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Consumer attitudes and buying behavior for green food products

From the aspect of green perceived value (GPV)

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Consumer attitudes and buying behavior

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Abstract

Purpose – The purpose of this paper is to apply the multidimensional construct of green perceived value (GPV) to the buying behavior of green food products to enhance the understanding of consumer behavior intentions and explain the formation of the intention to buy green food products.

Design/methodology/approach – This study adopted four GPVs (i.e. functional value, conditional value, social value and emotional value) and explored the relationships among GPV, attitudes and purchase intention. A total of 300 self-administered questionnaires were distributed, from which 253 usable responses were obtained.

Findings – The relationships between six constructs and 20 indicators were measured using structural equation modeling. All the underlying dimensions had a significant effect on consumers' attitudes, significantly affecting their purchase intention.

Originality/value – Implications for future research and marketing strategies in the field of purchasing behaviors of green food products are discussed.

Keywords Consumer attitudes, Buying behaviour, Green food products, Green perceived value

Paper type Research paper

Introduction

The increasing environmentally friendly behavior seen in the form of growing demand for green products has resulted in academic and practical interest in green perceived value (GPV) of products (e.g. Holbrook, 2006; Lin and Huang, 2012; Masini and Menichetti, 2012; Schuitema *et al.*, 2013; Suki, 2016). Prior studies noted that the term “green” is broadly replaced by “ecofriendly” or “environmentally responsible,” but all of these terms describe activities that are good for the environment (e.g. Aschemann-Witzel and Aagaard, 2014; Manaktola and Jauhari, 2007; Roberts, 1996). Protecting the environment has been a critical topic in most parts of the world, and individuals have also been interested in environmental issues. These ecologically conscious consumers or green consumers are more likely to exhibit environmentally friendly behaviors than others (e.g. Menozzi *et al.*, 2017; Pipatprapa *et al.*, 2017; Worsley *et al.*, 2015). From this point of view, Chen and Chang (2012) suggested that consumers pay more attention to rising environmental issues and their behavior can reflect their attitudes toward environmental protection.

Honkanen *et al.* (2006) reported that consumer considerations about environment concerns and a desire for harmony with nature are a key reason for purchasing organic food products. In addition, Worsley *et al.* (2015) pointed out that because consumer choice can have a significant impact on the environmental characteristics of food supplied to the market, it is important to investigate the influences of consumers on food purchases.

In the food sector, Laureti and Benedetti (2018) pointed out that green the green food market have become one of the crucial market segments, and McCarthy *et al.* (2016) mentioned that the change for organic inputs can be viewed as offering support for agriculture, which



reduce the environmental damage, and this changed can be so-called as a green product. Liu *et al.* (2013, p. 94) suggested green food can be seen as the “controlled and limited use of synthesized fertiliser, pesticide, growth regulator, livestock and poultry feed additive and gene engineering technology.” With regard to research on green food products, McCarthy *et al.* (2016) indicated that innovation in agro-food system can be viewed to a novel product, a marketing strategy and/or a business practice, they found that male consumers prefer green foods. Laureti and Benedetti (2018) argued that consumer’s eco-friendly buying intentions can reduce the negative environmental effect of food production, and green foods, supplied by higher-impact products can preserve the environment and public health. Thus, the authors examined the factors influencing people’s decision to purchase green food, and reported that the respondents’ considerations about environment pollution and/or deforestation can lead a higher probability of purchasing green foods.

Prior studies noted that consumer attitude can be influenced by individual perceived value (Chen and Chang, 2012). From this point of view, Chen and Chang (2012) developed the GPV construct to investigate the effect of GPV on green purchase intentions. The authors defined GPV as “a consumer’s overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer’s environmental desires, sustainable expectations, and green needs” (Chen and Chang, 2012, p. 505). Although the study of Chen and Chang (2012) provided the importance of perceived values for green purchase behaviors, there has been limited research on the unidimensional GPV construct, which may not explain the complex and multidimensional nature of perceived value (Sangroya and Nayak, 2017). Further, Sangroya and Nayak (2017) suggested that the multidimensional construct of GPV can considerably assess consumers’ buying behavior of green food products. They recommended four sub-constructs of GPV (i.e. functional value, conditional value, social value and emotional value).

