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The Antecedents Of Brand Love Toward Natural Products: An Approach of S.O.R Theory

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Abstract

Purpose: Natural products are becoming gradually popular because of their health – related benefits and consumers’ environmental awareness. However, research in this field remains limited, the present study attempts to address this research gap by measuring the influencing levels of the antecedents on natural product brand love. **Research design, data and methodology:** The study employs S-O-R (Stimulus – Organism – Response) framework together with Innovation Resistance Theory and Dual-Factor Theory to propose the research model, in which health and environmental stimuli influence both of facilitators and inhibitors of internal states or organism, and then shape purchase intention and brand love as consumers’ responses. The mixed research method is designed with the application of structural equation model (SEM) to analyze 530 consumers collected by convenience sampling. **Results:** The results revealed that two chosen stimuli, including health awareness and environmental concern were positively related to both facilitators (natural content and regional products) and inhibitors (image barrier and usage barrier) and these four factors were significantly associated to purchase intention and brand love. Furthermore, purchase intention played the mediating role on the relationship between the four organisms and brand love. **Conclusions:** The originality of this paper is extend S-O-R theory into natural product context with mediating effects in an emerging economy. The findings make theoretical contribution on consumer behavior and managerial implication.

Keywords : Brand love, natural products, SOR theory, environment concern, health awareness.

JEL Classification Code: E44, F31, F37, G15

1. Introduction^a

The increasing awareness of sustainability issues as well as health awareness enhances consumers’ preference

for natural products. Natural products, such as organic food, natural cosmetics, and natural household items, are discovered and constantly being developed (Kim & Chung, 2011). According to the report released by Allied Market Research (2020), the acceptance of natural products is internationally growing with the expected global sales increase of 13.7% in 2021. Chambers and Castro (2018) defined natural products as those that are minimally processed and free of artificial ingredients, colors, flavors, and additives; whereas, Binninger (2017) depicted them as naturally processed products, encompassing green and organic goods. Furthermore, natural products are considered as organic foods that have been grown, processed, and prepared to meet specific requirements

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(Tandon, Jabeen, Talwar, Sakashita, & Dhir, 2020a; Tandon, Dhir, Kaur, Kushwah, & Salo 2020 b,c). In sum, two typical conditions for natural products are without use of chemical or artificial additives during their production and some ecological advantages (Moscatto & Machin, 2018). As a result, a large number of specialty stores exclusively sell natural brands and some existing retail stores also set more space for these products (Dominick Fullerton, Widmar, & Wang, 2018).

Based on this consuming trend, several research have focused on consumer behavior toward natural products, particularly, factors impacting the adoption, attitude (Dickson-Spillmann, Siegrist, & Keller, 2011), credibility, attractiveness, and quality (Binninger, 2017), perception, learning, motivation and personality (Moscatto & Machin, 2018), brand origin and value for money (Batt & Liu, 2012), stated buying behavior (Tandon et al., 2020 a,b,c) and brand love (Kumar, Dhir, Talwar, Chakraborty, & Kaur, 2021a). However, natural product consumption still remains limited due to small customer segment and usage barriers despite positive conversations and benefits surrounding them (Moscatto & Machin, 2018). To explore underlying reasons as to why natural products are not accepted broadly, analyzing the antecedents of brand love can provide a satisfied answer. Brand love is defined as a series of affective responses, such as passion, attachment, positive evaluation, positive emotions, and declarations of love, toward a brand (Mody & Hanks, 2020). The construct has been explored extensively in various contexts (eg., Bagozzi et al., 2017 and Islam and Rahman, 2016 in fashion/clothing industry; Mody and Hanks, 2020 in hotel industry). Whereas brand love has been a topic of great interest for brand managers and explored extensively in varied other contexts. However, limited academic research has investigated the antecedents of brand love and purchase intention toward natural products, especially in emerging economies. Furthermore, Kumar et al. (2021a, p.2) also asserted, “*Notably, brand love and its antecedents have remained under-explored in the context of natural products so far*”.

To answer this call for further research, this paper aims to measure the influencing levels of the antecedents on natural product brand love in terms of employing S-O-R theory (Stimuli – Organism – Response) by Mehrabian and Russell (1974). Based on this framework, the suggested stimuli (S) or external motivation to consume natural products are health awareness and environmental concern. With reference to dual factor theory, the organism (O) or consumers’ internal state in SOR framework are classified into facilitators and inhibitors. For facilitators, natural content and regional products are chosen due to significant benefits to promote consumers’ buying behavior. According to innovation resistance theory, image barriers

represent for psychological factor and usage barriers for utilitarian factor are employed for inhibitors. Lastly, purchase intention and brand love play the role of response (R). To offer more robust insights into brand love toward natural products, this paper also considers the mediating role of purchase intention to moderate the influencing level of two facilitators (natural content and regional products) and two inhibitors (image barrier and usage barrier) on brand love.

The present paper expects some significant contributions. Firstly, it is the first empirical research to examine consumers’ brand love towards natural products in Vietnam market, an emerging economy in Southeast Asia. Secondly, this study that utilize S-O-R framework together with dual factor theory and innovation resistance theory to explore consumer behavior in natural product consumption helps upgrading the generalization of marketing literature. Thirdly, the investigation of the mediating role of purchase intention as mentioned above may be a novel point of this study. The research results may bring some practical implications for marketers in comprehensive understanding of consumer behavior toward natural products and providing solutions to these issues would help to boost these products consumption. The remainder of the paper is structured as follows with literature review, proposed model, research methodology, data analysis, theoretical and practical implications and recommendations for future research.

