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Evaluating the purchase behaviour of organic food by young consumers in an emerging market economy

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ABSTRACT

Promoting consumer purchase behaviour of eco-friendly products is key to environmental sustainability. This research aims to investigate how different factors may enhance or impede young consumers' intentions to purchase a specific type of eco-friendly product, i.e. organic food. Data were obtained from 289 respondents in an emerging market economy, i.e. Vietnam. Multivariate data analysis using structural equation modelling revealed that food safety concern, health consciousness and media exposure to food messages played integral roles in the formation of attitude towards organic food. Interestingly, consumers' environmental concern and food taste were of little value in predicting their attitude. Notably, perceived barriers (i.e. high price, inadequate availability, poor labelling and extra time required) significantly impeded both attitude and purchase intention towards organic food. The insights gained from this research extend current knowledge about pro-environmental behaviour in developing countries and they have important practical implications for marketers and other key stakeholders.

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Green marketing; young consumer; eco-friendly products; organic food; emerging market economy; Vietnam

Introduction

Human activity is the main cause of many serious environmental problems such as climate change, air pollution and the depletion of natural resources (IPCC, 2014; Lee, 2014). Hence, promoting and accelerating the adoption of environmentally friendly behaviours is key to environmental sustainability (Taufique, Vocino, & Polonsky, 2017). Amongst different types of pro-environmental behaviours, the purchase and consumption of eco-friendly products including organic food appears to contribute significantly to environmental quality improvement (Davari & Strutton, 2014; Van Doorn & Verhoef, 2015). Lockie, Lyons, Lawrence, and Mummery (2002) suggest that organic food consumption is central to the development of environmentally sustainable lifestyles. Organic food refers to the product obtained or made in accordance with the standards of organic agriculture that sustain and promote the welfare of soils, ecosystems and humans (IFOAM, 2005; Vieira, De Barcellos, Hoppe, & da Silva, 2013). The latest data from the Research Institute of Organic Agriculture and IFOAM – Organics International reveal that the global organic market has reached US$ 81.6 billion (Willer &

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Lernoud, 2017). This figure is reflective of continuous efforts from marketers and governmental and environmental organisations that seek to expand the market for such products.

Rising consumer demand for organic food has inspired considerable research on consumer motivations and decision processes. Comprehensive reviews by Hughner, McDonagh, Prothero, Shultz, and Stanton (2007) and Rana and Paul (2017) highlight various factors motivating consumer attitude and behaviour, including egoistic motives (e.g. health, taste, food safety and being fashionable), altruistic and biospheric motives (e.g. local support, environment and animal welfare). They also suggest key deterrents to the purchase, e.g. high price, limited availability, scepticism of labels and insufficient marketing efforts. Nonetheless, as pro-environmental behaviours appear to vary across different contexts of cultures and economies (Nguyen, Lobo, & Greenland, 2017b; Soyez, 2012), several studies report inconsistent findings about such determinants. For instance, von Meyer-Höfer, Olea-Jaik, Padilla-Bravo, and Spiller (2015) conclude that, whilst egoistic concerns including health aspects and taste positively influence German consumers' attitudes about organic food, such impact is not evident among Chilean consumers. Furthermore, given that a large body of research addresses the Western and developed context, a dearth of knowledge exists on organic food consumption in emerging market economies (Paul & Rana, 2012; von Meyer-Höfer et al., 2015).

Developing countries are the major contributor to climate change and air pollution owing to their rapid economic growth, large consumer base and unsustainable consumption (Hsu, 2016). Simultaneously, they are potential markets for green products including organic products (Yadav & Pathak, 2016). Interestingly, many developing countries in Asia such as China, India and Vietnam, have a relatively young population (United Nations, 2015). Several studies emphasise the importance of young consumers in green purchase (Lee, 2011; do Paço, Alves, Shiel, & Filho, 2013). The younger population segments are innovators and future of the society (Lee & Tai, 2006). They seem well educated about environmental issues and sustainability (Furlow & Knott, 2009). Despite their general financial restraints, they are inclined to seek eco-friendly products (Jain & Kaur, 2006). Young consumers therefore represent a key segment to conduct research on.

This study aims to contribute to the body of literature associated with pro-environmental behaviour and organic food consumption primarily in three ways. First, it adds to the on-going debate regarding the determinants of organic food behaviour by examining factors that may enhance or impede young consumers' attitudes and purchase intentions towards organic food. For the purpose of this study, young consumers are conceptualised to include consumers aged 24 and under (Chan & Zhang, 2007). Second, it extends extant knowledge about Asian and emerging market economies by concentrating on Vietnam, a typical emerging market in Southeast Asia. Third, this study's findings can assist key stakeholders, especially marketers, in the development of effective strategies to best enhance consumer purchase of organic products.

