MODELLING THE SUSTAINABLE CHOICES: THE INFLUENCE OF LABELS AND ATTITUDES ON CONSUMER PURCHASE INTENTIONS OF ORGANIC FOOD

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ABSTRACT

Examining the influence of labelling on organic food purchase intention is essential, as labelling plays a critical role in shaping consumer perceptions and influencing purchasing decisions. This study specifically investigates the effect of labelling on organic food packaging and its influence on purchase intention. To achieve this, a non-contrived, cross-sectional correlational study was conducted, yielding 415 valid responses. The findings indicate that personal attitudes strongly influence purchase intention. Satisfaction with existing labelling positively impacts both personal attitudes and purchase intention, while a desire for more labelling negatively affects personal attitudes and purchase intention. Additionally, personal attitude mediates the relationship between satisfaction with labelling, the desire for more labelling, and purchase intention. These results provide valuable insights for marketers, organic food retailers, and producers to refine labelling strategies and develop more effective marketing communication plans to better influence consumer behaviour toward organic food products.

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1. INTRODUCTION

Given the global environmental degradation driven by conventional food consumption and rising demand, the shift toward sustainable food practices, such as organic food, represents a proactive response to this issue by encouraging more sustainable consumer choices (Stanley Nwobodo et al., 2024). In recent years, growing consumer concern for personal well-being and lifestyle has led to a notable rise in the demand for organic products (Aziz et al., 2020). The shift is reflected in the increasing number of individuals seeking alternatives to conventional products as they become more conscious of environmental sustainability and personal health (do Prado & Moraes, 2020). Indeed, consumers turn to organic products not only to fulfil their functional needs but also to express their identities and core values associated with environmental consciousness (Du et al., 2017).

In addition, the growing emphasis on sustainability and environmental awareness in society has given rise to a new consumer group known as green consumers (Auroomooga Putten & Nair, 2019). This has fostered a favourable outlook for the organic food market, primarily driven by the recognised health benefits and perceived superior quality of organic products, which are free from harmful chemicals and synthetic additives (Cachero-Martínez, 2020; Stanley Nwobodo et al., 2024). Moreover, factors such as concerns for environmental sustainability, personal health priorities, and desire for self-expression through consumption choices also contribute to the shift toward organic food and sustainable gastronomic behaviour (Cachero-Martínez, 2020; Du et al., 2017). Considering the importance of organic food for health reasons and sustainability, understanding consumer behaviour is essential for marketers and producers to effectively influence the purchase of organic products and strengthen the product's market position (Abu Bakar et al., 2021; Adawiyah et al., 2021).

However, research on organic food purchase intention and behaviour within the Malaysian context has predominantly concentrated on factors such as knowledge, personal beliefs, social influences, and autonomy (Auroomooga Putten & Nair, 2019; Lian, 2017; Mohd Suki, 2018; Saleki et al., 2019; Stanley Nwobodo et al., 2024). Despite labelling being a crucial communication tool that significantly influences consumer behaviour and decision-making, there is a notable gap in empirical studies examining its impact on purchase intention in Malaysia. While many marketing strategies occur outside the purchase environment, labelling is the final persuasive element that directly affects consumer choices at the point of purchase (Aitken et al., 2020). Indeed, product labelling is vital in helping consumers identify which products best meet their needs (Shahrin et al., 2017). Therefore, examining how labelling on organic food packaging affects purchase intention is important (Aitken et al., 2020; Moreira et al., 2021).

In the context of the study, to better understand the impact of labelling on purchase intention, the study investigates labelling from two perspectives, namely, satisfaction with existing labels and desire for more detailed labelling. Satisfaction with existing labels suggests that consumers find the provided information sufficient and trustworthy, making it easier to make informed choices. On the other hand, a desire for more detailed labelling points to a perceived gap, where consumers feel that the current labels need to provide more information to identify organic products confidently. This perceived lack of transparency can undermine consumer trust and reduce the

likelihood of purchase. As Aitken et al. (2020) suggest, labelling plays a pivotal role in shaping consumer attitudes, and addressing these concerns could be key to boosting organic food sales.

While labelling is crucial in informing and influencing consumer behaviour, it is not the only factor shaping consumer preferences (Moreira et al., 2021; Shahrin et al., 2017). Personal attitudes also play a significant role, as they are shaped by individual beliefs, values, and experiences (Khan et al., 2023). Labelling and attitudes are interconnected, as clear and informative labelling can positively shape consumer attitudes by enhancing their understanding of organic products. A favourable attitude often leads to stronger intentions and subsequent behaviour. Additionally, labelling reduces confusion and increases the visibility of organic food, contributing to a positive organic image. This image, in turn, reinforces favourable attitudes toward the product, further strengthening its influence on consumer decisions and product selection (Aitken et al., 2020).