2. Literature Review

2.1. Theoretical Background

Stimuli-Organism-Response (SOR) Theory

SOR theory initiated by Mehrabian and Russell (1974) explains holistically emotional, cognitive and affective process of a particular behavior adoption. In SOR paradigm, some external or environmental factors, which affect psychological and physical well-being of individuals, can act as stimuli (S). The stimuli then influence an organism’s internal state (O), which refer to individual perception, feelings, and thoughts and finally lead to positive (approach) or negative (avoidance) behavioral response (R). Various studies have applied SOR framework to illuminate consumers’ purchasing processes (Tandon et al., 2020a, Kumar et al., 2021b), customer engagement (Islam & Rahman, 2017), brand love (Kumar et al., 2021a), and even academic performance (Fu, Chen, & Zheng, 2020) in different contexts, such as organic food (Tandon et al., 2020a), hospitality and tourism (Bigne, Chatzipanagiotou & Ruiz, 2020; Kim, Lee, & Jun, 2020), and in-service encounters (Gupta et al., 2019). This study extends SOR paradigm to investigate the association of two stimuli,

namely, health awareness and environmental concern, with the four organisms including natural content, regional products, value barriers, and usage barriers, and, consequently, with purchase intention and brand love as responses. The reason why this study has chosen health awareness and environmental concerns as stimuli because these two variables can motivate individuals to adopt healthy lifestyles, such as the consumption of natural products or organic food and to raise their perception of sustainability (Moscato & Machin, 2018).

Dual Factor Theory (DFT)

DFT proposed by Herzberg, Mausner, and Snyderman, (1996) argues that any behavioral adoption is influenced by dual factors. Several studies continued to extend this theory to explain consumers’ new product adoption and changing behavior for an existing one in terms of the facilitators and inhibitors (Rey-Moreno & Medina-Molina, 2020). In this study, the facilitators are natural content in natural products and regional products symbolizing a geographical area, and the inhibitors are image barriers and usage barriers.

Innovation Resistance Theory (IRT)

IRT is a common theory exhibiting different barriers that resist consumers’ innovation (Kaur et al., 2020). According to this theory, there are two main kinds of barriers: functional (risk, value & usage) and psychological (image & tradition) (Kushwah, Dhir, & Sagar, 2019). This paper has applied IRT to identify the inhibitors that prevent consumers from buying natural products, including image

and usage barriers. The previous research has proved that an unfavorable impression toward brand, product, or innovation was a significant image barrier to reduce consumers’ perceived value of organic/natural products (Kushwah et al., 2019). Furthermore, difficulty in finding natural products or relevant information and the limited product availability in stores are the major usage barriers (Smith & Paladino, 2010).

2.1. Brand Love

The notion of brand love is derived from the interpersonal theories relevant to a series of affective responses, such as passion, attachment, positive evaluation, positive emotions, and declarations of love, toward a brand (Mody & Hanks, 2020). Carroll and Ahuvia (2006, p.81) define brand love as “the degree of passionate emotional attachment a satisfied consumer has for a particular trade name”. Brand love is composed of three dimensions: passion, intimacy, and commitment. According to Batra Ahuvia, and Bagozzi (2012), the conceptualization of brand love is a positive emotional connection, an intuitive fit between consumer and brand, the integration of the brand into the consumer’s identity, passion-driven behaviors, and the desire for long-term relationship and separation anxiety. Furthermore, Mody and Hanks (2020) have explored that leverage intrapersonal authenticity, existential authenticity, and brand authenticity would create brand love among consumers.

Table 1: Definition of constructs in proposed research model

| SOR framework | Constructs | Definition | Reference |
|--------------------------------|----------------------------|---|--|
| Stimulus (S) | Health awareness (HC) | Consumers’ readiness to make decisions for the betterment of the ir own health. | Bazzani, Capitello, Ricci, Scarpa, & Begalli (2020) |
| | Environmental concern (EC) | Consumers’ concern for environmental protection. | Cruz & Manata (2020) |
| Organism (O) (Facilitators) | Natural content (NC) | The presence of natural elements in products and concern for degree of importance given to the absence of chemical or synthetic additives and genetic manipulation in cultivation and production. | Karcklas, Carlson, & Muehling (2014); Molinillo, Vidal-Branco, & Japutra (2020). |
| | Regional product (RP) | Predominantly local products that may be transported to distant places for consumption | Fernández-Ferrín, Calvo-Turrientes, Bande, Artaraz-Miñón, & Galán-Ladero (2018) |
| Organism (O) (Inhibitors) | Image barriers (IB) | IB arises when any negative association is found between new product/innovation and its existing product line, brand or country of associations. Thus, IB arises when consumers link the image of a new product with its existing heritage. | Kushwah et al. (2019); Ram & Sheth, (1989); Molesworth & Suortti (2002) |
| | Usage barriers (UB) | UB arises when a new product is incongruent with existing user patterns, workflow, and habits, and it could be the main factor for the resistance of the new product. | Kushwah et al. (2019); Ram & Sheth (1989). |
| Response (R) | Purchase intention (PI) | The level of willing which consumers are ready to purchase or accept natural products. | Kushwah et al. (2019) |
| | Brand love (BL) | An emotional and passionate association of consumers with a particular brand or trade. | Carroll & Ahuvia (2006); Kumar et al. (2021a). |

2.3. Research Model and Hypotheses Development

2.3.1 Health Awareness and Facilitators (S1-O1)

Most of scholars believe that health-conscious consumers can be tempted by the benefits of natural products. Two essential motivators that urge consumers to make purchase decisions, are natural content and regional products (Hsu, Chang, & Lin, 2016; Shin & Mattila, 2019). Consumers who are aware of healthcare, are interested in consuming goods with natural ingredients and without chemical additives in their production (Verala & Fiszman, 2013). Such consumers also prefer regional products due to natural conditions, production processes, and used contents (Fernandez-Ferrin et al., 2018; Molinillo et al., 2020).

Thus, the first two hypotheses are proposed as follows:

H1: Health awareness has a positive impact on natural content.

H2: Health awareness has a positive impact on regional product.

2.3.2. Health Awareness and Inhibitors (S1-O2)

With reference to Qasim, Yan, Guo, Saeed, and Ashraf (2019), the higher the self-awareness about personal health, the more such consumers are attracted to symbolic image of products. Hence, they are likely to suspect natural ingredients in a product that may influence their health. This implies that consumers may be restricted by image barriers for natural products. Additionally, consumers also consider usage issues, such as store location, product availability, convenience, and instructions, as compared to the non-natural products (Hsu et al., 2016). Assuming that natural products are relatively new, consumers will encounter some barriers, such as where to purchase and how to use.