Theoretical framework and hypotheses

Several studies in the areas of pro-environmental behaviour and organic food purchase have elaborated on the attitude-intention relationship (Michaelidou & Hassan, 2008; Tarkiainen & Sundqvist, 2005). Such a nexus is rooted in prominent expectancy-value theories and

rational choice models including the Theory of reasoned action (Fishbein, 1979) and the Theory of planned behaviour (Ajzen, 1991). Specifically, these theories posit that attitude constituting favourable or unfavourable evaluative beliefs towards the attitude object is the key predictor of behavioural intention.

Recently, a prominent review by Rana and Paul (2017) asserts the importance of better understanding impactful factors affecting consumer attitude for purchase of organic food. Such knowledge would be valuable for the marketing and promotion of organic produce. In line with extant literature, this study has developed a framework illustrating the antecedents of the attitude-intention hierarchy (Figure 1). Environmental concern, health consciousness and food safety concern were considered worth investigating as they seem 'very important' in relation to attitude towards organic food (Rana & Paul, 2017, p. 162). Food taste was also included to further envisage consumers' egoistic motives. Additionally, consumers' exposure to mass and social media representing the contextual environment was examined as it could possibly facilitate changes in attitude and green purchase (Lee, 2011). Notably, the proposed framework postulates that perceived barriers influence both attitude and purchase intention. A possible explanation for this is that perceived barriers (e.g. higher price, limited availability and poor eco-labels) could partially explain the attitude-intention/behaviour gap in

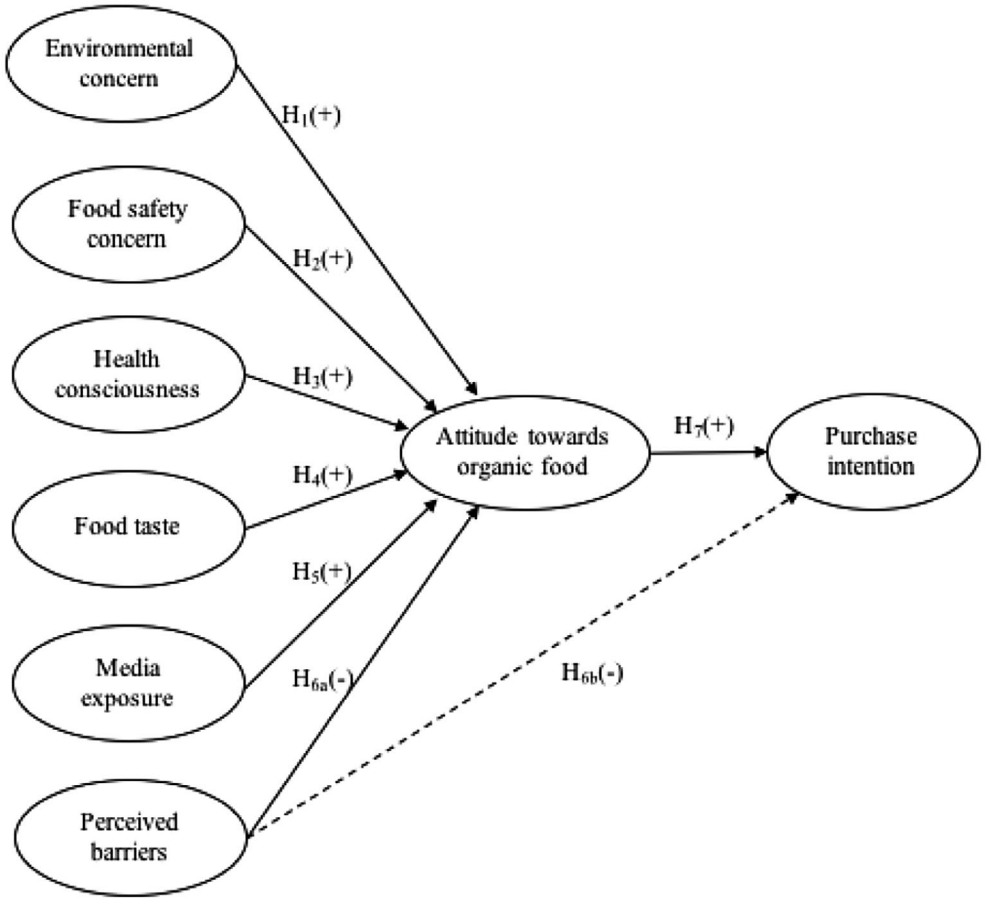

Figure 1. The theoretical framework.