Therefore, one of the current study’s purposes is to deal with the multidimensional construct of GPV, consisting of functional value, conditional value, social value and emotional value. Even though Sangroya and Nayak (2017) developed a GPV scale, they did not find the relationship GPV and consumer behaviors. Thus, this study hypothesizes that green attitude is a moderating influence on consumers’ behavioral intention, which is a key determinant of food-purchasing behavior in the food industry.

Conceptual framework and hypotheses development

Green perceived value (GPV)

Perceived value is a subjective concept because it depends on the various contexts that determine the distinctive properties of different products (Sanchez *et al.*, 2006), and it has been recognized as a key determining factor of consumer buying behavior (Suki, 2016). Zeithaml (1988) reported that perceived value is a consumer’s overall evaluation of the product or service based on the assessment of what the consumer has received and what he/she has given to buy the product/service. Therefore, the concept of value plays a significant role for both the business marketer and the customer because it can be of the most valuable components linked to the current business market. In diverse industries and academic fields, perceived value mainly reflects people’s attitude toward the quality or general performance including price (Patterson and Spreng, 1997).

Sherry (1990) mainly divided customers’ perceived value into utilitarian (correlated to functional benefits) and hedonic (arising from emotions). Holbrook and Hirschman (1982) mentioned that utilitarian value is purposed to acquire excellent quality products or services while perceiving purchase behaviors as a task, and thus, this type of value comprises explained emotions such as tiredness, because purchase behaviors are regarded as a task for this value. However, even customers who pursue utilitarian value can pursue pleasure through consumption such that the value perceived in the situation of consumption may

reflect certain differences in accordance with individuals' characteristics (Babin *et al.*, 1994). In pursuing hedonic value, customers focus more on fun than on completing a task, and thus, their values reflect entertainment and emotions latent in consumption experiences (Bloch and Richins, 1983). Sherry (1990) emphasized that hedonic value was more effective than utilitarian value at predicting and explaining customers' future purchase behaviors. However, he added that in general, customers would come to experience both utilitarian and hedonic values in situations of consumption, and that to some customers, utilitarian value, which refers to accomplishing purchases such as an original purpose of consumption, might be more important; however, other customers might place more emphasis on the hedonic value of a product or service (Bloch and Richins, 1983; Holbrook and Hirschman, 1982).

From the aspect of environmental and green consumption, Chen and Chang (2012) applied the GPV construct to the study on the enhancement of green purchase intentions. Chen and Chang (2012) investigated the relationships among GPV, green perceived risk, green trust and green purchase intentions, and revealed that GPV has a positive effect on green trust and green purchase intentions. However, prior research pointed out that although the work of Chen and Chang (2012) empirically demonstrated the importance of perceived value, which enhances consumers' green purchase intentions, Chen and Chang (2012) employed the unidimensional GPV construct, which may not explain the complex and multidimensional nature of perceived value (Hur *et al.*, 2013; Sangroya and Nayak, 2017). Thus, these studies indicated that GPV is handled as a multidimensional construct and suggested four sub-constructs, including functional value, conditional value, social value and emotional value (Hur *et al.*, 2013; Sangroya and Nayak, 2017). According to the existing literature (e.g. Chen and Chang, 2012; Holbrook, 2006; Masini and Menichetti, 2012; Sanchez *et al.*, 2006; Sangroya and Nayak, 2017; Suki, 2016), the development of a multidimensional construct has allowed for the analysis of constructs in a more systematic manner; in addition, Holbrook (2006) pointed out that determining the multidimensional construct of perceived value is necessary, because an attribute of perceived value is its complex nature.

Hur *et al.* (2013) dealt with the consumer's GPV as the multidimensional construct, comprising hedonic value, social value and functional value, and examined whether these GPV relate to consumer satisfaction, affecting loyalty and price consciousness. Their study found that all GPV constructs (i.e. hedonic value, social value and functional value) have a significant effect on consumer satisfaction and stated that consumer behavior to buy green products is connected with individual perceived values (Hur *et al.*, 2013). Sangroya and Nayak (2017) adopted GPV to investigate factors influencing the purchase behavior of green energy consumers. The authors stressed the importance of developing the multidimensional construct of GPV and examined the components of GPV such as functional value, conditional value, emotional value and social value. Sangroya and Nayak (2017) asserted that these values were theoretically extracted, based on prior work of Masini and Menichetti (2012), emphasizing that consumer behavior toward buying green products is driven by several types of benefits, such as utilitarian, psychological and social benefits. From this point of view, Sangroya and Nayak (2017) attempted to develop a multidimensional perceived value scale to assess consumers' perception toward green consumption. The study's finding suggested a multidimensional GPV scale, consisting of functional value, social value, conditional value and emotional value dimensions. Sangroya and Nayak (2017) mentioned that the GPV scale is a multidimensional construct, examining consumers' behavior toward green consumption and "on the basis of the reliability and validity tests conducted, the scale appears robust and credible" (Sangroya and Nayak, 2017, p. 402).