H3: Health awareness has a positive impact on image barrier.

H4: Health awareness has a positive impact on usage barrier.

2.3.3. Environmental Concern and Facilitators (S2-O1)

The Worldwide Fund for Nature pointed out that since the 1980s, human needs have exceeded the capacity that the Earth's ecosystem can provide. The depletion of resources and serious environmental pollution have warned people about the importance of environmental protection. From environmental issues, many proposals and measures to improve and protect ecosystems and natural resources have been conducted. Environmental concern encourages consumers to look for and to choose natural product

consumption (Zabkar & Hosta, 2013). Furthermore, previous studies have revealed that environmental concern is the main motivator for natural product acceptance and enhance consumers' perception on natural ingredients and regional product (Moscato & Machin, 2018; Molinillo et al., 2020; Kumar et al., 2021a). Some consumers who support business sustainability have tendency to prioritize locally processed products if the information is easily accessible (Kneafsey, Dowler, Lambie-Mumford, Inman, & Collier, 2013). In light of this view, Lin and Chang (2012) have argued that highly environmentally conscious consumers preferred to consume products with natural content and regional origin.

Therefore, this research proposes the following hypotheses:

H5: Environmental concern has a positive impact on natural content.

H6: Environmental concern has a positive impact on regional product.

2.3.4. Environmental Concern and Inhibitors (S2-O2)

Environmentalists have stated that environment quality is currently degrading and having a dangerous impact on human health. Certainly, consumers are worried about the brand image, attributes, processing location and natural contents of products (Zabkar & Hosta, 2013). Moreover, environmentally concerned consumers pay attention to obstacles in natural product usage that can lead to some barriers of procurement, product coverage, and usability.

Thus, the study hypothesizes the following:

H7: Environmental concern has a positive impact on image barrier.

H8: Environmental concern has a positive impact on usage barrier.

2.3.5. Facilitators of Brand Love (O1-R1)

Prior studies have that natural content has a positive influence on consumers' attitude (Hsu et al., 2016) and that natural factors, as well as transparent origin, can improve brand authenticity that is tightly related to brand love (Chen et al., 2019). The research result from Kumar et al. (2021a, b) has found that consumers' intrinsic state is exhibited by the facilitator, namely, natural content – a promoter of brand love toward natural products. Besides, consumers usually have a positive view of the regional products. With long time and repeated using of regional products, they are likely to evoke emotional engagement with the brand. In other words, regional products can bring

for consumers a familiar sense and a high credibility (Di Vita, Pappalardo, Chinnici, La Via, & D'Amico, 2019).

Thus, the study continues to hypothesize as follows:

H9: Natural content has a positive impact on brand love.

H10: Regional product has a positive impact on brand love.

2.3.6. Inhibitors of Brand Love (O2-R1)

Image barrier, which changes periodically and can spoil overall brand, is found to be negatively associated to customer satisfaction – integrated element of brand love (Kumar et al., 2021a; Huang, Coghlan, & Jin, 2020; Chen, Lu, Gong, & Tang, 2019). In other research, there was some evidences to show that consumers resisted natural product acceptance and usage. Particularly, usage barrier was found to influence on consumer behavior towards natural products (Moscato & Machin, 2018; Kumar et al., 2021a) and towards organic food (Tandon et al., 2020a). Van Esh, Arli, Gheshlaghi, Andonopoulos, Heidt, & Northey (2019) also stated that this usage barrier was negatively related to consumers' attitude toward brand – a dimension of brand love. Huang et al. (2020) demonstrated that usage barrier could harm brand management and overall evaluation on brand.

Hence, we propose two hypotheses regarding to inhibitors:

H11: Image barrier has a negative impact on brand love.

H12: Usage barrier has a negative impact on brand love.

2.3.7. Facilitators of Purchase Intention (O1-R2)

Organic food quality with natural origin is an important factor influencing purchase intention (Nguyen & Le, 2020). According to Moscato and Machin (2018), consumers, especially, mothers, regularly put their trust on natural product since they perceive natural contents as positive personal brand association. Thus, they can make purchase decisions quickly. Furthermore, in order to boost economy development, consumers also support local suppliers, especially farmers. Consumers buy regional products regularly on the purpose of supporting farmers rather than product quality (Memery, Angell, Megicks, & Lindgreen, 2015). Previous research has revealed that local product support has played an important role in purchasing decision. Birch, Memery, and Kanakaratne (2018) have also agreed that beside the freshness, nutritiousness and delicious taste of regional products, the contribution for economy development, and the conservation of traditional village were motivations for consumers' shopping behavior.

Consequently, the following hypotheses are suggested:

H13: Natural content has a positive impact on purchase intention.

H14: Regional product has a positive impact on purchase intention.

2.3.8. Inhibitors of Purchase Intention (O2-R2)

Image barrier is likely to affect new product purchase intention and behavior. In organic food context, consumers with the suspicion or false information on organic foods in the market have perceived negative image of natural contents in the organic foods and ultimately formed barriers from purchase intention and usability (Misra & Singh, 2016). Usage barrier appears as a new product is not complied with habit, work rate and existing consumption module. Consumers often react with the change that disturb their equilibrium. (Ram, 1989). Natural product is basically a new product with changing consuming form. Some prior studies have asserted that appearance limitation of organic foods and instability in product category were the consequence of the change in consumers' personal balance. Particularly, natural product procurement has decreased and unrepeated since consumers lacked information and familiarity when compared with other traditional products.

The next hypotheses are assumed as follows:

H15: Image barrier has a negative impact on purchase intention.

H16: Usage barrier has a negative impact on purchase intention.

2.3.9. Purchase Intention and Brand Love

Mody and Hanks (2020) argue that consumers who are satisfied with certain products/services, could normally accelerate the repurchase behavior and exhibit their higher loyalty toward those particular brands. In other words, positive starting intention leverages customers' engagement, emotional association, and loyalty. Nikhashemi, Jebarajakirthy, & Nusair (2019) also confirm that there exists a positive relationship between positive purchase intention, and emotional associations with brand love.