Hence, the interconnection between labelling and attitudes is crucial and demands further in-depth empirical study, especially in markets where organic food remains niche and is steadily growing, such as Malaysia. A comprehensive understanding of this relationship is urgently needed to refine labelling strategies and effectively influence consumer purchase intention. Without such research, opportunities to optimise market penetration and consumer engagement in the organic food sector may be missed. Therefore, this study aims to explore the impact of labelling on personal attitudes and intentions to purchase organic food.

2.   LITERATURE REVIEW

2.1   Underpinning Theory

Cognitive Consistency Theory is a psychological principle that suggests individuals strive to maintain harmony between their beliefs, attitudes, and behaviours. When these elements are in agreement, people experience psychological ease. However, when inconsistencies arise, this leads to cognitive discomfort, commonly called cognitive dissonance. To alleviate this discomfort, individuals tend to adjust their attitudes, beliefs, or behaviours to restore harmony (Abelson et al., 1968; Kruglanski et al., 2018; Simon et al., 2004). The principle was supported by more specific theories, including Heider's Balance Theory, which suggests that individuals aim for balanced relationships among their attitudes and beliefs toward themselves, others, and external objects. When an imbalance occurs, individuals are motivated to alter one of the components to restore harmony (Heider, 1946). Similarly, Festinger's Cognitive Dissonance Theory delves deeper into how individuals react when their actions contradict their beliefs or attitudes. To alleviate the resulting dissonance, people may adjust their behaviours, justify their actions, or modify their beliefs (Festinger, 1957).

In the study context, adequate labelling plays a critical role in aligning consumer attitudes with their purchasing intentions (Moreira et al., 2021). Clearly labelled organic products validate consumers' positive beliefs by providing reliable and detailed information, thereby minimising cognitive dissonance. This validation strengthens the likelihood of purchase, as the information reassures the consumer's pre-existing attitudes. On the other hand, insufficient labelling introduces uncertainty and disrupts cognitive harmony. Consumers with favourable attitudes toward organic products who encounter vague or incomplete labelling experience cognitive dissonance due to the

lack of clarity about the product's authenticity or benefits. This discomfort can lead them to question their positive attitudes or even forgo the purchase, weakening their intention to buy, as supported by previous studies (Aitken et al., 2020; Moreira et al., 2021). Overall, it explains the study's theoretical framework, which aligns with the cognitive consistency theory.

2.2 *Personal Attitude and Organic Food Purchase Intention*

Attitude can be defined as the degree to which an individual evaluates something, whether a positive or negative judgement of the behaviour. Likewise, the more positive a consumer's opinion of a product is, the stronger the intention to do such behaviour, as it is determined by mixing the results of beliefs and evaluations (Fishbein & Ajzen, 1975). In the context of organic food, several studies show a positive relationship between attitude and intention to buy organic food consistently. For instance, Thi Nguyen and Dang (2022) showed that a positive attitude drives consumer intention to buy organic food. The results of this study are consistent with those of other researchers who have found that consumers' positive attitudes have a significant impact on their purchase of organic food products (Bai et al., 2019; Xie et al., 2020). Indeed, consumers who believe that organic food is superior and more beneficial to their health than conventional food products tend to develop a strong positive attitude towards organic food (Xie et al., 2020). As a result, consumers are motivated to shift towards organic food consumption (Cachero-Martínez, 2020; do Prado & Moraes, 2020).

However, it is crucial to recognize that positive attitudes towards organic food do not always translate into actual buying behaviour (Nguyen et al., 2019). While attitude is theoretically a strong predictor of purchase intentions, serving as a personal control factor, it is not the sole determinant. Factors such as price, availability, convenience, personal preferences, and labelling on packaging can significantly impact behaviour, regardless of a consumer's positive attitude towards organic food. Not only that, but the rapid growth of the organic food industry has also profoundly influenced consumer attitudes towards food quality and safety, driven by recent food crises and ongoing debates about the safety of genetically modified organisms (GMOs) (do Prado & Moraes, 2020; Schjøll, 2017)

Consequently, consumers are becoming more cautious and selective about their food choices. They prioritise transparency and detailed nutritional information, considering organic products a safer and more trustworthy option. This change in attitude is reflected in their demand for clear labelling and assurances of food quality, which they associate with the organic market's commitment to higher safety standards (Aitken et al., 2020). The growth of the organic food industry has not only increased consumer awareness but also changed their attitude towards more trustworthy and sustainable options. In addition, due to the global health pandemic, consumers are becoming more concerned about their health and food choices (Xie et al., 2020).

Hence, understanding consumer attitudes is crucial for examining purchase intentions (Thi Nguyen & Dang, 2022). Attitudes towards organic products offer valuable insights into how consumer perceptions shape their purchasing decisions. This highlights the importance of aligning marketing strategies with evolving consumer expectations in the organic food sector. Based on these insights, the following hypotheses are proposed:

H1: Personal attitude positively influences organic food purchase intention.

