

A Systematic Review of 10 Years of Empirical Studies on Organic Food Consumption among Malaysian Consumers

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Abstract

Organic food in Malaysia remains niche despite the positive growth globally due to its positive attributes towards health, safety, and environmental aspects. Numerous researches have been conducted to understand the factors and barriers involved in the consumption of organic food among Malaysians. However, there are still inconclusive findings to understand the scenario as most of the studies were conducted in certain areas in Malaysia. This paper aims to gather and analyze existing literature on the antecedents of organic food consumption among Malaysian consumers. A systematic literature search was carried out using three established databases which resulted in 15 empirical studies in the review. Guided by the Theory of Planned Behaviour, the findings were categorized into the main constructs of the theory. This review provides a comprehensive summary of 10 years' worth of studies on push-pull factors driving organic food consumption among Malaysians and a proposed conceptual framework by extending the Theory of Planned Behaviour. This paper ends with several recommendations that could be useful for policymakers, researchers as well as consumers.

Keywords: consumer, organic food, systematic literature review, theory of planned behaviour, trust

1.0 Introduction

Extensive media coverage on a multitude of food scandals such as high pesticide content levels in fruits and vegetables as well as adulteration of milk products with melamine have driven the urge for consumers to start questioning the safety of the food that they consume. Furthermore, current emerging food technologies involving

genetically-modified organisms and usage of multiple types of artificial food additives by the food industry create a food scare among consumers which eventually drives them to choose organic food that is generally perceived as healthy (Anisimova, 2016; Shafie & Rennie, 2012). Also, organic food is commonly characterized as “natural”, “local”, “fresh”, and “pure” (Chan, 2001; Kongsom & Kongsom, 2016). The positive attributes of organic food are portrayed through its definition in which organic products are products that have been produced, processed, or handled in compliance with organic standards, where it is prohibited to use modern synthetic chemicals such as those in pesticides, fertilizers, and genetically-modified organisms (GMOs) as well as processing techniques using irradiation, industrial solvents, or chemical food additives (Morgera et al., 2012).

Besides, due to globalization and modernization, the organic concept is no longer limited to fresh or unprocessed agricultural products as the scope of organic food production now includes processed agricultural crop and livestock products which permits the inclusion of certain ingredients of non – agricultural origins, which includes food additives and processing aids (Codex Alimentarius Commission, 2013). The evolution of organic food has also resulted in requirements to comply with additional criteria for organic claims outlined by Codex as a means to overcome misconceptions and avoid fraudulent trade in the organic product market. First is "100-Percent Organic", where the food must contain all organically grown ingredients except for added water and salt. Second is "Organic", where any food labeled as “Organic” needs to contain at least 95-percent organic ingredients, except for added water and salt, and cannot contain sulfites which are usually added as preservatives. Third is "Made with Organic Ingredients", where the product has to contain at least 70 percent of organic ingredients, except for added water and salt and the absence of added sulfite. Finally, food products that are made with less than 70 percent organic ingredients may state which ingredients are organic, but manufacturers cannot claim them to be organic.

In terms of demand, organic packaged food and drinks are valued at USD37 billion globally (Euromonitor International, 2017). From the Asian market perspective, China, who is the major player of the organic food industry in the region has also embraced the evolution by venturing into several organic product categories including processed and frozen food, dairy products, cereals, wine, infant formula, and baby food as well as non-food items such as cosmetics

(Chen et al., 2014). As for the Malaysian market, sales of organic food in Malaysia have increased by about 3.7 percent from 2016 to 2017 which is valued approximately at 2.5 million US dollars (Euromonitor International, 2017). In tandem with consumers' positive acceptance and willingness to purchase organic produce at a premium price, many grocery stores especially those in urban areas are starting to reserve sections and aisles for it. For example, it has been observed that several leading supermarkets like Cold Storage, Tesco, Jaya Grocer, and Aeon have set up dedicated sections for organic products in some of their stores. Some pharmacies have also provided separate sections in their stores for organic products. Furthermore, the fact that online purchase is becoming more popular and increasingly accepted by Malaysian consumers nowadays, organic food players have also adopted internet retailing to reach consumers due to the lower cost involved to reach a wider range of consumers.

Nonetheless, although organic food categories and retail outlets are expanding, Malaysia's organic food market remains small (Mohamad et al., 2014; Somasundram et al., 2016) and the proportion of consumers who regularly consume organic food is low even though consumers are relatively interested in consuming organic food products (Omar et al., 2016). This could be relatable to Henryks & Pearson's (2013) finding where they hypothesized that relatively small actual purchase or use of organic food despite positive attitudes towards organic food was due to discrepancies in understanding the actual use of organic food by consumers. Thus, this paper covers studies related to the consumption intention as well as the actual consumption of organic food among Malaysian consumers for a deeper understanding of the potential gaps that arise between these two consumers' behaviours.