The last hypothesis is proposed as follows:

H17: Purchase intention has a positive impact on brand love.

2.3.10. Mediating Effect of Purchase Intention

Some empirical research verified the mediating role of purchase intention to control the level of influence of its antecedents on actual buying behavior (Nikhashemi et al., 2019). Kumar et al. (2021b) argue that with the development of marketing literature relevant to natural or organic product consumption with brand love, various evidences were found to confirm the mediating effect of

purchase intention on these relationships. In this case, the mediating role of purchase intention on the relationships among natural content, regional product, image barrier, and usage barrier with natural brand love is examined.

Based on the above research hypotheses and arguments, this study proposes the research model as follows (Figure 1):

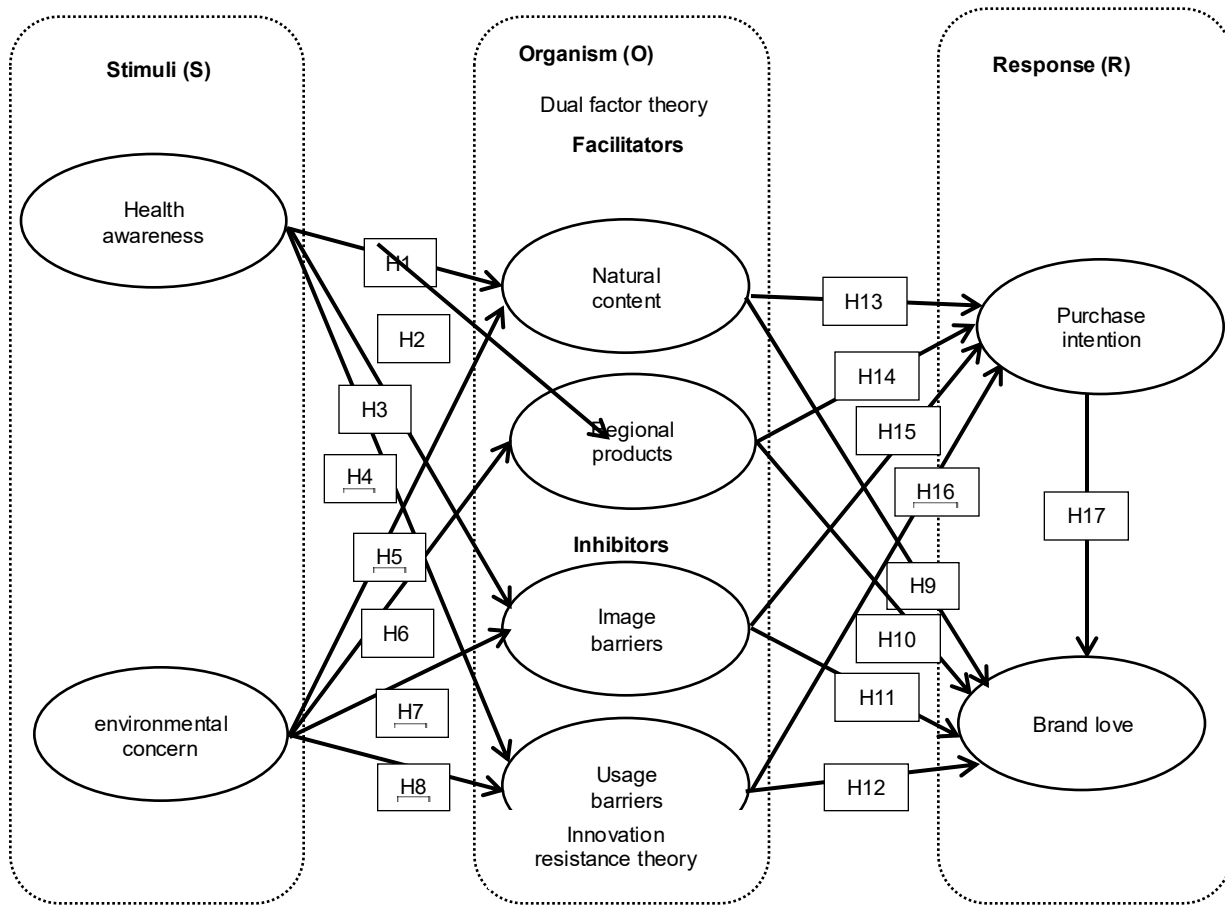


Figure 1: Proposed research mode

3. Research Methodology

3.1. Research design

This study used the mixed research methodology including both qualitative research and quantitative research. The qualitative research used both eight in-depth interviews with managers or business owners, and a focus group with n=10 (participants included 2 students, 6 office staffs, and 2 managers; their ages from 20 to 42; their gender of 5 males

and 5 females; their natural product shopping experience at least one time within 3 months). The qualitative interviews explored and identified constructs and their relationships in the research model as well as findings about opportunities and threats in natural product business. Based on revised questionnaires, the study conducted a quantitative survey by convenient sampling from three sources: (i) surveying directly consumers at classes, shopping centers, cinemas, (ii) sending emails to existing customers lists of supermarkets and shopping centers and (iii) sharing the link Google form

on social media. A sample size of 600 respondents was targeted and a total of 530 questionnaires are completed, with a return rate of 88.3% after deleting invalid and uncompleted answer sheets. Respondents were instructed to think about their favorite natural product brands, recalled the past purchase experience, and answered their purchase intention.

The research sample was quite balanced among gender (female: 55.3% and male: 44.7%). Age group of 26-45 years old accounted for the most with 50.9%; the rest of the groups are 46-60 and above 60 years old with 19.3% and 19.9 %, respectively. Almost 59.7% of respondents had monthly income above VND 10 million and educational level mainly was college and university degree holders (57.4%). Respondents' natural product purchases include: (1) food & drink (82%), (2) cosmetics (67%) and (3) home living & lifestyle (39%).