environmental behaviour and sustainable food consumption (Vermeir & Verbeke, 2006; Young, Hwang, McDonald, & Oates, 2010). As an illustration, Magnusson, Arvola, Hursti, Åberg, and Sjödén (2001) report that despite their positive attitudes towards organic food, only four to six per cent of consumers intend to purchase the products. The relevant constructs and the hypothetical relationships between them are depicted in Figure 1.

Environmental concern

Consumers' concern for the environment has attracted significant interest in the pro-environmental behaviour literature. Researchers have different approaches to conceptualizing and measuring environment concern. Generic scales including the Environment Concern Scale (Weigel & Weigel, 1978) and the New Environmental Paradigm (Dunlap & Van Liere, 2008) investigate people's concern about different environmental issues as well as their support and contribution in solving such issues. Interestingly, Lee (2008) focuses on the affective components and conceptualizes environmental concern as the manner by which consumers are worried about environmental quality and preservation.

Environmental concern appears to be a crucial motivator of pro-environmental behaviour in different cultural settings (Bohlen, Schlegelmilch, & Diamantopoulos, 1993; Milfont, Duckitt, & Cameron, 2006; Rhead, Elliot, & Upham, 2015). Notably, young consumers tend to demonstrate high awareness and concern towards environmental issues (do Paço et al., 2013). A recent study by Yadav and Pathak (2016) confirms the positive impact of environmental concern on attitude towards organic food among young Indian consumers. Hence, the following hypothesis has been developed:

H_1: Young consumers' environmental concern is positively related to their attitude towards organic food.

Food safety concern

Food safety concern refers to the manner by which consumers are worried about pesticide residues in food and also about food scares such as mad cow and foot and mouth diseases. Nevertheless, consumers primarily think of food safety with regard to chemical sprays, fertilizers, hormones and artificial additives (Michaelidou & Hassan, 2008). Such safety issues are often linked to farming methods, where organic farming is believed to be safer than traditional intensive farming (Kouba, 2003; Yee, Yeung, & Morris, 2005). Anderson, Wachenheim, and Lesch (2006) report that consumers generally view organic food as being entirely safe to consume. Likewise, Truong, Yap, and Ineson (2012) remark that the majority of potential Vietnamese consumers believe that organic food is safer to eat.

Several studies suggest that young consumers have inadequate knowledge regarding food safety (Green & Knechtges, 2015; Sanlier, 2009). However, it can be argued that extensive food safety education in schools and colleges (Lang, Stanton, & Qu, 2014) would raise food safety knowledge and concern among young consumers. Hence, food safety concern is quite relevant to explaining the purchase of organic food among young consumers. Generally, food safety concern leads consumers to form positive attitude towards organic food purchases (Çabuk, Tanrikulu, & Gelibolu, 2014). Hence, the following has been hypothesised:

H_2: Young consumers' food safety concern is positively related to their attitude towards organic food.

Health consciousness

Health consciousness, which is reflective of responsible health-oriented choices, indicates the extent by which people participate in health actions (Moorman & Matulich, 1993). Consumers frequently believe that organic food is good for their health because they contain more nutrition and fewer pesticides and chemicals (Kriwy & Mecking, 2012; Wier, O'Doherty Jensen, Andersen, & Millock, 2008). Hence, health consciousness appears to be the strongest motivator for purchasing and consuming organic food in both developed and developing countries (Lillywhite, Al-Oun, & Simonsen, 2013; Squires, Juric, & Cornwell, 2001). Several studies also reveal that consumers' attitudes towards organic food are facilitated by their health consciousness (Lee, 2016; Michaelidou & Hassan, 2008).

Several studies find that elderly people and middle aged groups are more health conscious than the younger segment (Kuhn, Prskawetz, Wrzaczek, & Feichtinger, 2007). The possible explanation for this includes older people's disease avoidance, their emphasis on the role of health for productivity and changes in family roles (Edstrom & Devine, 2001; Furst, Connors, Bisogni, Sobal, & Falk, 1996; Kuhn et al., 2007). Nevertheless, Watson (2015) more recently remarks that young consumers are moving towards more health-conscious eating. This is because young consumers are increasingly learning about healthy attributes from their family and schools (The Hartman Group, 2015). Hence, the following hypothesis has been formulated:

H_3: Young consumers' health consciousness is positively related to their attitude towards organic food.