2.0 Call for systematic literature review on the antecedents of organic food consumption in Malaysia

Despite the considerable amount of studies on Malaysian consumers' behaviour towards organic food within the past decade, efforts to systematically review these studies are still deficient. The inconsistent findings across the studies also warrant a need to systematically synthesize and summarize existing empirical-evidences of factors and barriers of organic food consumption among Malaysian consumers. Via this approach, multiple stakeholders, including government organizations, non-governmental agencies, producers,

and retailers, may have a broader insight into identifying key areas of concern that might be useful in formulating effective strategies to enhance the organic food sector that ultimately promotes sustainable consumption in Malaysia.

This paper also aims to provide a holistic baseline overview for organic food consumer studies in Malaysia by gathering information and critically assessing relevant research studies, where the findings are then synthesized either qualitatively or quantitatively, which aims to address the following key research questions; “What factors affect organic food consumption among Malaysian consumers?” and “Who is the organic consumer?”. This systematic literature review also helps in justifying the rigorousness of reviewing upon identifying the research gaps and recommending directions for further research (Shaffril et al., 2018).

3.0 Methodology

In this section, the method used to retrieve articles related to organic food consumption among Malaysian adult consumers is discussed. The resources used and steps of the review process which include identification, screening, eligibility, and data analysis are also presented.

The review process was performed in December 2019 which relied on three journal databases. The primary source is the Scopus database as it is one of the largest abstracts and citation databases of peer-reviewed literature with more than 22,800 journals from 5,000 publishers worldwide. Additional databases include Google Scholar and Dimension, which were used to capture any relevant articles that may have not been indexed by Scopus. The combination of these databases allows for comprehensive searches as the primary source offers quality, and the additional databases provide broader coverage for article retrieval.

The systematic review procedure involved four stages. The first stage is the identification process, where related keywords were formed before identifying the articles by using search strings as shown in Table 1, which was developed via phrase searching, Boolean operators, truncation, wild cards, and Field Code function. The search string relies on the identified keywords which are based on pre-determined research questions with support from relevant terms used by previous studies and thesaurus for identification of similar keywords related to organic food consumption and adult Malaysian consumers.

The second stage involves screening the retrieved articles in which they are either selected or removed according to the inclusion and exclusion criteria set by the author (Okoli, 2015). In this article, several criteria were determined. First, only journal articles with empirical data were selected, which means review articles, book series, books, chapters in books, and conference proceedings were all excluded. Second, to avoid any confusion and difficulty in translating, the search excluded non-English publications and focused only on articles published in English. Third, a period of 10 years was selected, namely between the years 2009 and 2019, which was deemed an adequate period to observe the evolution of research and related publications. As the review process focused on organic food consumption among adult consumers, articles indexed in social science-based indexes were selected while articles published in hard science indexes (Science Citation Indexed Expanded) were excluded. Finally, in line with its objective which focuses on Malaysian consumers, only articles focused on Malaysian territories were selected. As a result, out of 1117 articles retrieved, a total of 1075 and two duplicate articles were removed.

Table 1 : Keywords and searching information strategy

Databases	Keywords used
Scopus	TITLE-ABS-KEY ("organic food*" OR "organic product" OR "organic agriculture" AND (consumer* OR buyer* OR customer* OR purchaser* OR user*) AND (factor* OR antecedent* OR reason* OR determinant*) AND (adult* OR "grown-up" OR m*n OR wom*n OR male* OR female*))
Dimension	((("organic food*" OR "organic product" OR "organic agriculture") AND (consumer* OR buyer* OR customer* OR purchaser* OR user*) AND (factor* OR antecedent* OR reason* OR determinant*) AND (adult OR "grown-up" OR m*n OR wom*n OR male* OR female*))
Google Scholar	allintitle: ("organic food" OR "organic product" OR "organic agriculture") (consumer OR buyer OR customer OR purchaser OR user)

The third stage is eligibility where the remaining articles from the screening process were assessed manually to decide whether to keep or remove the articles according to the determined criteria. A total of 25 articles were omitted after careful review as some did not focus on factors influencing organic food consumption, instead the focus were more on organic farming and production. Also, some of those articles

were not empirical articles. As a result, 15 articles were eligible to be retained where the findings of all these articles were reviewed and analysed qualitatively. The summary of steps involved in this systematic review is illustrated in Figure 1.