3.2. Measurement scales

The measurement scales of all constructs in this study were derived from various sources, namely Health awareness from Gould (1988) and Bazzani et al. (2020) with 4 indicators; environmental concern from Cruz and Manata (2020) with 3 indicators; natural content from Molinillo et al. (2020); regional product from Tanner and Wolfing Kast (2003); image barrier and usage barrier from

Kushwah et al. (2019) with 3 indicators for all; purchase intention from Kushwah et al. (2019) with 4 indicators and brand love from Carroll and Ahuvia (2006). All indicators were measured by seven-point likert scales. Before conducting the survey, a focus group was implemented to adjust ambiguous words and to remove or add some statements.

4. Results and Discussion

4.1. Data normalcy and common method bias (CMB)

First of all, data normalcy was tested and the result exhibited that the value of skewness and kurtosis were within the acceptable range of + 3 to - 3. Next, Harman's single-factor test was also done to check whether the data in this study have the common method bias in concurrence with the previous research (e.g. Talwar, Dhir, Kaur, & Mantymaki, 2020). The result indicated that a single factor explained 25.4 % of total variance. This means that the dataset had on common bias issues since the variance is less than the cut-off limit of 50% (Podsakoff, MacKenzie, & Podsakoff, 2012).

Table 2: EFA and Cronbach Alpha results

| Items | Constructs | | | | | | | |
|-------|----------------------|----------------------------|--------------------|-----------------------------|-----------------------|-------------------------|--------------------------|-----------------------|
| | 1 Health aware | 2 Purchase Intention | 3 Brand love | 4 Environment concern | 5 Usage barrier | 6 Natural content | 7 Regional product | 8 Image barrier |
| HC2 | 0.950 | | | | | | | |
| HC3 | 0.950 | | | | | | | |
| HC1 | 0.881 | | | | | | | |
| HC4 | 0.848 | | | | | | | |
| PI3 | | 0.969 | | | | | | |
| PI2 | | 0.928 | | | | | | |
| PI1 | | 0.749 | | | | | | |
| PI4 | | 0.707 | | | | | | |
| BL4 | | | 0.882 | | | | | |
| BL3 | | | 0.839 | | | | | |
| BL2 | | | 0.774 | | | | | |
| BL1 | | | 0.606 | | | | | |
| EC2 | | | | 0.946 | | | | |
| EC1 | | | | 0.906 | | | | |
| EC3 | | | | 0.859 | | | | |
| UB2 | | | | | 0.857 | | | |

| | | | | | | | | |
|-------------------------------------|--------|--------|--------|--------|--------|---------------|--------|--------|
| UB3 | | | | | 0.834 | | | |
| UB1 | | | | | 0.793 | | | |
| NC2 | | | | | | 0.928 | | |
| NC3 | | | | | | 0.870 | | |
| NC1 | | | | | | 0.795 | | |
| RP2 | | | | | | | 0.848 | |
| RP1 | | | | | | | 0.837 | |
| RP3 | | | | | | | 0.746 | |
| IB1 | | | | | | | | 0.864 |
| IB2 | | | | | | | | 0.774 |
| IB3 | | | | | | | | 0.631 |
| Cronbach Alpha | 0.952 | 0.910 | 0.863 | 0.928 | 0.874 | 0.920 | 0.9023 | 0.799 |
| Eigen value | 8.574 | 2.943 | 2.689 | 2.273 | 1.937 | 1.319 | 1.210 | 1.053 |
| Variance extracted (%) | 31.755 | 42.655 | 52.616 | 61.034 | 68.208 | 73.092 | 77.574 | 81.475 |
| Total variance extracted (%) | | | | | | 81.475 | | |

4.2. Testing the scales of constructs by EFA and Cronbach Alpha

After obtaining the data normalcy and common method bias (CMB), the Cronbach alpha reliability was continuously tested and the results asserted that the Cronbach alpha of eight constructs were higher than 0.70 (the lowest was 0.799 and the highest was 0.952), total-item correlations were above 0.30. Thus, the reliability of constructs was obtained (Nunnally, 1978). The research results from exploratory factor analysis indicated that KMO index was 0.869 (above 0.50) and Barlett testing was statistically significant at the level of less than 0.05 to meet the requirement for EFA analysis. EFA result revealed that all the scales of constructs met the requirement the number factors extracted (08 factors were extracted as per proposed research model), the cumulative extracted variance equaled to 81.475 % (above 50%), eigenvalues were more than 1. The loading factors were very high (the highest was PI3= 0.969 and the lowest was BL1 = 0.606) (see Table 1). Therefore, eight constructs in the research model with 27 items were extracted to meet the requirement of convergent validity and discriminant validity (Hair, Wolfinbarger, Bush, & Ortinau, 2010).

4.3. CFA analysis for full measurement model

Eight first-order constructs including health awareness, environmental concern (stimuli), natural content, regional product (facilitators), image barrier, usage barrier (inhibitors), purchase intention and brand love (response) were evaluated in full measurement model by confirmed factor analysis (CFA) with 247 degrees of freedom.

Uni-dimensionality: To improve the good fit for the model, two items with high modification index were deleted one by one (HC01 and PI03). The uni-dimensionality was then satisfied and CFA results proved the good fit model with: Chi-square $\chi^2/df = 677,728$; $d/f = 247$; $p\text{-value} = 0.000$; $CMIN/df = 2.744$ (within 2 to 5); $GFI = 0.910$; $TLI = 0.946$; $CFI = 0.956$ (above 0.9); $RMSEA = 0.057$ (below 0.08); $Hoelter = 223$ (> 200).

Convergent validity was acceptable when both loading factors (standardized estimate) and AVE were greater than 0.50 (Hair et al., 2010). The analysis results showed that all the loading factors were higher than 0.50 (Lowest: VB03 = 0.580 and highest: HC02 = 0.967) and significant the level of 0.50. Therefore, all constructs obtained the convergent validity (see Figure 2).

Composite reliability and average variance extracted: Applying the formula calculating composite reliability ρ_c (Jöreskog, 1971, p.111) and variance extracted ρ_{vc} (Fornell & Larcker, 1981), the results was showed in Table 3. Eight constructs met the requirement of composite reliability (CR) greater than 0.7 and average variance extracted (AVE) greater than 0.5 (50%) except for (Bagozzi & Yi, 1988; Hair et al., 2010).