Hypothesis development

Zeithaml (1988) stated that the consumer's perceived values influence the building of customer relationships. Given these theories (e.g. Chen, 2016; Han *et al.*, 2017;

Holbrook, 2006; Masini and Menichetti, 2012; Lin and Huang, 2012; Sanchez *et al.*, 2006; Suki, 2016), this section includes the development of the hypotheses addressing the theoretical relationships among GPV (i.e. functional value, social value, conditional value and emotional value), consumers' attitude toward purchasing green food products, and consumers' intention to purchase green food products.

This study investigated the relationships between GPV (i.e. functional value, social value, conditional value and emotional value), and consumers' attitude toward purchasing green food products. According to Patterson and Spreng (1997), perceived value mainly reflects people's attitude toward general performance or behaviors. Attitude can be generally considered to be summative evaluations of goods and services (Ajzen, 2001). More specifically, Ekinci *et al.* (2008) noted that attitude refers to favorable or unfavorable feelings, guiding behavioral intentions to buy products or objects. Chen (2016) added that green attitude can play a moderating role in the relationship between GPV and green behaviors. In addition, Han *et al.* (2017, p. 187) indicated that "if perceived values meet their expectations, they will have more positive attitude toward these products and then decide to purchase."

Functional value is a crucial reason for consumers' decision making including attitudes, perception and behavior, formed by the economic and/or practical utilities that consumers can obtain in the process of consumption (e.g. Lin and Huang, 2012; Sangroya and Nayak, 2017; Schuitema *et al.*, 2013; Han *et al.*, 2017). Further, Sangroya and Nayak (2017) asserted that functional value is considered to be the perceived value of goods and services to obtain utilitarian and/or physical performances, resulting from extra benefits such as price, quality and convenience. Although functional value can generally drive consumers' favorable attitudes, any price exceeding the reasonable cost can reflect their unfavorable attitudes (Gottschalk and Leistner, 2013; Liang, 2016). In other words, Gottschalk and Leistner (2013) argued that the additional cost in the organic market can be a key indicator that an individual can infer the products' trustworthiness. Thus, Liang (2016) recommended that the value for money can be regarded as a crucial factor responsible for consumers' favorable attitude toward green food products.

According to Sheth (1991, p. 91), conditional value is defined as "perceived utility acquired by an alternative as the result of the specific situation or set of circumstances facing the choice maker." Conditional value arises from extrinsic circumstances, related to the choice of alternatives (e.g. discount, promotion, incentives, etc.), and these circumstances can be either anticipated or unpredicted situations (Sheth *et al.*, 1991). Sangroya and Nayak (2017) suggested that several elements can result in forming a situational environment, which promotes environmentally friendly behavior. With regard to consumers' green behaviors, Caird *et al.* (2008) mentioned that extrinsic conditions, such as discounts, incentives, subsidies and other incentives, can enable them to participate in environmentally friendly consumption. Further, Lin and Huang (2012) reported that a variety of tools (e.g. ease of access and unsustainable environmental conditions) can enhance the conditional value of ecological performance.

Social value consists of social image, expression of personality and social self-concept, and this value is related to interactions between individuals apart from those associated with individual recognition by choosing goods and services (Sangroya and Nayak, 2017; Sweeney and Soutar, 2001). More specifically, prior research stated that social value is significant in food consumption, because food's image often matches consumers' self-image, and consumers are motivated to indicate their social position and express their identity to others through their choice of food (Hall and Winchester, 2001; Kim *et al.*, 2009). O'Cass and Frost (2002) argued that social value can enable consumers to develop an attitude toward certain products, leading to their behaviors; they further stated that social value helps develop consumer attitudes to maintain relationships with others.