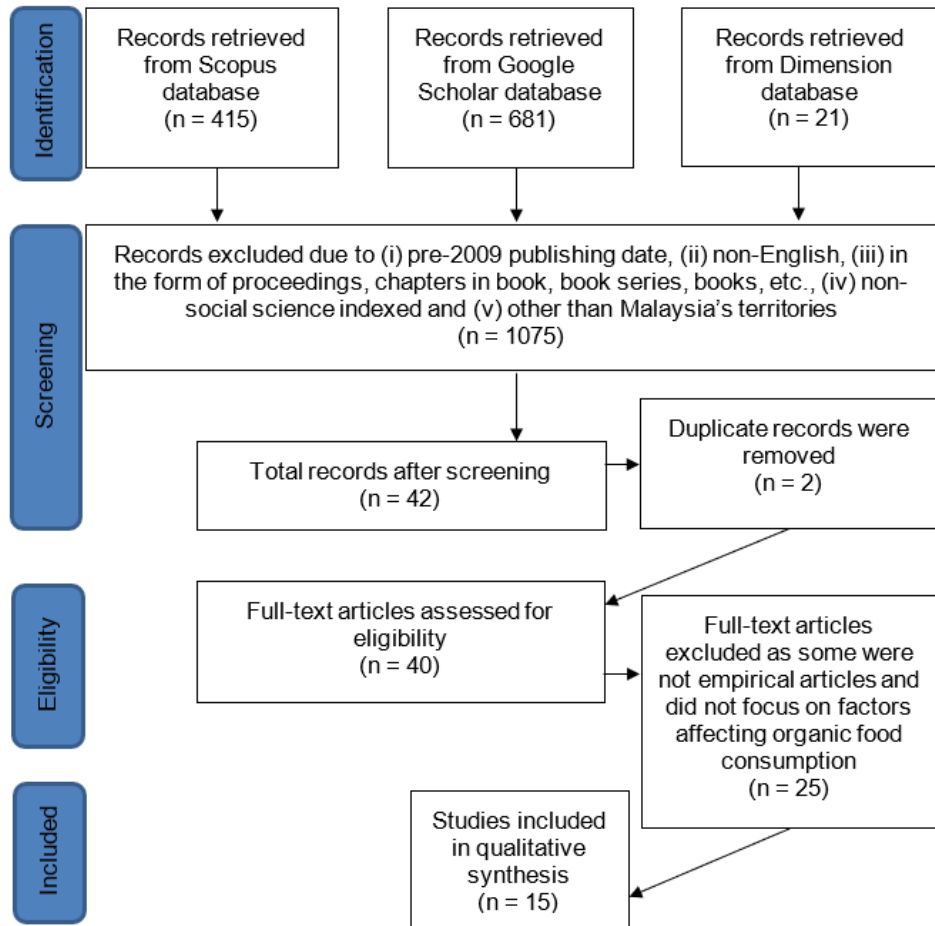


Figure 1 : The flow diagram of the study
(Adapted from Moher et al., 2009)

4.0 Results and Discussion

This review gives insights to current behavioural consumption of organic food as well as three main themes related to factors influencing organic food consumption behaviour among adult Malaysians as guided by the Theory of Planned Behaviour (TPB) which has been widely used especially in consumers' food decision making and consumption.

The results provide a comprehensive analysis of the 10 years of studies related to organic food consumption across Malaysia, particularly those based on fifteen (15) empirical local studies, where ten (10) studies were conducted focusing on the Central zone of Malaysia especially around Klang Valley and Selangor areas (Hasanov & Khalid, 2015; Ibitoye et al., 2014; Kai et al., 2013; Leong & Paim, 2015; Lim et al., 2014; Mohamad et al., 2014; Saleki et al., 2019; Siwar et al., 2019; Song, 2017; Wong & Aini, 2017), two (2) studies in Penang (Quah & Tan, 2009a; Quah & Tan, 2009b), as well as two (2) in Sarawak (Ho, 2009; Voon et al., 2011). Apart from the aforementioned, only one (1) study had been conducted across Malaysia which covers 11 states of Malaysia (Kuala Lumpur, Selangor, Negeri Sembilan, Johor, Perak, Penang, Kedah, Pahang, Terengganu, Sabah, and Sarawak) by Song et al. (2016). In terms of study design, only one of the reviewed studies (Lim et al., 2014) applied a qualitative approach while the remaining fourteen (14) studies used quantitative analytics methods. In terms of the year published, two (2) articles were published in 2019, two (2) in 2017, one (1) in 2016, two (2) in 2015, three (3) in 2014, one (1) in both 2013 and 2011, as well as three (3) remaining articles in 2009. The summary of the 15 reviewed articles is shown in Table 2.