Discriminant validity: The model has discriminant validity when the correlation between two constructs is less than 1 ($r < 1$) or both AVEs of two constructs are higher than the square correlation

$$\rho_c = \frac{(\sum_{i=1}^p \lambda_i)^2}{(\sum_{i=1}^p \lambda_i)^2 + \sum_{i=1}^p (1 - \lambda_i^2)}$$

$$\rho_{vc} = \frac{\sum_{i=1}^p \lambda_i^2}{\sum_{i=1}^p \lambda_i^2 + \sum_{i=1}^p (1 - \lambda_i^2)}$$

between two constructs (Steenkamp & Van Trijp, 1991). Table 3 indicated that all root square AVEs were higher than the square correlation, the discriminant validity was established.

Table 3: CR, AVE statistics and Correlation matrix (Fornell-Larcker, 1981)

| Constructs | CR | AVE | HC | EC | NC | RP | IB | UB | PI | BL |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Health aware | 0,839 | 0,636 | 0,798 | | | | | | | |
| Environment concern | 0,929 | 0,724 | 0,090 | 0,851 | | | | | | |
| Natural content | 0,922 | 0,722 | 0,515 | 0,126 | 0,850 | | | | | |
| Regional product | 0,752 | 0,671 | 0,492 | 0,161 | 0,605 | 0,801 | | | | |
| Image barrier | 0,696 | 0,439 | 0,287 | 0,196 | 0,377 | 0,497 | 0,663 | | | |
| Usage barrier | 0,875 | 0,706 | 0,211 | -,019 | 0,300 | 0,276 | 0,441 | 0,840 | | |
| Purchase intention | 0,896 | 0,713 | 0,370 | 0,151 | 0,662 | 0,518 | 0,359 | 0,047 | 0,844 | |
| Brand love | 0,888 | 0,737 | 0,368 | -,024 | 0,478 | 0,278 | 0,273 | 0,338 | 0,359 | 0,859 |

Note: The bold scores diagonal are the square root of AVEs of the individual constructs. Non-diagonal values are cross construct squared correlations

Chi-square=677,728; df=247; P=,000; Chi-square/df=2,744; GFI=.910; TLI=.946; CFI=.956; RMSEA=.057

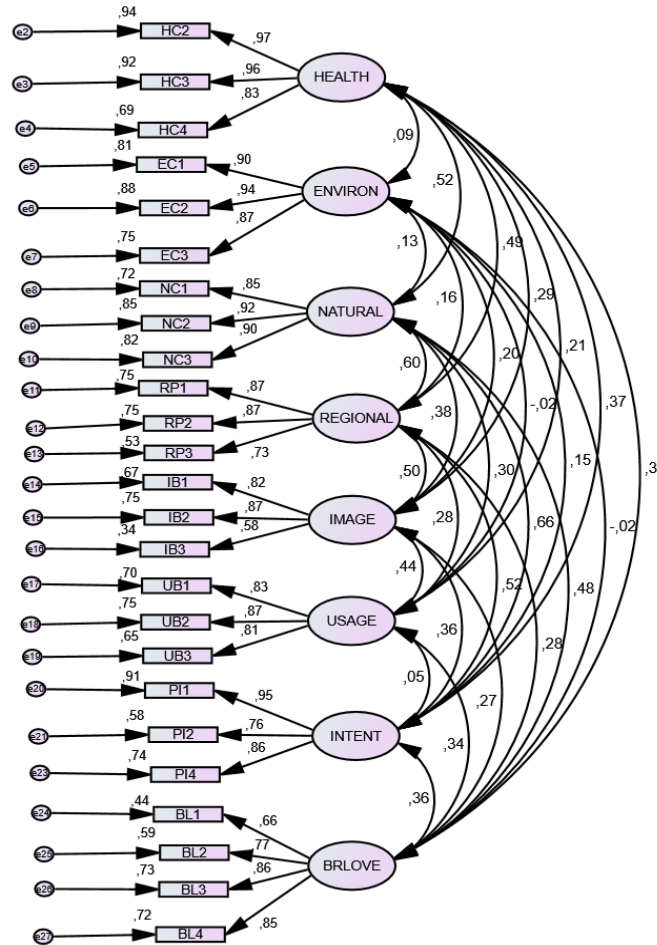


Figure 2: CFA result for full measurement model (Standardized estimate)

4.4. Hypotheses testing by SEM

The paper used a structural equation modeling (SEM) technique to test seventeen proposed hypotheses. The SEM results showed that the model achieved a good fit: Chi-square = 935.375; df = 257; p-value = 0.000; CMIN/df =

3.640; GFI = 0.876; TLI = 0.930; CFI = 0.918; RMSEA = 0.071 (see Figure 3). Estimated results in Table 3 indicated that fourteen out of seventeen hypotheses were statistically significant and supported with p-value < 0.05.

Chi-square= 900.277; df=231; P-value=0.000; Chi-square/df= 3.897
 GFI= 0.887; CFI= 0.944; TLI= 0.934; RMSEA= 0.072.