Food taste

As consumers have continuously sought for natural flavour, freshness and wholesome nutrition (Hemmerling, Asioli, & Spiller, 2016), they are heavily influenced by taste when purchasing organic food (Castellini, Berri, Le Bihan-Duval, & Martino, 2008; Cerjak, Mesić, Kopić, Kovačić, & Markovina, 2010). According to Padel and Foster (2005), consumers believe that organic vegetables and fruit are tastier than conventional foods because they are naturally produced, contain less chemicals and have genuine flavour. Furthermore, numerous consumers perceive the high prices of organic food as being the indicator of higher quality and better taste (Hill & Lynchehaun, 2002; Hughner et al., 2007).

Magnusson et al. (2001) assert that good taste is the most important criterion in consumer purchase decision towards different types of foods. More recently, Marina, Marija, and Ida (2014) remark that taste is among the most relevant attribute for young consumers' food purchases and consumption. Hence, the following hypothesis has been developed:

H_4: Young consumers' food taste is positively related to their attitude towards organic food.

Media exposure to food messages

Mass media facilitate cognitive, affective and behavioural changes in audiences who are heavily exposed to such powerful information sources (Mafé & Blas, 2006). Whilst notable cognitive and affective influences relate to the formation of attitudes, behavioural effects include changes in consumer behaviour including food purchase (Grossberg, Wartella, &

Whitney, 2006). In addition, the media may serve as a point of reference for social norms and its socialising role affects consumers' evaluation of products (McQuail, 2010).

Regular media exposure to food messages such as food safety incidents lead to increased need to live more sustainably and eat more healthy products (First & Brozina, 2009; Xu & Wu, 2010). A qualitative study by Hjelmar (2011) demonstrates that consumers who have watched food scandals on TV tend to avoid conventional food, and they are likely to develop positive attitude towards organic food. Furthermore, media coverage of environmental deterioration and pesticides appear to influence consumers' willingness to pay for organic food (Sloan, 2002). The following has therefore been hypothesised:

H_5: Young consumers' media exposure to food messages is positively related to their attitude towards organic food.

Perceived barriers

The purchase of green products including organic food is often associated with several barriers. High price appears to be the most common reason for non-purchase of organically grown produce (Aertsens, Mondelaers, Verbeke, Buysse, & Huylenbroeck, 2011; Van Doorn & Verhoef, 2015). Other obstacles consist of lack of information and availability, mistrust in organic labels, time barrier, insufficient marketing, poor presentation and cosmetic defects (Hughner et al., 2007; Nguyen, Phan, Cao, & Nguyen, 2017; von Meyer-Höfer et al., 2015; Tanner & Kast, 2003). Such barriers appear to reduce consumers' intention to purchase organic food despite their positive attitudes towards the products (Hughner et al., 2007; Magnusson et al., 2001).

Young consumers may consider the purchase of organic food as being costly because of their financial constraint. A recent study in an emerging market empirically demonstrates that young consumers generally associate green purchases with extra money, time and effort (Nguyen, Lobo, & Nguyen, in press). Hence, the following hypotheses have been developed:

H_6: Young consumers' perceived barriers are negatively related to their attitude (H_{6a}) and purchase intentions towards organic food (H_{6b}).

Attitude and purchase intention

Attitudes have been the predominant variable that successfully predicts pro-environmental intention and behaviour (Bamberg & Möser, 2007; Nguyen, Lobo, & Greenland, 2016, 2017a). As a general rule, consumers who have positive attitudes towards green products are inclined to perform green purchases. Prior research reveals that many consumers hold favourable attitudes towards organic food and the purchase of such products (e.g. Çabuk et al., 2014; Dean, Raats, & Shepherd, 2012). Smith and Paladino (2010) examine and confirm the significant positive relationship between attitude and intention towards organic produce among Australian students. Notably, an Iranian study by Yazdanpanah and Forouzani (2015) demonstrates that attitude is the strongest predictor of young consumers' intention to purchase organic food. Hence, the following has been hypothesised:

H_7: Young consumers' attitudes towards organic food is positively related to their purchase intentions.