4.1 Organic food consumption behaviour among Malaysian consumers

According to a survey conducted by Wong & Aini (2017) in Klang Valley, the most purchased organic food types by Malaysian consumers were organic fruits and vegetables (78 percent of respondents), followed by organic meat (45 percent of respondents), supplements, and beverages. Similarly, Mohamad et al. (2014) who surveyed consumers in Shah Alam and Subang Jaya reported that most organic consumers bought organic fruits and vegetables, followed by bread and cereals, and then organic meat and poultry. On the other hand, Ibitoye et al. (2014) revealed that the intention to consume organic rice among Malaysian consumers was about 64 percent only even though awareness towards organic rice was relatively high (85.5 percent). This shows that acceptance of organic food products in Malaysia is no longer restricted to fresh agriculture products, but instead the demand for organic food has been extended to multiple food groups including processed food.

A similar trend is found in China, who is a major player in the organic food industry, where McCarthy (2015), who studied the possible opportunities and challenges of Australian exporters in venturing into the organic food business in China, stated that the diverse organic food groups available in China such as milk and dairy, meat, prepackaged goods including ready meals, snack food, breakfast cereals, and bread and bakery products provide potential opportunities for Australian organic food producers. Also, highlighting the health and safety benefits of Australian organic products would be useful to penetrate the market in light of the low local consumers' trust in the domestic food system (McCarthy, 2015). Most importantly, despite having established standards and regulation in governing the sales of organic food, Chinese consumers especially those who possess high-risk perceptions in terms of food safety were reluctant to trust the Chinese organic certification label as they have doubts about the compliance of such products to the standards (Wu et al., 2014). In a nutshell, consumers' trust on organic food claims or labels is essential in shaping its relevancy in the market

Table 2 : The findings

Author (s), Location	Study Design	ATT			SN	PBC		Other (s)	Behaviour	
		FSC	HC	EC		CS	CV		IN	AC
Saleki et al. (2019), Klang Valley	QT			√		√		√ SI, MN	√	√
Siwar et al. (2019), KL and Selangor	QT		√		√	√	√		√	√
Wong and Aini (2017), Klang Valley	QT	√	√		√	√		√ QU	√	
Song Bee Lian (2017), KL and Selangor	QT							√ OL, CM	√	√
Song et al. (2016), 11 states of Malaysia	QT		√	√			√			√
Hasanov and Khalid (2015), Klang Valley	QT							√ WQ	√	√
Leong and Paim (2015), Klang Valley	QT			√			√	√ KN, AW, PA, MA	√	√
Mohamad et al. (2014), Shah Alam and Subang Jaya	QT				√				√	
Lim et al. (2014), Klang Valley	QL		√						√	
Ibitoye et al. (2014), Klang Valley	QT								√	
Kai et al. (2013), Klang Valley	QT		√	√		√	√		√	
Voon et al. (2011), Kuching, Sarawak	QT		√	√	√				√	
Voon Boo Ho (2009), Sarawak	QT					√			√	√
Quah and Tan (2009a), Penang	QT	√	√						√	√
Quah and Tan (2009b), Penang	QT	√	√			√	√		√	√

Notes

AC = Actual
ATT = Attitude
AW = Awareness
CM = Communication

CS = Cost
CV = Convenience

EC = Environmental Concern
FSC = Food Safety Concern
HC = Health Concern
IN = Intention

KN = Knowledge
MA = Media & Advertisement

MN = Moral Norm
OL = Organic Labelling
PA = Product Attributes
PBC = Perceived Behavioural
Control

QL = Qualitative
QT = Quantitative

QU = Quality
SI = Self-Identity
SN = Subjective Norm
WQ = Website Quality

The credence characteristic of organic food where the positive claims associated with organic food such as safe, free from chemical pesticides, free from genetically modified organisms (GMOs), etc. are hard to be verified at the point of buying. Reliable certification and labeling are crucial to acquire consumers' confidence on the credence attributes. Recent studies among consumers in China and Thailand by Ayyub et al. (2018) and Nuttavuthisit & Thøgersen (2017) respectively revealed that the intention of consumers to consume organic food products is relatively high, but distrust on certification bodies and organic labels have discouraged actual consumption. This could explain the scenario happening in Malaysia where the consumption of organic food remains small despite the high intention among consumers to do so (Somasundram et al., 2016).

The low consumption of organic food is aligned with findings from Hasanov & Khalid (2015) who reported that only 40.5 percent of the 340 respondents purchased organic food at least once or twice a month and most of them spent between RM31 and RM100 per month on organic food. Besides, they also reported that only 2.3 percent of respondents bought organic food from online shopping websites while the remaining 97.7 percent of respondents purchased organic food products from traditional means such as supermarkets or convenience stores. The offline channel is preferable as consumers can evaluate the quality and genuineness of the product beforehand to ensure that it is commensurate with the price premium that they will be paying for the credence goods.