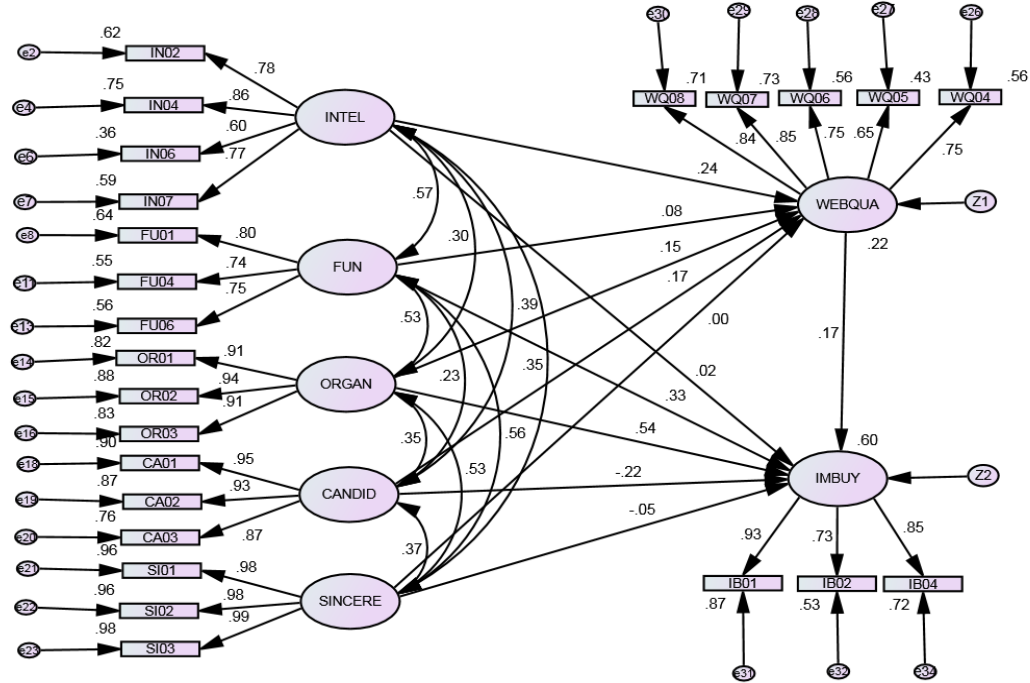


Figure3: SEM analysis result (standardized)

Table 3: Results of hypotheses testing

| Relationships | Est. | S. E | CR | P | Hypotheses |
|--|-------|------|--------|------|----------------------|
| Natural content ← Health awareness | .771 | .065 | 11.951 | *** | H1: Supported |
| Regional product ← Health awareness | .400 | .039 | 10.158 | *** | H2: Supported |
| Image barrier ← Health awareness | .220 | .038 | 5.768 | *** | H3: Supported |
| Usage barrier ← Health awareness | .220 | .045 | 4.857 | *** | H4: Supported |
| Natural content ← Environmental concern | .112 | .055 | 2.050 | .040 | H5: Supported |
| Regional product ← Environmental concern | .093 | .032 | 2.914 | .004 | H6: Supported |
| Image barrier ← Environmental concern | .118 | .033 | 3.521 | *** | H7: Supported |
| Usage barrier ← Environmental concern | -.034 | .041 | -.816 | .415 | H8: rejected |
| Brand love ← Natural content | .285 | .050 | 5.729 | *** | H9: Supported |
| Brand love ← Regional product | -.095 | .072 | -1.321 | .187 | H10: rejected |
| Brand love ← Image barrier | .040 | .076 | .528 | .598 | H11: rejected |
| Brand love ← Usage barrier | .314 | .061 | 5.152 | *** | H12: Supported |
| Purchase intention ← Natural content | .516 | .038 | 13.688 | *** | H13: Supported |
| Purchase intention ← Regional product | .291 | .065 | 4.516 | *** | H14: Supported |
| Purchase intention ← Image barrier | .278 | .069 | 4.022 | *** | H15: Supported |
| Purchase intention ← Usage barrier | -.303 | .052 | -5.779 | *** | H16: Supported |
| Brand love ← Purchase intention | .138 | .059 | 2.343 | .019 | H17: Supported |

4.5. Bootstrapping testing

Furthermore, this research also conducted the durability and reliability of standardized estimates in the research model by bootstrapping with the repeated sample N = 5000 (Efron & Tibshirani, 1993). The results indicated that although there was bias but not so high and acceptable (from – 0.003 to 0.003) and the CR less than 1.96. Thus, it could be concluded that the estimates were reliable.

4.6. Moderating analysis

This study utilized multi-group analysis (MGA) to analyze the moderating effect of gender (male vs. female) on all 17 proposed relationships with unconstrained and fully constrained model. In the unconstrained model, all parameters were freely estimated or unconstrained while in the fully constrained model, all parameters were attributed to be equal between two groups. Null hypothesis was supposed that there was no difference between two models’ Chi-square. The result in table 4 revealed that Chi-dist or p-value was 0,230974504 (above statistically significant level of 0.05) or this meant that Null hypothesis was accepted and invariant model was selected. The finding indicated that gender did not have any statistically significant confounding influence on the 17 proposed relationships in the research model.

Table 4: Difference in model- fit index

| Model comparison | Chi-square | Degree of freedom (df) |
|--------------------------------|-------------|------------------------|
| Unconstrained model | 1242.63 | 514 |
| Fully constrained model | 1253.141 | 522 |
| Difference | 10.511 | 8 |
| Chidist (10.511; 8) or P-value | 0.230974504 | |

4.7. Mediating analysis

The mediating analysis results showed that purchase intention played fully mediated the relationship between regional product and image barrier with brand love (P-value of direct effect = 0.264 and 0.777 greater than 0.05), and exhibited partially mediating role on the relationship between natural content and usage barrier with brand love (Table 5). The finding also indicated that with the contribution of mediating variable of purchase intention, the effect of natural content on brand love raised from 0.348 to 0.435. Similarly, the effect of regional product and

image barrier on brand love increased from – 0.063 and 0.025 to – 0.037 and 0.049. Conversely, the effect of usage barrier on brand love decreased from 0.248 to 0.215 since the beta in indirect effect was negative.