Emotional value can be seen as consumers' favorite feelings and/or affective states, arousing the consumption of products and services (Sheth *et al.*, 1991; Sweeney and Soutar, 2001). These studies pointed out that psychological needs can be regarded as feelings of comfort and pleasure. Sangroya and Nayak (2017) indicated that consumers' psychological and emotional needs are the most significant predictor of one's attitude toward environmentally friendly products and the behavioral intention to purchase these products. Furthermore, the extant literature pointed out that consumers who are more concerned about the environment will show a strong eagerness to purchase green goods and services (e.g. Ozaki and Sevastyanova, 2011; Sangroya and Nayak, 2017). Based on the above literature review, this study attempted to incorporate multidimensional the GPV scale (i.e. functional value, social value, conditional value and emotional value) and individuals' attitude toward purchasing green products, leading to the following hypotheses:

- H1. Functional value is positively associated with attitude toward purchasing green products.
- H2. Conditional value is positively associated with attitude toward purchasing green products.
- H3. Social value is positively associated with attitude toward purchasing green products.
- H4. Emotional value is positively associated with attitude toward purchasing green products.

Purchase intention is defined as predicted or planned actions in the future, which is the likelihood of predisposition to turning beliefs and attitude toward a product into actions (e.g. Ajzen, 2001; Chou *et al.*, 2012; Laroche *et al.*, 2001; Manaktola and Jauhari, 2007). More specifically, for conceptualizing perceived value as the primary indicator of attitudes toward their behaviors, Laroche *et al.* (2001) argued that the levels of an individual's attitudes by whether individuals considered certain behaviors to be essential to him/her. Sweeney and Soutar (2001) classified consumption value into functional value, emotional value and social value, and argued that consumption value affects product attitude and purchase intention. Past studies suggested that consumers' attitude toward environmentally friendly products partly play a mediating role in the relationship between social consumption values and purchase intention (Chou *et al.*, 2012; Ricci *et al.*, 2018). Therefore, based on the above literature review, the following hypothesis is proposed:

- H5. Attitude toward purchasing green products is positively associated with purchase intention.

Methods

Questionnaire development

The key aim of the current study is to examine the relationships among "GPV," "attitudes toward purchasing green products," and "consumers' intention for purchasing green food products" to investigate the dominant effect of the GPV attribute on consumer behaviors in the context of food industries. The hypothesized framework presented in Figure 1 was developed with theoretical underpinnings of GPV and consumer behaviors; further, constructs from the literature to ensure the reliability and content validity of the instrument were adopted in this study (e.g. Chen and Chang, 2012; Holbrook, 2006; Lin and Huang, 2012; Masini and Menichetti, 2012; Sanchez *et al.*, 2006; Sangroya and Nayak, 2017; Schuitema *et al.*, 2013; Sheth *et al.*, 1991; Suki, 2016).

All constructs included in the research framework were measured using multi-item scales designed to test all relevant domains of the construct. A total of 19 measures were used to assess GPV and consumer behaviors (e.g. Chen and Chang, 2012; Holbrook, 2006;