Nevertheless, to better examine the level of organic food consumption in Malaysia, more studies measuring the actual consumption is required. Based on the review, most of the articles studied up to consumers' behavioural intention while only nine (9) articles covered on the actual behaviour (see Table 2).

4.2 Factors influencing organic food consumption behaviour among Malaysian consumers

The review leads to four (4) main themes related to factors of organic food consumption. Three (3) main themes are developed following the exogenous constructs of the TPB, namely attitude (3 sub-themes), subjective norm, and perceived behavioural control (2 sub-themes). Other factors than the major construct of the TPB are also included and are grouped as "additional factors".

4.2.1 Attitude

The majority of local researchers have studied the influence of consumers' attitudes towards organic food on their organic food consumption behaviour. In this review, 10 out of 15 papers have included attitude as one of the main factors that drive consumers to choose organic food over conventional ones. Majority of the studies also incorporated items related to food safety, health, and environmental concerns to measure the attitudinal construct. As a result, three (3) sub-themes or components namely food safety concern, health concern, and environmental concern are formed.

First, consumers' risk perception on food safety especially on the usage of chemical pesticides and fertilizers in conventionally grown agriculture-based products drive the positive attitude towards organic food. As such, Lim et al. (2014) who did an in-depth interview among 15 respondents in selected shopping malls around Klang Valley found that consumers expected organic food to have been produced in a toxic-free manner, free from radiation as well hazardous chemical substances such as fertilizers and pesticides. Similarly, Quah and Tan (2009a) revealed that there was a 17.1 percent increase in probability of organic food purchase for consumers who were concerned with the negative health impacts resulting from the usage of chemical additives in food rather than ones who did not possess those concerns.

Second, consumers who have interest towards organic food consumption are likely to be concerned about the health benefits of the food that they consume. This is illustrated by findings from studies conducted by Lim et al. (2014) and Ho (2009) who reported that consumers perceived organic food products as a healthy food choice as it is more nutritious compared to conventional food. Furthermore, health consciousness is the strongest motivation for organic food consumption among Malaysian consumers, following a recent finding by Siwar et al. (2019) where they ranked health concerns as the first predictor of willingness to purchase organic food. Additionally, they also reported that consumers who consumed health supplements regularly were more likely to choose organic food over conventional food. Their finding is consistent with an earlier study by Quah and Tan (2009a) who indicated that the probability to purchase organic food was 23.8 percent higher for consumers who consumed vitamins and mineral supplements compared to those who did not.

On the contrary, Voon et al. (2011) who studied on the actual purchase of organic food among Sarawakians, found that there was a

negative correlation between health concerns and actual purchase of organic food. This finding was explained by them in which health concerns would be reduced after consuming organic food as consumers are assured that they have acted responsibly in choosing food products. Besides, the role of health concerns in driving organic food consumption among consumers may differ for certain types of organic food. For instance, Wong and Aini (2017), who investigated organic meat consumption among consumers in Klang Valley, found that the consumer was more concerned about the food safety and meat characteristic rather than health benefits when deciding to purchase organic meat.

Environmental concerns, particularly on the impact of agricultural activities which contribute to water and soil pollution due to pesticide residue, also leads consumers to choose organically-grown food compared to conventionally-produced ones. Consumers view organic food consumption as one of the responsible acts that they could do to reduce environmental pollution according to the survey conducted by Leong and Paim (2015) among 410 university students in Kuala Lumpur. Likewise, Kai et al. (2013) also reported that the willingness to pay for organic food among surveyed consumers in Klang Valley was influenced by their environmental attitudes as the consumers agreed that organic products were more environmental-friendly, which is also in agreement with recent findings by Saleki et al. (2019). Additionally, Lim et al. (2014) revealed that consumers placed high priorities on the overall value of organic food products, including environmental friendliness, ecology, and protection of animal welfare.

4.2.2 Subjective norm

The trend of consuming organic food among Malaysian consumers is very much influenced by the information received by them. As for organic food, consumers are generally informed through information from people around them, including family and friends, internet, mass media (television and radio), and printed media (newspapers, magazines, and books). Nevertheless, it has been reported that word of mouth, particularly from friends and family members, appeared to be the most significant source for organic food information which influenced consumers' behaviour towards consuming organic food (Lim et al., 2014; Wong & Aini, 2017). Furthermore, an earlier study by Voon et al. (2011) found a significant impact of subjective norms on willingness to pay for organic food

among Malaysians, and explained that the finding was related to the fact that Malaysian consumers were characterized as a highly collectivist society where others' advice and opinions particularly from those who they hold high regard for, influenced their decisions.

