friendly restaurants(Schubert et al., 2010). Consumers are willing to adopt ecological and environmental friendly food consumption. Consumer interests towards restaurants practicing eco-friendly matters are increasing and popularity of eco-products are growing(Schubert, 2008). Theoretical and empirical investigations regarding the formation of consumers' intentions to select eco-friendly products have been ongoing. However, consumer acceptance of and engagement in ecological behavior has not been completely explained. Furthermore, empirical work on the selection of eco-friendly restaurants which is considered to be an ecological behavior, is just beginning to gain attention(Kim et al, 2013). Therefore, this study attempt to identify the impacts of consumer's beliefs, attitude, subjective norm and the perceived behavioral control on the intention to visit green restaurants using the Theory of Planned Behavior(TPB) presented by Ajzen(1991). The results of this analysis will provide important implications in developing successful marketing strategies for green restaurants.

II. LITERATURE REVIEW

2.1. Green Restaurant

Green restaurants may be defined as "new or renovated structures designed, constructed, operated, and demolished in an environmentally friendly and energy-efficient manner"(Lorenzini, 1994). Compared to a traditional restaurant, a green restaurant focuses on three Rs(reduce, reuse, and recycle)and two Es(energy and efficiency)(Gilg et al., 2005). The Green Restaurants Association helps restaurants offer sustainable food products and promote environmentally friendly practices called 'green practices', such as recycling paper and reducing the use of plastic tubes(Green Restaurant Associations, 2010). More and more restaurateurs engage in green practices, and many restaurants have set up their own programs. For instance, McDonald's in Switzerland is operating the environmental management system called "McGreen", and in this program two environment consultants develop innovative solutions and support the responsible people in the restaurants(Jang et el., 2011). A number

of consumers have shown an increased positive attitude and perception toward companies sensitive to environmental matters. Consistent with this phenomenon, several restaurants have incorporated eco-friendly business practices into their products and services, as interest for the environment in food service appears to be a relatively new phenomenon(Kim et al., 2013).

2.2.Theory of Planned Behavior(TPB)

The Theory of Planned Behavior(TPB) model, as proposed by Ajzen(1991), is derived from the Theory of Reasoned Action(TRA) developed by Fishbein and Ajzen(1975). According to the TPB, human behavior is guided by three kinds of considerations: beliefs about the likely consequences of the behavior(behavioral beliefs), beliefs about the normative expectations of others(normative beliefs), and beliefs about the presence of factors that may facilitate or impede performance of the behavior(control beliefs), In their respective aggregates, behavioral beliefs produce a favorable or unfavorable attitude toward the behavior: normative beliefs result in perceived social pressure or subjective norm: and control beliefs give rise to perceived behavioral control. In combination, attitude toward the behavior, subjective norm, and perception of behavioral control lead to the formation of a behavioral intention.

TPB is an extension of TRA, and major difference between these two models is that TPB incorporates an additional dimension of perceived behavioral control as the determinant of behavioral intention. This dimension is correspondingly related to control belief. TPB expands the boundaries of TRA, a purely volitional control, by including resources and opportunities to perform a specific behavior(Madden et al., 1992). The applicability of TRA has been questioned because, in certain circumstances, a person's behavior can also be determined by non-volitional factors(Han et al., 2010). In such situations, TRA is not sufficient to predict an individual's intention and behavior. For instance, although a restaurant customer has positive attitude and a perception of general social pressure toward patronizing green restaurant, the customer cannot visit at a green restaurant if the green restaurant is inconveniently located, or if he/she cannot afford the price. Thus, in this green restaurant domains also, TPB would be more appropriate for the prediction of behavioral intention. Therefore, TPB, rather than TRA, will be used to investigate the impacts of beliefs on the consumers' intention to visit green restaurants.