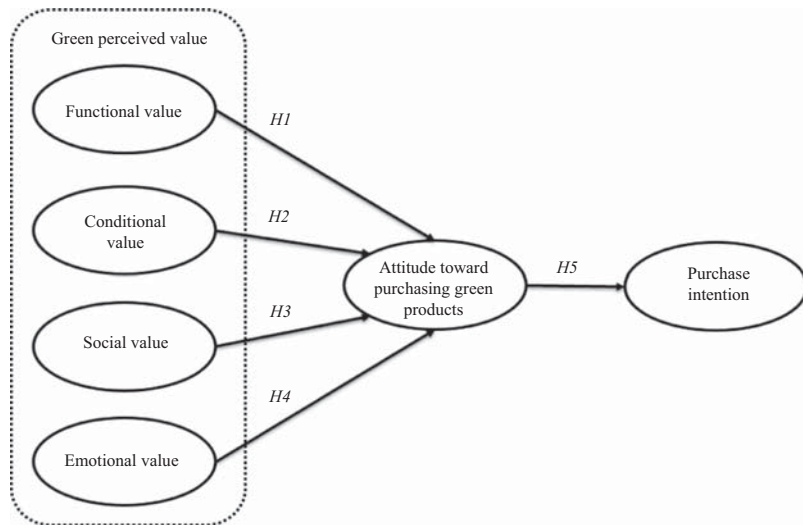


Figure 1.
Proposed research model

Masini and Menichetti, 2012; Sanchez *et al.*, 2006; Sangroya and Nayak, 2017; Suki, 2016). A total of 13 items were developed to evaluate the four constructs related to GPV: functional value, conditional value, social value and emotional value. Three items were developed to measure consumers' attitude toward purchasing green products, and three items were adopted to assess consumers' purchase intention. Experts in the food business and industries reviewed the initial questionnaire to check for any unclear expressions. Then, the revised questionnaire was pilot-tested with 50 students, and the final questionnaire was scrutinized by academic experts for content validity. The measurement items in the survey were tested to refine construct reliability and validity, including content validity, convergent validity and discriminant validity. A five-point Likert-scale was employed among the study measurement items, with points ranging from 1 (strongly disagree) to 5 (strongly agree).

Data collection and data analysis

An online convenience sampling technique was employed for the main survey. This study applies the questionnaire survey to verify the hypotheses and research framework from June 7 to June 20, 2016. The questionnaire was placed on the website, and an e-mail invitation that explained the purposes of this study and contained a link to the web-based survey was distributed to a panel that belongs to the online survey company. A structured, self-administered questionnaire was distributed to 300 panels; we obtained 253 valid questionnaires with an effective response rate of 84.33 percent.

To measure the proposed model, this study conducted confirmatory factor analysis (CFA) and structural equation modeling (SEM) using AMOS, which is a statistical tool for analyzing covariance matrices according to systems of structural equations (e.g. Anderson and Gerbing, 1988; Byrne, 2006; Hair *et al.*, 2009). The hypothesized model was assessed for model-data fit, and this study adopted the model fits recommended by prior research (Anderson and Gerbing, 1988; Byrne, 2006; Hair *et al.*, 2009). These studies suggested that even though χ^2 provides a significant *p*-value, the work's relatively large sample size offsets the seriousness of the effect of the statistic on the validity of the measurement model. Therefore, multiple indices were employed to ensure the model fit: the goodness-of-fit index (GFI), the comparative fit index (CFI), the Tucker–Lewis index (TLI) and the normed fit index (NFI) were all greater than 0.9. Other indices consisted of the root mean square

residual (RMR) and the root mean square error of approximation (RMSEA), which was less than 0.1; the χ^2 relative value of the degree of freedom (χ^2/df) was below 3.0 (Anderson and Gerbing, 1988; Byrne, 2006; Hair *et al.*, 2009).

Findings

Demographic characteristics of respondents

Table I summarizes the demographic description of each of the participants. The proportion of females ($n = 189$, 74.7 percent) was higher than that of males ($n = 64$, 25.3 percent). Around 25 percent of the respondents ($n = 66$, 26.1 percent) were 35–44 years old, and a large proportion of the sample had completed their undergraduate education ($n = 113$, 44.7 percent). In terms of annual income, the largest share of respondents ($n = 70$, 27.7 percent) earned between \$30,000–\$39,999, and the second largest group earned more than \$50,000.

Measurement model estimation

CFA of the measurement model was conducted before investigating the existing relationship between constructs in the hypothesized model. The overall measurement model with six constructs and 20 observed indicators was estimated through CFA. Table II shows that the model-fit indices of the CFA resulted in a good fit: χ^2 value (df) = 294.804 (155); $\chi^2/df = 1.90$; GFI = 0.894; NFI = 0.912; TLI = 0.946; CFI = 0.956; RMR = 0.053; RMSEA = 0.060.

Construct validity was examined by assessing the convergent validity and discriminant validity (Fornell and Larcker, 1981; Ping, 2004). In Table III, all indicators that were loaded on the constructs were significant at $p < 0.001$, and the average variance extracted (AVE) was greater than the 0.50 cut-off. Based on the high factor loadings on the intended variables and AVE estimates, convergent validity for the measurement-scale items was achieved (Fornell and Larcker, 1981; Ping, 2004). To ensure discriminant validity, the squared correlation coefficients between any pair of constructs should be lower than the AVE for each construct (Ping, 2004). Table III demonstrates that all of the squared correlations between pairs of constructs were lower than the AVE for each construct.