On the contrary, a recent study by Siwar et al. (2019) had removed the influence of family members when measuring the effect of subjective norms towards the willingness to purchase organic food due to its low factor loading and retained the items which reflect the influence of friends, media, and government. They indicated that this finding could be related to decreasing family bonding in Malaysian culture. Nevertheless, their argument could not be generalized to represent the Malaysian scenario wholly as their sampling was only limited to several cities around Federal Territory of Kuala Lumpur and Putrajaya as well as Selangor. Instead, their finding perhaps is more related to the demographic characteristic of their study's respondents, who were residing in urban areas where decisions on choosing organic food among urban respondents are likely dependent on individual initiatives which are more influenced by information sourced from social media or digital platforms rather than word from family members particularly on food quality as suggested by Fathelrahman & Basarir (2018).

4.2.3 Perceived Behavioural Control

Perceived Behavioural Control (PBC) refers to people's own perception regarding their ability to perform a given behaviour. It is determined by one's belief about the existence of influences that can promote or hinder his or her behaviour. The majority of the studies included in this review measured Perceived Behavioural Control towards organic food consumption through items reflecting price, availability, and affordability. Thus, the findings are summarized by grouping the factors related to PBC into two sub-themes, namely cost and convenience.

The premium price of organic food is commonly known as the main barrier for consumers to include organic food in their diet. This has been established by studies conducted quantitatively and qualitatively by Kai et al. (2013) and Ho (2009) respectively. In fact, Quah and Tan (2009a) indicated that the likelihood of organic food purchases decreased by 16.9 percent for consumers who were sensitive to price. Similar observations were recorded by recent studies from Wong and Aini (2017) who found that the high price of organic

food discouraged consumers' intention to purchase organic meat, as well as Saleki et al. (2019) who reported that the strength of the relationship between purchase intention and purchase behaviour decreased when price-consciousness moderated the relationship. Following that, Siwar et al. (2019) confirmed affordability as an influential factor on willingness to purchase for organic food. On the same note, Song et al. (2016) have recommended the importance of lowering the price of organic food in order to reduce the dependency on imported organic food as well as increase the consumption of locally made organic food when they found that there was no significant association between price and consumers' perceived value of organic food.

However, some studies have reported differently on factors related to price and affordability of organic food among Malaysian consumers. For instance, findings from Voon et al. (2011) contradict the Theory of Planned Behaviour (TPB) where they found that affordability as a subset of PBC had no significant impact on willingness to purchase organic food among Malaysian consumers. Their reason on this finding was that Malaysian consumers were more likely to rationalize the higher cost of consumption as a premium paid for the benefits and desirable attributes of organic food. They also suggested that a lower price of organic food may result in losing the differentiating feature of organic food and appeal among consumers. Similarly, Lim et al. (2014) found an interesting observation where consumers were willing to pay a premium price for organic food in exchange for a higher chance of maintaining good health status. This is also in agreement with an earlier finding by Mohamad et al. (2014) where about 69 percent of the surveyed respondents in Klang Valley reported that they did not mind paying the premium price of organic food. These findings were probably due to the fact that consumers are likely to perceive cheaper organic food products as lower quality and containing fewer benefits as suggested by Hughner et al. (2007) who studied the relationship between cost and organic food consumption. This indicates that reducing the price of organic food may not be the only solution to increase local consumption of organic food.

The study by Wong and Aini (2017) who did a survey among 400 consumers with an average age of 35 years in Klang Valley regarding the consumption of organic meat, revealed that the perceived behavioural control, specifically in terms of availability and ease of getting organic meat was the strongest predictor of organic

food consumption compared to subjective norm, price, and meat characteristics. They also concluded that daily consumption of organic meat could be increased if it was made more accessible and available. This finding is in agreement with the study by Lim et al. (2014) where they found that the majority of the respondents preferred to have more organic food products available in their neighbourhood mini-markets as organic food products are usually only available at supermarkets that are far from their homes. In fact, the respondents have also highlighted on the establishment that limits the sale of organic food in wet markets due to hygiene and cleanliness concerns. Besides, Leong and Paim (2015) observed that the awareness of an individual towards organic food may not necessarily lead them to consume organic food, especially among the younger generation. The reason behind it was that young consumers found conventional food to be easier to get compared to organic food. Similarly, recent findings by Siwar et al. (2019) established that the convenience of getting organic food had positively impacted consumers' willingness to purchase organic food.