Research methods

Research context

This study concentrated on Vietnam where there is a pressing need to promote sustainable food consumption among consumers, especially among the younger demographic profile. According to the General Statistics Office of Vietnam, the national average age is about 32, and people aged 24 and below represent 39% of the total population of 92 million (GSO, 2015). Food consumption increases in line with economic growth as people spend almost half of their income on food and beverages (GSO, 2012). The government's sustainable farming initiatives (e.g. Vietnam Sustainable Agriculture Transformation Project funded by the World Bank) coupled with consumers' increasing concerns for health, safety and environment are expected to drive consumer interest in organic produce. In a recent Vietnamese survey, 59% of the respondents indicated their willingness to eat more organic food (de Koning, Crul, Wever, & Brezet, 2015). Nevertheless, the respondents also demonstrate their concerns about the high price and poor labels associated with safe and healthy foods.

Organic vegetables were intentionally selected as the researched product category for this study owing to four reasons. First, vegetables are major crops in Vietnam as well as cash crops in Northern provinces (Huong et al., 2013; Luat, 2001). Second, vegetables represent a key component in Vietnamese culinary habits (Figuié, 2003). Third, Vietnamese vegetable production is associated with increased pesticide use (Hoi, Mol, Oosterveer, van den Brink, & Huong, 2016), which may be a determinant of organic produce consumption. Fourth, household consumption of safe and organic vegetables remains limited in Vietnam (Moustier, Figuié, Loc, & Son, 2006).

Operationalisation and measurement of constructs

Majority of the items operationalising the constructs presented in Figure 1 were selected from validated measurement scales used in prior research. In addition, three focus groups moderated by the authors, each consisting of seven organic consumers, were conducted to adapt the items to the research context and to generate possible new items. All the items were measured using seven-point scales. Specifically, the construct of *media exposure to food messages* employed a scale ranging from 1 for 'never' to 7 for 'always'. To measure the other constructs, the scales were anchored at 1 for 'strongly disagree' and 7 for 'strongly agree'.

To measure country-specific *environmental concern*, four items were adopted from Lee's (2008) study. These items were intended to capture how respondents' concern about Vietnam's environment and also how they were emotionally involved in environmental preservation.

The three-item scale developed by Michaelidou and Hassan (2008) was used to measure *food safety concern*. These items were designed to seek respondents' beliefs and concern about vegetables' safety issues such as chemical sprays, fertilizers, artificial additives and preservatives.

Health consciousness was measured by three items suggested by Tarkiainen and Sundqvist (2005). These items were intended to capture respondents' thoughts on health issues and health-oriented choices of vegetables.

Another three items operationalising *food taste* were adopted from the scale developed by Tanner and Kast (2003). These items were designed to capture how respondents were guided by their tastes when making purchases.

Five items were used to measure *media exposure to food messages*. Of these, four items were adopted from Lee (2008) and one item relating to social media was generated by the focus groups. These items were intended to seek respondents' regular media exposure to vegetable topics and issues.

To measure *perceived barriers*, five items were taken from studies by Barbarossa and De Pelsmacker (2016) and Tanner and Kast (2003). These items were designed to seek respondents' perceptions of barriers associated with the purchase of organic food such as expensiveness, inadequate availability, poor labelling and extra time required.

Attitude towards organic vegetables was operationalised using four items from prior research performed by Arvola et al. (2008) and Dean et al. (2012). These items sought respondents' overall cognitive and affective evaluation towards purchase of organic vegetables.

Finally, three items measuring *purchase intention* were developed using inputs from Michaelidou and Hassan (2008) and Yadav and Pathak (2016). These items were designed to capture respondents' willingness to purchase organic vegetables.

Data collection and sample

The respondents in this study were undergraduate and postgraduate students aged 24 and under, who were interested in organic vegetables. This ensured that the respondents had a certain level of interest in the selected product category, thus, improving the prediction of their purchase intention. Two screening questions were used to identify eligible respondents. Non-probability volunteer sampling was used owing to the absence of a sampling frame (Saunders, Lewis, & Thornhill, 2012). The researchers administered the survey instrument to 421 respondents in 3 faculties of a reputable Vietnamese university. The respondents voluntarily agreed to provide their responses, and they received no incentives for their participation. The respondents were verbally assured that their privacy and anonymity would be maintained, and only aggregated results would be reported. During a period of four weeks, 303 completed surveys were returned.