| Characteristics | Category | N | % |
|----------------------|--------------------|-----|-------|
| Sex | Male | 64 | 25.3 |
| | Female | 189 | 74.7 |
| Age | Under 25 | 67 | 26.5 |
| | 25–34 | 54 | 21.3 |
| | 35–44 | 66 | 26.1 |
| | 45–54 | 49 | 19.4 |
| | Above 55 | 17 | 6.7 |
| Education | High school | 36 | 14.2 |
| | College | 71 | 28.17 |
| | Bachelor | 113 | 44.7 |
| | Master | 25 | 9.9 |
| | Others | 8 | 3.2 |
| Annual income (US\$) | Less than \$20,000 | 26 | 10.3 |
| | \$20,000–\$29,999 | 43 | 17.0 |
| | \$30,000–\$39,999 | 70 | 27.7 |
| | \$40,000–\$49,999 | 54 | 21.3 |
| | \$50,000 or more | 60 | 23.7 |

Note: $n = 253$

Table I.
Demographic characteristics of samples

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| Factors and items | Std. loadings | t-values | CR ^a | AVE ^b |
|--|---------------|----------|-----------------|------------------|
| Functional value | | | 0.915 | 0.728 |
| Purchasing green product offers value for money | 0.871 | Fixed | | |
| Green product is reasonably priced | 0.848 | 16.336 | | |
| Green product is well made for reducing environment distortion | 0.842 | 15.736 | | |
| Green product has an acceptable level of standard of quality | 0.819 | 15.571 | | |
| Conditional value | | | 0.869 | 0.689 |
| I would purchase green product if offered at a discount | 0.803 | Fixed | | |
| I would purchase green product if offered with promotional incentives | 0.781 | 12.041 | | |
| I would purchase green product when it is easily available | 0.777 | 11.795 | | |
| Social value | | | 0.884 | 0.657 |
| Purchasing green product would make me a good impression on others | 0.873 | Fixed | | |
| Purchasing green product would improve the way me is being perceived by others | 0.801 | 13.201 | | |
| Purchasing green product would help me to feel accepted by others | 0.755 | 12.265 | | |
| Purchasing green product would give me social approval | 0.737 | 11.557 | | |
| Emotional value | | | 0.888 | 0.726 |
| I enjoy purchasing green product | 0.856 | Fixed | | |
| I feel relaxed after purchasing green product | 0.811 | 13.399 | | |
| Purchase of green product would make me feel good | 0.782 | 12.919 | | |
| Attitude toward purchasing green products | | | 0.783 | 0.547 |
| I think purchasing green product is a valuable behavior | 0.805 | Fixed | | |
| I think purchasing green product is a positive behavior | 0.749 | 10.620 | | |
| I think purchasing green product is a beneficial behavior | 0.690 | 10.127 | | |
| Purchase intention | | | 0.906 | 0.765 |
| My willingness to repurchase the green food product is very high | 0.975 | Fixed | | |
| Overall, I am glad to repurchase green food product because it is environmental friendly | 0.800 | 24.495 | | |
| I intend to rebuy green food product because of environmental concern | 0.800 | 17.309 | | |

Table II. Results of confirmatory factor analysis (CFA) for the measurement model

Notes: Goodness-of-fit indexes: χ^2 value (df) = 294.804 (155); $\chi^2/df = 1.90$; GFI = 0.894; NFI = 0.912; TLI = 0.946; CFI = 0.956; RMR = 0.053; RMSEA = 0.060. All items were measured on a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree. ^aConstruct reliability; ^baverage variance extracted

Table III. Inter-construct correlations and square root of the AVE along the diagonal

| | F1 | F2 | F3 | F4 | F5 | F6 | M (SD) |
|----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| F1 | 0.728 ^a | | | | | | 3.51 (0.858) |
| F2 | 0.526 | 0.689 ^a | | | | | 3.42 (0.743) |
| F3 | 0.476 | 0.379 | 0.657 ^a | | | | 3.22 (0.807) |
| F4 | 0.463 | 0.385 | 0.369 | 0.726 ^a | | | 3.47 (0.766) |
| F5 | 0.548 | 0.451 | 0.437 | 0.468 | 0.547 ^a | | 3.75 (1.00) |
| F6 | 0.355 | 0.379 | 0.320 | 0.489 | 0.489 | 0.765 ^a | 3.75 (0.998) |