4.2.4 Additional Factors

Apart from the main factors of organic food consumption discussed from the lens of TPB, several studies have also studied about other influential factors. These factors are grouped under one theme known as additional factors.

Lim et al. (2014) reported that the taste of organic food discouraged consumption of organic food. They found that consumers find organic food to be tasteless or had a weird taste. Besides, Saleki et al. (2019) found that there was a significant relationship between moral norms and purchase intention of organic food. They measured moral norms through the consumers' consideration on the impact of organic food consumption towards their health as well as their family's health, the environment, and on animal welfare. Saleki et al. (2019) further noted that self-identity, particularly in terms of environmental awareness, was also a good predictor of consumers' intention to consume organic food.

Next, Kai et al. (2013) emphasized the importance of organic food labelling as it possessed a significant impact on the willingness to purchase organic food at a premium price. This is in accordance with an earlier study by Ho (2009) who reported that consumers were expecting organic food products to be authentic by relying on the truthfulness of organic certifications. However, according to Quah and

Tan (2009b) as organic certification is not mandatory in Malaysia, consumers tend to place their trust on the word of organic suppliers. In fact, Song (2017) reported that our local organic certification is less effective in strengthening consumers' attitude towards buying organic food.

Furthermore, Wong and Aini (2017) highlighted that most local organic meats were sold loosely by producers or retailers directly to consumers without proper organic labelling and certification. In fact, according to Voon et al. (2011), producers or importers can label a food product as organic even when it is not, as organic food labelling in Malaysia is not strictly regulated. They also highlighted that this could create distrust among consumers on organic food products. On the same note, Song et al. (2016) suggested that trust on organic food authenticity could be done by including organic food certification logos as well as information on country of origin and nutritional contents on the packaging of organic food. Nevertheless, none of these studies have measured empirically on the effect of trust on organic food labelling and certification towards organic food consumption behaviour among Malaysians.

4.3 Who is the organic food consumer?

Several studies have been conducted to understand the profile of organic consumers particularly in terms of sociodemographic characteristics which include ethnicity, income level, education level, age, gender, and presence of children in the household.

The consumption of organic food is more commonly found among female consumers compared to males. This has been shown in previous studies by Quah and Tan (2009a) and supported by the finding from Song et al. (2016), who did a survey involving 430 consumers aged 18 and above in 11 states of Malaysia (Kuala Lumpur, Selangor, Negeri Sembilan, Johor, Penang, Kedah, Pahang, Terengganu, Sabah, and Sarawak).

Also, the study by Quah and Tan (2009b) revealed that the likelihood to buy organic food was different across ethnicities, where Chinese consumers possessed a higher probability compared to Malay and Indian consumers. They also managed to profile the consumers based on ethnicity and specific determinant factors through the Heckman sample analysis technique. For instance, Chinese consumers who were more likely to buy organic food possessed concerns on the presence of food additives and consumed health

supplement regularly, whereas Malay consumers were driven by similar factors added with the presence of close family members or friends with chronic illnesses and those who were not sensitive to the price and availability of organic food. On the other hand, only one factor could be associated with the likelihood of buying organic food among Indian consumers, which was the regular consumption of health supplements. Similarly, Song et al. (2016) also reported that consumers of organic food in Malaysia tend to be Chinese.

Following the above, organic food consumers were also reported to be among older people (Mohamad et al., 2014; Song et al., 2016) as they were more concerned about their food consumption which may affect their health status. An earlier study by Quah & Tan (2009a) has also reported that organic food purchase was dominated by older consumers compared to younger consumers aged 20 to 30 years. However, it does not necessarily mean that the older the consumer, the higher the probability of organic food consumption. This is shown by finding from another study by Quah and Tan (2009a) who also found that the likelihood of purchase of organic food significantly reduced for consumers who are aged 57 years and above which could explain the fact that this age group of consumers spend lower for conditional expenditures.

As organic food is commonly associated with premium-priced food products, the majority of organic consumers in Malaysia were reported to be from higher-income groups (Lim et al., 2014; Quah & Tan, 2009a). Additionally, Lim et al. (2014) stated that the premium price was not an issue among middle-income to high-income households, specifically those with incomes of more than RM 5000 per month. They also explored that consumers in low-income households would consider buying organic food if the price was lowered or if they were convinced that the benefits of organic food are worth paying for. An increase in income level could increase the organic food consumption among Malaysians, in line with the prediction made by Quah and Tan (2009a) who reported that an increase of RM 1,000 of monthly income of individual would result in an increase of 6 percent in probability of an individual to expend on organic food products. Furthermore, they also found that there was an increase by RM14.03 of expenditure for every additional child of a parent who consumed organic food even though there was no significant association between the number of children and the probability of organic food purchase.