III. HYPOTHESES

This study investigated determinants of consumers' intention to visit green restaurants using TPB. A structural equation modelling technique was used in this study to analyze the structural effect of beliefs, attitude, subjective norm and behavioral control on visiting intention of green restaurant. The hypotheses to be tested in this study are as follows.

H1: Behavioral belief has a positive structural effect on attitude.

H2: Normative belief has a positive structural effect on subjective norm.

H3: Control belief has a positive structural effect on behavioral control.

H4: Attitude has a positive structural effect on intention to visit green restaurant

H5: Subjective norm has a positive structural effect on intention to visit green restaurant

H6: Behavioral control has a positive structural effect on intention to visit green restaurant

IV. METHODOLOGY

The questionnaire surveys were targeted for university students in Korea who will be the potential customers of green restaurants that are beginning to be a new trend in the nation. Surveys were administered during April 2017. This study followed the 2-stage survey methodology suggested by Ajzen . Data of 70 respondents were collected for the first-stage pilot study and data of 163 respondents were collected and analyzed for the main second-stage study. Among the 163 respondents of the main study, 95 respondents were male and 68 respondents were female. Data were analyzed using smartPLS 2.0, one of the most popular PLS-SEM tool, and SPSS 22 software.

Three determinants(attitude, subjective norm and perceived behavioral control) and the dependent variable, intention to visit, were measured using reflective measurement model while the beliefs underlying the 3 determinants were measured using formative measurement models. The formative measurement items were elicited from the pilot questionnaire survey. 10 salient outcomes for behavioral beliefs(B01-B10), 3 normative referents for normative beliefs(N1-N3) and 4 control factors for control beliefs(C1-C4) were selected for the main questionnaire survey.

V. RESULTS

5.1. Results of Reliability and Validity

Reliability and validity results for the reflectively measured variables which include attitude, subjective norm, and perceived behavioral control are shown in Table 1. Fornell-Larker criterion assessment for discriminant validity are shown in Table 2. As can be seen in the both tables, all model evaluation criteria have been met, providing support for the measures' reliability and validity. For the formative measurement models, all the indicators showed tolerance value of higher than 0.2 and VIF(Variance

Influence Factor) value of less than 5 indicating no collinearity problem. Since indicators, B07 and C2 showed insignificant outcomes for both outer weight and outer loading at significance levels of 10%, they were exclude from the final structural equation modelling.

5.2. Structural Equation Modelling
The estimates for the path coefficients and test results of hypotheses were summarized in Table 3. The structural equation model of the research is shown in Figure 1.

Latent variables	Indicators	Loadings	Indicator reliability	Composite reliability	AVE	Cronbach's alpha
Attitude	AT1	0.948	0.899	0.946	0.898	0.886
	AT2	0.947	0.897			
Subjective Norm	NR1	0.810	0.656	0.856	0.749	0.673
	NR2	0.913	0.834			
Behavioral Control	BC1	0.869	0.755	0.817	0.691	0.556
	BC2	0.791	0.626			

Table 1. Reliability and validity of reflective measurement models

	Attitude	Subjective Norm	Behavioral Control	Intention	Behavioral Belief	Normative Belief	Control Belief
Attitude	0.948						
Subjective Norm	0.620	0.865					
Behavioral Control	0.146	0.307	0.746				
Intention	0.594	0.658	0.413	Single measurement			
Behavioral Belief	0.692	0.562	0.297	0.545	Formative measurement		
Normative Belief	0.523	0.600	0.309	0.597	0.6123	Formative measurement	
Control Belief	0.284	0.194	0.274	0.260	0.414	0.265	Formative measurement

Table 2. Fornell-Larcker criterion

Relationship	Estimate	t-value	Hypothesis
behavioral Belief → Attitude	0.693	15.481***	H1 accepted
Normative Belief → Subjective Norm	0.600	11.014***	H2 accepted
Control Belief → Behavior Control	0.274	3.548***	H3 accepted
Attitude → Intention	0.320	4.461***	H4 accepted
Subjective Norm → Intention	0.384	5.028***	H5 accepted
Behavioral Control → Intention	0.248	3.812***	H6 accepted
Note: ***path coefficient is significant at 0.01			