The data from the returned surveys were screened to identify potential outliers. Standardised values (*z* scores) were used to examine univariate outliers, whilst Mahalanobis distance was used to check multivariate outliers (Filzmoser, 2004). After screening the data, 14 surveys were eliminated. Hence, the final effective sample was 289. Of these, 148 (51.2%) were female and 141 males (48.8%). Furthermore, the majority of the respondents (79.2%) were aged between 18 and 21 years, whilst only 9.3% were married.

Data analysis

Common method factor and reliability analysis

Given that common method bias potentially causes measurement errors, Harman's single-factor test was performed in accordance with the statistical guidelines by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). All measurement items were subjected to an

exploratory factor analysis (EFA) using SPSS 24.0. The un-rotated factor solutions revealed that the single factor explained only 27.4% of the variance in the variables. Hence, it can be concluded that the common method bias was deemed unlikely to affect the sample data.

The Cronbach's alpha values for constructs ranged from .797 to .876. In addition, the corrected item-to-total correlations were all greater than the threshold .5. Hence, it was reasonable to assume that all the measures had good internal consistency of reliability (Hair, Black, Babin, & Anderson, 2010).

Validity of measurement model

In order to assess the measurement model, all the constructs were subjected to a Confirmatory Factor Analysis (CFA) using AMOS 24.0. Common fit indices were used to assess model fit. Absolute fit indices included χ^2/df (Chi-square to degree of freedom ratio) and RMSEA (root-mean-square error of approximation). Incremental fit indices comprised CFI (comparative fit index) and TLI (Tucker-Lewis Index). Also, parsimony fit was examined using AGFI (adjusted goodness-of-fit index). The model fit is good when χ^2/df < 3.0, with the values of CFI, TLI ≥ .90, RMSEA ≤ .08 (Hu & Bentler, 1999), and AGFI ≥ .80 (Chau & Hu, 2001). The resultant fit statistics (χ^2 (377) = 656.231, $p < .001$; χ^2/df = 1.741; CFI = .929; TLI = .918; RMSEA = .051; AGFI = .833) were all greater than the minimum acceptable level.

Using the guidelines suggested by Hair et al. (2010), convergent validity was confirmed by checking that all standardised values of factor loadings (FL) were above .5, and average variance extracted (AVE) was greater than .5 (please refer to Table 1). Also, as shown in Table 2, the square root of the AVE of each measure was higher than its bivariate correlation coefficients with other constructs. Thus, discriminant validity was confirmed (Fornell & Larcker, 1981). In addition, all correlations between constructs were less than .65, suggesting that potential multi-collinearity problems were non-existent (Grewal, Cote, & Baumgartner, 2004).

Hypotheses testing

Structural equation modelling (SEM) was employed to test the hypothetical relationships between the proposed constructs. The resulting fit indices were χ^2 (382) = 621.560, $\rho < .001$; χ^2/df = 1.627; CFI = .939; TLI = .930; RMSEA = .047; AGFI = .845. These indices demonstrate a good fitting model that explains a significant 61% of the variation in consumers' intention to purchase organic vegetables.

As indicated in Table 3, the results of the SEM suggest that the effect of environment concern ($\beta = .127$, $t = 1.702$, $p > .05$) and food taste ($\beta = .018$, $t = .310$, $p > .05$) on attitude about organic food was not significant. Hence, H_1 and H_4 were not supported. In contrast, food safety concern ($\beta = .242$, $t = 2.463$, $p < .05$), health consciousness ($\beta = .182$, $t = 2.179$, $p < .05$) and media exposure ($\beta = .325$, $t = 4.650$, $p < .001$) exerted a significant positive influence on attitude towards organic food. Thus, H_2, H_3 and H_5 were all supported.

As expected, the influence of perceived barriers on attitude ($\beta = -.127$, $t = -2.265$, $p < .05$) and on purchase intention ($\beta = -.152$, $t = -2.2732$, $p < .01$) were negative and significant. Therefore, both H_{6a} and H_{6b} were accepted. Notably, attitude about organic food exerted a strong positive impact on purchase intention ($\beta = .741$, $t = 9.887$, $p < .001$); thus, H_7 was supported. The total effects of the determinants on purchase intention are depicted in Table 4.

Table 1. Measures and properties.