Notes: All correlations are significant at the 0.01 level or better. F1: Functional value, F2: Conditional value, F3: Social value, F4: Emotional value, F5: Attitude, F6: Purchase intention. ^aAVE, the scores range from 1 to 5

Structural model

SEM was carried out along with the maximum likelihood method to examine relationships among the six constructs in this model. The proposed measurement model, consisting of the four exogenous latent constructs (functional value, conditional value, social value and emotional value), the endogenous latent construct (attitude toward purchasing green products), and the dependent construct (purchase intention), were tested to identify the

validity of the measurement model. The results of the maximum likelihood estimation provided an adequate fit to the data.

Table IV shows that the model-fit indices of the CFA results in a good fit: χ^2 value (df) = 298.818 (159); $\chi^2/df = 1.88$; GFI = 0.894; NFI = 0.911; TLI = 0.947; CFI = 0.956; RMR = 0.055; RMSEA = 0.059. The explained variance in exogenous constructs is 55.1 percent for attitude, and the explanatory power of attitude was 30.0 percent for purchase intention. Additionally, indirect effects of four exogenous constructs on purchase intention were as follows: functional value \rightarrow purchase intention ($\beta = 0.211$), conditional value \rightarrow purchase intention ($\beta = 0.166$); social value \rightarrow purchase intention ($\beta = 0.136$); and emotional value \rightarrow purchase intention ($\beta = 0.189$). The statistical results yielded two main findings: first, the three exogenous constructs (distributive justice, procedural justice and interactional justice) significantly affect attitude, which serves as key mediating factor between GPV and purchase intention. Second, there is significant indirect relationship between GPV and purchase intention.

Discussion and conclusions

In line with previous research (e.g. Chen and Chang, 2012; Hur *et al.*, 2013; Sangroya and Nayak, 2017) which suggested that a consumer's environmental concern is a key influence on his/her purchase behaviors and that GPV can be an important antecedent of consumer attitudes, the current study adopted the construct of GPV and attempted to examine the relationships among GPV, attitudes, and purchase intention in the context of the food industry. The study tested the appropriateness of GPV, including functional value, conditional value, social value and emotional value, to explain consumer attitudes and the intention to purchase green food products, that is, whether the constructs of GPV have a significant effect on consumer attitudes and the buying behavior of green food products.

The proposed model in this study was both reliable and valid. Further, the findings of the study showed that all sub-constructs of GPV (i.e. functional value, conditional value, social value and emotional value) were significant, influencing factors of consumers' attitude toward purchasing green products, and thus, significantly influencing consumers' purchase intention. In particular, GPV (functional value: $\beta = 0.309$, $t = 3.53$, conditional value: $\beta = 0.205$, $t = 2.48$, social value: $\beta = 0.173$, $t = 3.30$, and emotional value: $\beta = 0.246$, $t = 2.36$) had a significantly positive effect on consumer attitudes, while consumer attitudes ($\beta = 0.547$, $t = 7.33$) positively affected consumers' purchase intention. Also, the significant indirect relationship between GPV and purchase intention were found. The findings regarding these relationships are theoretically consistent with those in previous studies (e.g. Chen and Chang, 2012; Hur *et al.*, 2013; Sangroya and Nayak, 2017). Sangroya and Nayak (2017) revealed that the multidimensional construct of GPV can enhance the attitude of consumers

| Paths | Estimate | t-values | Result |
|---|----------|----------|----------|
| H1. Functional value \rightarrow attitude | 0.309 | 3.533** | Accepted |
| H2. Conditional value \rightarrow attitude | 0.205 | 2.480* | Accepted |
| H3. Social value \rightarrow attitude | 0.173 | 3.296** | Accepted |
| H4. Emotional value \rightarrow attitude | 0.246 | 2.362* | Accepted |
| H5. Attitude \rightarrow purchase intention | 0.547 | 7.329** | Accepted |

Notes: Square multiple correlation (SMC) = attitude (0.551), purchase intention (0.300). ^aIndirect effects: functional value \rightarrow purchase intention: 0.211; conditional value \rightarrow purchase intention: 0.166; social value \rightarrow purchase intention: 0.136; emotional value \rightarrow purchase intention: 0.189; ^bGoodness-of-fit indexes: χ^2 value (df) = 298.818 (159); $\chi^2/df = 1.88$; GFI = 0.894; NFI = 0.911; TLI = 0.947; CFI = 0.956; RMR = 0.055; RMSEA = 0.059. * $p < 0.05$; ** $p < 0.001$

Table IV. Statistical results of the structural model

toward green behaviors and enhance their purchase intentions. Furthermore, as argued by Hur *et al.* (2013), such functional, social and emotional values, perceived by consumers influence customer purchase behaviors to obtain the physical and psychological benefits of green products.