Table 3. The results of structural equation model

CONCLUSION AND IMPLICATION

Structural Equation Modelling results support all the hypotheses proposed in this study of intention to visit green restaurants based upon TPB. The relationships between beliefs and 3 determinants of intention in TPB were examined first. The impact of behavioral beliefs on attitude turned out to be the highest, followed by the impact of normal beliefs on subjective norms, and the impact of control beliefs on perceived behavioral control is the least. Among the determinants of intention to visit green restaurants, subjective norms showed the highest impact on intention, followed by attitude and behavioral control. The research results indicate that consumers' beliefs influence their intention to visit green restaurants through the mediation of the three determinants, attitude, subjective norm and behavioral control.

The research findings bear several implications. First, the results will provide insights for developing

marketing strategies to promote green restaurants. Second, this study will provide a theoretical ground to analyze intentions to visit green restaurants. Third, this study provides evidence to support that TPB can be successfully applied in predicting intension to visit

green restaurants. Finally this study helps to better understand consumers' beliefs with regards to visiting green restaurants, thereby better understanding of human decision making process can be obtained.
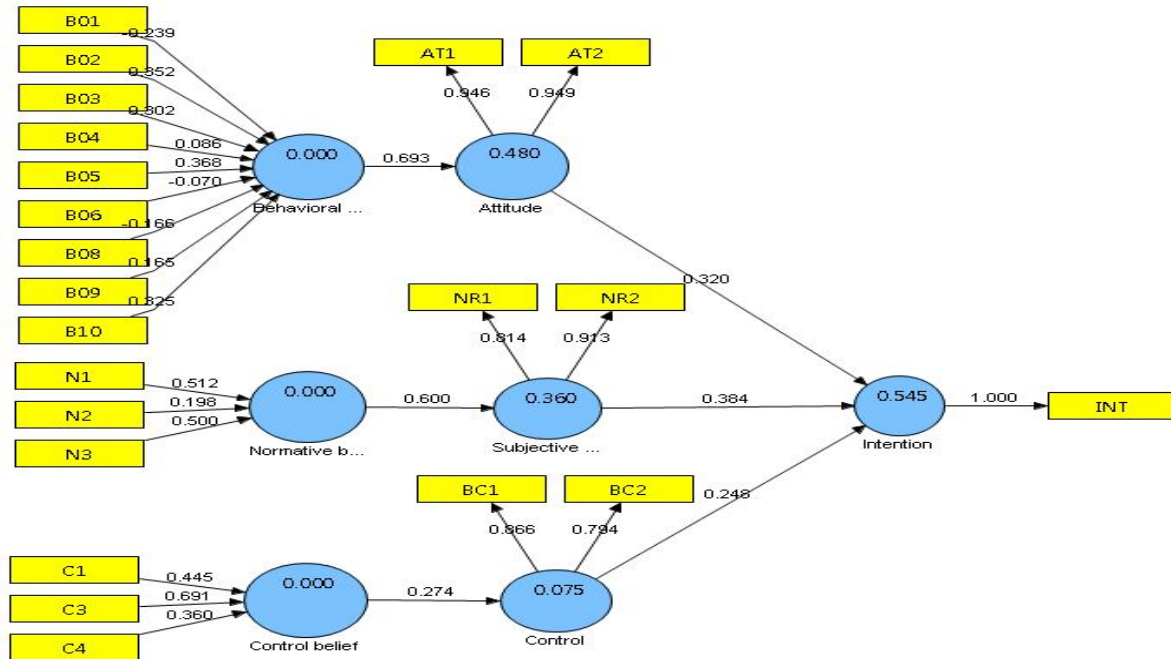

Figure 1. The structural equation model of the research

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