Construct and items	FL	CR	AVE
Environmental concern – Environment ($M = 5.11$; SD = 1.05; $\alpha = .800$)		.806	.512
I am worried about the worsening of the quality of Vietnam's environment	.676		
Vietnam's environment is my major concern	.834		
I am emotionally involved in environmental protection issues in Vietnam	.706		
I often think about how the environmental quality in Vietnam can be improved	.629		
Food safety concern – Safety ($M = 5.08$; SD = 1.24; $\alpha = .798$)		.796	.566
Nowadays most vegetables contain residues from chemical sprays and fertilizers	.701		
I am very concerned about the amount of artificial additives and preservatives in vegetables	.734		
The quality and safety of vegetables nowadays concerns me	.817		
Health consciousness – Health ($M = 5.21$; SD = 1.10; $\alpha = .797$)		.797	.568
I choose vegetables carefully to ensure good health	.768		
I think of myself as a health-conscious consumer	.756		
I think often about health issues	.736		
Food taste – Taste ($M = 5.05$; SD = 1.12; $\alpha = .810$)		.817	.601
When making purchases I would primarily buy vegetables which taste good	.689		
When making purchases, I am guided by what I like	.875		
When making purchases I am guided by my taste of gourmet cooking	.750		
Media exposure to food messages – Media ($M = 4.93$; SD = 1.07; $\alpha = .841$)		.844	.522
How often do you come across vegetable topics/ issues on TV?	.747		
How often do you come across vegetable topics/ issues on advertisements?	.814		
How often do you come across vegetable topics/ issues on radio?	.677		
How often do you come across vegetable topics/ issues on the Internet?	.726		
How often do you come across vegetable topics/ issues on social media like Facebook, YouTube?	.634		
Perceived barriers – Barrier ($M = 4.99$; SD = 1.06; $\alpha = .843$)		.844	.520
Organic vegetables are still too expensive	.702		
In my neighbourhood, there are insufficient stores selling organic vegetables	.762		
Eco-labels lack credibility	.755		
In the store, I cannot distinguish between organic and conventional vegetables	.741		
Inside the store, I need a lot of time to find organic vegetables	.640		
Attitude – Attitude ($M = 5.15$; SD = 1.13; $\alpha = .876$)		.878	.642
Buying organic vegetables instead of conventional vegetables is beneficial	.817		
Buying organic vegetables instead of conventional vegetables is a wise choice	.774		
Buying organic vegetables instead of conventional vegetables make me feel good	.837		
Buying organic vegetables instead of conventional vegetables make me feel pleased	.776		
Purchase intention – Intention ($M = 5.16$; SD = 1.53; $\alpha = .805$)		.813	.592
I am willing to buy organic vegetables instead of conventional vegetables while shopping	.705		
I intend to purchase organic vegetables in the near future	.824		
I will make an effort to buy organic vegetables in the near future	.775		

Notes: FL – Standardised factor loading; M – Mean; SD – Standard deviation; α – Cronbach's alpha; CR – Composite reliability; AVE – Average variance extracted.

Table 2. Correlations and discriminant validity.

	Environment	Safety	Health	Taste	Media	Barriers	Attitude	Intention
Environment	**.715**							
Safety	.544	**.752**						
Health	.394	.567	**.753**					
Taste	.205	.277	.266	**.775**				
Media	.299	.409	.275	.270	**.722**			
Barriers	.023	.058	.001	.089	−.043	**.721**		
Attitude	.398	.485	.332	.256	.473	−.194	**.801**	
Intention	.285	.382	.256	.149	.409	−.077	.641	**.769**

Note: Diagonal value indicates the square root of AVE of construct.

Discussion and implications

This study endeavours to extend the extant literature by incorporating various facilitators and barriers associated with organic food purchase in an emerging research context, Vietnam. It therefore provides a fascinating comparison with previous research, particularly those

Table 3. Results of hypotheses testing.

Hypotheses	Paths			β	*t*-value	*p*-value	Hypotheses supported
H_1	Environment	→	Attitude	.127	1.702	.089	Rejected
H_2	Safety	→	Attitude	.242	2.463	.014	Accepted
H_3	Health	→	Attitude	.182	2.179	.029	Accepted
H_4	Taste	→	Attitude	.018	.310	.756	Rejected
H_5	Media	→	Attitude	.325	4.650	***	Accepted
H_{6a}	Barriers	→	Attitude	−.127	−2.265	.024	Accepted
H_{6b}	Barriers	→	Intention	−.152	−2.732	.006	Accepted
H_7	Attitude	→	Intention	.741	9.887	***	Accepted

***$p < .001$.

Table 4. Effects of determinants on purchase intention.