More specifically, the effect of functional value on consumer attitudes ($\beta = 0.309$) is the strongest in the model. In this study, functional value represented the value for money, price and quality standard. Considering consumers' intention to buy green food products, this study showed that those incentives and advantages may be implemented to promote the respondents' decision making. According to previous studies (Han *et al.*, 2017; Schuitema *et al.*, 2013), functional value can be seen as one of crucial influences on consumer choices, because this value originates from the tangible attributes that consumers can obtain utilities and benefits from.

There was significantly the path of positive direction between emotional value and attitude toward purchasing green products ($\beta = 0.246$). Emotional value in the current study was measured in the form of statements (i.e. "I enjoy purchasing green product," "I feel relaxed after purchasing green product," and "purchase of green product would make me feel good"), and these items represented the feelings of pleasure while considering the purchase of green foods. This finding is generally consistent with those of previous studies (Sheth *et al.*, 1991; Sangroya and Nayak, 2017; Sweeney and Soutar, 2001) in that even though consumers do not intentionally pursue emotional value through consumption, consumption based on positive values can lead to positive emotions at the subconscious level.

Conditional value played an important role in customer attitudes in this study ($\beta = 0.205$). This value consists of discounts, promotional incentives and easily availability; the result demonstrates that these circumstances can lead consumers' positive attitude toward purchasing green foods. This finding supports prior studies (Caird *et al.*, 2008; Lin and Huang, 2012), pointing out that extrinsic conditions, such as discounts, incentives, subsidies and other incentives can enable an individual to develop interest in environmental consciousness and intent to buy environmentally friendly products.

This study found that social value ($\beta = 0.173$) is the key variable, statistically influencing consumers' attitudes toward an intention to purchase green food products. Multi-items, such as a good impression on others, improving the way one is being perceived by others, and social approval were employed to assess social value. As demonstrated in previous studies (Sangroya and Nayak, 2017; Sweeney and Soutar, 2001), this study revealed that people who tend to obey social values are likely to participate in pro-environmental behaviors, because an eco-friendly attitude is mostly formed by social relationships.

This study contributes to the theory by consolidating the application of the theory of GPV to explain green buying behavior in the food industry. Further, this study's findings can help marketers develop effective strategies, because the results suggest that it is important to emphasize green foods for consumers. The most key implications to develop marketing strategies for increasing the green food consumption is that food managers should highlighting consumer's role in preserving the environment. That is, food managers should emphasize that the influence that green food products have on the environment is large enough to meet customer ecological expectation and convey which green foods are environmentally friendly products and trusted for green behaviors through marketing communications. These messages could enable people to recognize environmental value and the responsibility of conservation, leading to an increasing engagement in environmentally friendly purchasing behaviors. Therefore, managers should employ numerous channels of marketing communication, from mass media to social media, to stress the relationship between interest in environmental issues and consumers' buying behaviors. These efforts could encourage people to socially and emotionally perceive the significance of their purchasing actions. Furthermore, it is

necessary to run a variety of promotion strategies in parallel. As seen in this study, the functional and conditional value of green foods, promotion strategies (e.g. superior green product quality, competitive prices, discounts, promotional incentives and easily availability) could increase consumer awareness, leading to purchase actions and satisfaction. These strategies could contribute to business sustainability.

Although the current study contributes to the theoretical development of the relevant literature and has some practical implications, it has some limitations. First, the study uses an online survey platform, which is essentially a convenience sampling technique. All respondents were internet users; hence, the sample may not reflect the general population. Therefore, future research could replicate the study using a probabilistic sampling frame. Additionally, although consumers' attitude and intention in the research fields is represented by the most important predictor of behavioral intention to purchase products or services, predictors are not always equivalent to their actual behaviors. Hence, future works should explore consumers' actual buying behaviors by means of observation or interviews.

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