Table 5: Mediating analysis results

| Dependent variables | Purchase intention | | Brand love (Direct effect) | | Brand love (Indirect effect) | | Total effect |
|---------------------|--------------------|---------|----------------------------|---------|------------------------------|---------|--------------|
| | Beta | P-value | Beta | P-value | Beta | P-value | |
| Natural content | .578 | .001 | .348 | .001 | .087 | .023 | .435 |
| Regional product | .179 | .001 | -.063 | .264 | .027 | .014 | -.037 |
| Image barrier | .160 | .001 | .025 | .777 | .024 | .011 | .049 |
| Usage barrier | -.219 | .001 | .248 | .001 | -.033 | .019 | .215 |
| Purchase intention | | | | | .150 | .025 | |

5. Result discussion and implications

5.1 Discussion

As per expectation and the findings of prior studies, health awareness was found to be related to both facilitators and inhibitors in organism at statistically significant level of 95% (H1, H2, H3, H4 were supported) in which natural content had the strongest effect with $\beta = 0.771$. This implies that consumers who are self-conscious about their health, are normally interested in product quality, especially natural ingredients or no chemical additives in some products such as food, cosmetic and households. Furthermore, health awareness leads to supporting actions for traditional hand-made craft village or local specialized products in terms of the purchase for individual consumption as well as recommendation to others. Local or regional products are regarded as good-quality and nutritious since they are grown up or processed based on natural geographical conditions. Besides, promoting natural brand image or enhancing usage such as product availability in nearby location or suitable price are the consequent of health awareness. Thus, these hypotheses are complied with the previous research (eg., Hsu et al, 2016; Fernandez-Ferrin et al, 2018, Tandon et al, 2021; Kumar et al, 2021a).

The results also asserted the links between natural content, regional product and image barrier with environmental concern (H5, H6, H7 were supported). These results mean that those who are concerned about the reducing quality of environment for future generation or worry about waste released, have tendency to support local suppliers and natural products and expect higher image for natural brands. The findings are similar with prior literature

such as Molinillo et al. (2020) and Kumar et al. (2021a). However, H8 which was rejected, indicated that environmental concern was not related to the barrier of usage capacity of natural products.

The supported H9 with the proposed positive relationship between natural content and brand love was lined with Mody et al. (2019) and Kumar et al. (2021a). This argument can be explained that the benefits of natural products such as supplying natural and nutritious ingredients, enhancing the freshness, improving human health, restricting diseases and environment protection, was associated consistently with brand love. H12 (with P-value < 0.05 but positive estimate) was supported but not as expected. However, we may find the following reasons some difficulties, namely, finding natural products, unavailability at nearby stores or high premium price cannot prevent consumers from their brand love towards natural products. This association was also demonstrated by previous studies (e.g. Huang et al, 2020; Van Esch et al, 2019). H10 and H11 was rejected to indicate that regional product and the lack of trust in “natural product labeling and suspicions about the advertisement on “naturalness” in these product may not consumers to get passionate with natural product brand they use and attach to it. However, these relationships need to be examined further in a specific product context such as food or cosmetic.

The supported H13, H14, H15, H16 confirmed the relationships between four factors in organism with purchase intention, in which natural content also had the strongest positive effect with $\beta = + 0,516$. The explanation is similar as mentioned above. The naturalness, freshness of products as well as consumers’ awareness of local supplier supporting urge consumers to purchase natural products in spite of any barriers. Image barrier and purchase intention was positive link while usage barrier and purchase intention was negative. This implies that robust barriers for consumers toward natural products are product unavailability and accessibility. Lastly, the mediating hypotheses (H17) which were supported once again asserted that what started with positive intention would end by attachment, emotional association, loyalty or brand love. The findings may be a significant contribution in this paper since these are new relationships that have been not found in the literature review.

5.2. Implications and limitations

Based on the research findings, some theoretical and managerial implications are suggested as follows:

Theoretical implications

Firstly, this paper may be one of the first empirical research that utilized S.O.R framework together with dual

factor theory and innovation resistance theory to investigate the antecedents of brand love toward natural products in emerging economy in South East Asia. The findings would enhance the generalization of marketing literature and make the concept of brand love more complementary.

Secondly, different from the research by Kumar et al. (2021a), this study proposed one more variable, namely purchase intention, in response in S.O.R framework. Therefore, several new relationships were added and needed to be analyzed by quantitative research. As a result, the study explored positive associations between facilitators (natural content and regional product) and negative associations between inhibitors (image and usage barriers) with purchase intention.

Thirdly, the research result proved that purchase intention mediated partially between natural content and usage barrier with brand love and played fully mediating effect on the relationships between regional product and image barrier with brand love. This finding may be also a significant contribution for marketing literature.

Lastly, the paper applied a mixed research methodology with sequential explanatory design in which qualitative study was conducted first to explore and complement research issues and quantitative research went afterward to examining and analyzing the results. Both of induction and deduction approaches were conducted to make the collected data deeper, more diverse and served for discussion and recommendation.

Managerial implications

The research results provide four managerial implications as follows:

Firstly, due to the importance of the factor “naturalness” in products for health conscious consumers, this study recommends natural product suppliers to focus and enhance brand image, set up broad multiple retail distribution channels, communicate about natural ingredients and regional origin. Particularly, the manufacturers could provide with detailed information on product labels to attract customers’ attention and develop suitable supply chains. The label should be designed with regional signals and geographical map.

Secondly, the manufacturers should focus on communicating the benefits of natural products for environment in terms of integrate marketing communication plan. These activities should emphasize on messages, for instance “Say No with Plastics”, “Save our planet by using eco-friendly products”, or “Action today, safety tomorrow” Besides, marketing managers should enhance wide coverage, availability of natural products and their reliability by environmental purity.

Thirdly, marketing manager should contact some legal

offices to issue some stamps or authorized certificates for natural products. By this way, the brands named “natural product” could win consumers’ truthiness. Additionally, enterprises can consult for local authority to establish a stable criteria list of natural products. Merchandise should also be paid attention by displaying all certificates, stamps and stipulated criteria at natural product stores to catch shoppers’ eyes.

Lastly, with internet development, marketing managers should take advantage of social media to promote natural lifestyle among consumers. Natural consumers reference groups are established more and more on some e-platform such as Facebook, instagram, zalo ... Consequently, digital marketers need a good plan to post in these groups to introduce new natural products, educate or orient consumers natural values and natural lifestyles.

Limitations and further research

The research sampling collected by the convenience method made the representative for total population limited. Future research should overcome this limitation by quota sampling. A wide variety of products was used in this study; a specific product category should be focused separately to see any difference on the purpose of recommending more accurate managerial implications. Lastly, natural products can have more than two antecedents beside health awareness and environmental concern. The coming research should take into consideration others variables, for example, subjective norms, information spurious and so on in various context.

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