Lastly, there is a contradiction in findings by previous studies on the role of education level in organic food consumption. Ho (2009) who did a survey in Sarawak found that the consumers' attitude towards organic food products were influenced by education level while Quah and Tan (2009b) found that education level had no significant role in organic food purchase decision among consumers in Penang across all ethnic groups which include Chinese, Malays, and Indians. Thus, it is important to note that promoting organic food consumption to a particular group of consumers with a higher education level only may not be effective. Perhaps, reaching out to a wider coverage of promotion which includes consumers with low to high range of education level would improve organic food consumption among Malaysian consumers.

5.0 Conclusion and Recommendations

Over a decade, most of the studies were conducted in certain areas of Malaysia except for the study by Song et al. (2016) who included 11 major states of Malaysia in their data sampling. Previous studies have established common factors related to the Theory of Planned Behaviour in influencing organic food consumption in Malaysia. Besides, several studies have highlighted the importance of trust on organic food labelling and certification in shaping the consumers' confidence on organic food consumption. However, none of the research addresses how and how much trust influences consumers' decision-making for organic food consumption empirically. Further research should integrate this factor in a comprehensive behaviour-theoretical framework as shown in the proposed conceptual framework as illustrated in Figure 2. Besides, more qualitative or mixed-method studies are needed as it offers an in-depth analysis and detailed explanation about the push and pull factors of organic food consumption in Malaysia which may be beneficial for developing strategic initiatives and interventions in promoting sustainable consumption through organic food intake among Malaysians.

The proposed conceptual framework is designed to extend the existing work by incorporating a new standalone construct known as trust on food labelling and certification within the well-established constructs of the original TPB model. Its addition is mainly due to the non-existence of empirical evidence on its role in shaping organic food consumption, particularly in the context of Malaysian consumers. Nevertheless, other aforementioned additional constructs are not

included in the proposed conceptual model for example the self-identify construct as more in-depth studies are needed to validate those constructs. Also, the sociodemographic characteristics construct is not included as a means to avoid model complexity with possible multicollinearity since several sub-factors such as income, level of education, gender, marriage status, etc. need be tested together to better examine the impact of sociodemographic characteristics toward consumers' consumption of organic food. Instead, future research could use such information for consumer profiling using cross tabular data techniques to have better insights on the possible unique characteristics between different group of consumers based on their frequency of organic food consumption.

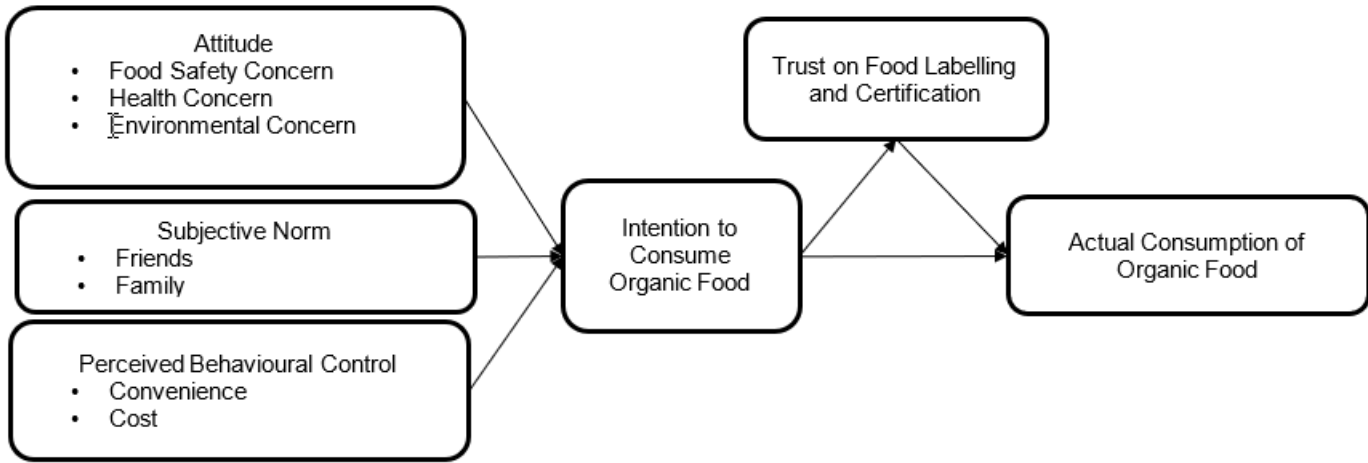


Figure 2 : Proposed conceptual framework

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