			Direct effects	Indirect effects	Total effects
Environment	→	Intention	–	.094	.094
Safety	→	Intention	–	.179	.179
Health	→	Intention	–	.135	.135
Taste	→	Intention	–	.013	.013
Media	→	Intention	–	.241	.241
Barriers	→	Intention	−.152	−.094	−.246
Attitude	→	Intention	.741	–	.741

conducted in Western economies. One striking finding of this study is that young consumers' concern for the environment does not play a significant role in the formation of their attitudes towards organic food. That is, the purchase of organic food is not significantly influenced by altruistic and biospheric motives. This negates the importance of environmental concern in predicting organic food attitudes demonstrated in prior studies in both developed countries (e.g. Smith & Paladino, 2010) and emerging markets (e.g. Yadav & Pathak, 2016). One possible explanation for this finding is that consumers do not fully understand how organic food benefits the environment. According to de Koning et al. (2015), Vietnamese consumers generally indicate a lack of knowledge relating to sustainable consumption.

This study also demonstrates that food taste has no significant influence on attitude about organic food. Whilst this finding contradicts previous research (e.g. Magnusson et al., 2001), it seems to reflect the complexity of organic taste. Hemmerling et al. (2016) suggest that consumers' perceptions of organic taste are influenced by various elements (e.g. preferences for natural flavour, aroma, whole grain, and freshness) that vary across countries (e.g. Germany and Switzerland). Additionally, a study by Fillion and Arazi (2002) reports that consumers perceive no differences between organic and convention food (i.e. milk).

Consistent with previous studies (Michaelidou & Hassan, 2008; Truong et al., 2012), consumers' attitudes about organic food are dependent upon their egoistic motives including food safety concern and health consciousness. These findings appear to reflect young consumers' concern about the negative impact of pesticide use in vegetable production on their health (Hoi et al., 2016). Furthermore, it is evident that increasing health concerns drive consumer demands towards healthier products, such as organic food (Euromonitor International, 2016). Interestingly, media exposure to food messages positively influences consumer attitude. This finding stresses the importance of media channels, especially social media, in disseminating information and facts about food issues to Vietnamese consumers (Euromonitor International, 2016).

Interestingly, consumers' perceived barriers such as high price, insufficient availability, poor labelling and extra time required significantly reduce their attitudes and purchase intentions relating to organic food. Whilst such barriers have been previously identified in the literature (Hughner et al., 2007; Rana & Paul, 2017), this finding partly contradicts the Swiss study which reports that consumers' purchases of organic food are not influenced by either perceived monetary barriers or label issues (Tanner & Kast, 2003). The final finding about the strong relationship between attitude and purchase intention supports previous research on young consumers (Smith & Paladino, 2010; Yazdanpanah & Forouzani, 2015).

The insights gained from this study have several implications for marketers, policymakers and socio-environmental organisations in the design and development of intervention strategies aimed at promoting organic food purchase. First, food topics and issues (e.g. sustainable food consumption, food scandals) should be promoted via mass media (e.g. TV, advertisement, radio) and social media (e.g. Facebook). Second, communication campaigns and education programs should be promulgated as they prove to be effective in influencing the youth's environmental concerns and attitudes (Strong, 1998). Such programs should provide clear and honest information about organic farming method, nutrition facts and environmental benefits associated with organic food. Third, key information relating to the production and consumption of organic food can be delivered through educational events featuring talks by celebrities or experts. Fourth, forming sustainability groups can facilitate organic food discussions and practices among members. Fifth, the government should strengthen legislations relating to organic certification and logos to reduce consumer confusion about organic food labels. Sixth, it might be desirable for organic vegetable growers and traders to form strategic alliances in order to ensure the quality and availability of the products. Finally, retailers should create more convenient and pleasant shopping atmosphere for consumers. Providing more attractive displays and organic sections within stores can assist towards this cause.

Limitations and future research directions

Although the use of student sample has been evident in pro-environmental behaviour research and research associated with young consumer, the sample is not well generalisable to the young population. The non-probability sampling may also limit the generalisability of this study. Future research therefore should take into account young consumers with different demographic profiles such as age, education background, occupation and income. Furthermore, it would be desirable to conduct a longitudinal study examining changes in consumers' attitudes as well as the manner in which their intentions transform into actual purchase behaviour. Given the complexity of consumer behaviour towards organic products, future studies could also test modified models incorporating interrelationships between the antecedents, such as between media exposure and food safety concern. Moreover, some moderating factors such as past behaviour, knowledge, gender and income can be investigated. Finally, there is also a need for conducting a comparative study of organic food purchase and consumption in both developed and developing countries.

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