2.3 Influence of Labelling on Personal Attitude and Purchase Intention

The perception of organic food significantly shapes consumer attitudes, making it one of the strongest motivators for purchasing such products (Thi Nguyen & Dang, 2022). However, despite the influence of individual knowledge on purchase intentions, consumer awareness of organic food consumption remains relatively low. This lack of awareness limits the market potential, reducing overall customer interest (Paço et al., 2019). Additionally, trust issues persist, as consumers are wary of organic food producers and marketers due to greenwashing practices, which lead to scepticism, product distrust, and an increased risk of purchasing substandard products (Aji & Sutikno, 2015; Junior et al., 2019)

In the context of green communication and advertising, individuals who are exposed to advertisements and proper labelling tend to engage in both conscious and unconscious thoughts about the content (Paço et al., 2019). It is even especially important as purchase decisions often occur in non-purchase contexts, where individuals evaluate and consider various factors before buying (Weber & Schweiger, 2017). Indeed, receptivity to green communication plays a significant role in information recall, and effective labelling practices can enhance this process (Paço et al., 2019; Weber & Schweiger, 2017). Consumer responses to green communication are influenced by how the communication resonates with them and their perceptions. Different consumer groups have distinct preferences for specific communication aspects (Abdul Latip et al., 2023). For highly engaged consumers actively involved in the decision-making process, communication that focuses on product aspects such as packaging, benefits, accreditation, logos, contributions, and claims holds particular value (Paço et al., 2019).

Therefore, it is important to recognise that consumers' receptiveness and preferences for green communication can vary, which is influenced by factors such as personal values, environmental consciousness, and prior knowledge, which can shape consumers' responses to green messages and their overall attitudes towards sustainable products (Paço et al., 2019). In addition, it is worth noting that the availability of sufficient information on organic food product labels is crucial for shaping consumer attitudes and purchasing behaviour. Organic food products with a lack of comprehensive information can lead to negative perceptions and decreased consumer interest in them (Aitken et al., 2020; Schwartz et al., 2020). Therefore, there is a growing recognition of the need for effective labelling practices in the organic food industry to address this informational gap.

The dynamic food market and the increasing demand for environmentally friendly packaging have underscored the critical role of effective labelling in the organic food sector (Santos et al., 2021). Labelling is the primary means producers communicate with consumers, offering essential details about a product's characteristics, certifications, and production methods (Aitken et al., 2020). Well-designed labels empower consumers to make informed choices and establish trust and credibility in the organic food industry. Inadequate information and poor labelling practices can undermine this trust and fail to leverage consumers' positive attitudes towards organic products.

Thus, this study aims to understand the influence of consumer satisfaction with existing labels and their desire for more information regarding personal attitudes and purchase intentions of organic food, as supported by Aitken et al. (2020). By examining how these perspectives influence personal attitudes and purchase intentions, the study provides insights into how effective labelling

can better align with consumer expectations and drive increased organic food purchases (Aitken et al., 2020; Santos et al., 2021). Thus, the following hypotheses are proposed:

> *H2: The satisfaction with the current labels on organic food product packaging positively influences consumers' personal attitudes.*
>
> *H3: Consumers' purchase intention for organic food is positively influenced by their satisfaction with existing labels.*
>
> *H4: The desire for more detailed labelling on organic food product packaging negatively impacts consumers' personal attitudes.*
>
> *H5: Consumers' intention to buy organic food is negatively impacted by their desire for more detailed labelling.*

2.4 The Mediating Effects of Personal Attitude

The personal determinants of attitude contribute to an individual's positive or negative evaluation of specific behaviours and have the power to shape both intentions and behaviours based on anticipated outcomes (Junior et al., 2019). It is often acting as a mediator, as supported by previous research (Yzer, 2017). In the context of labelling, personal attitudes play a pivotal role in how consumers interpret and respond to food labels. Some consumers may view food labels positively, seeing them as helpful tools for making informed purchasing decisions, while others may perceive them negatively, considering them confusing or misleading (Aitken et al., 2020). Therefore, labels on organic food products are crucial, as they serve as the key point of influence for consumers and act as a vital interface between producers and consumers (Larceneux et al., 2012).

However, some labels have failed to convince consumers about the distinct qualities of food products due to consumer ignorance and poor interpretation of the information provided, as noted by Aitken et al. (2020). Similarly, Moreira et al. (2021) highlight that while food labels can be informative, how the information is presented can reduce consumer interest and make it harder for them to comprehend the details. This has driven the growing demand for organic food products and increased awareness of nutritional information, leading to a heightened focus on food product labelling (Schwartz et al., 2020).

Consumers can distinguish organic food products from conventional ones by referring to the label. As organic labelling helps convince consumers that organic foods are naturally produced, it can significantly improve consumer attitudes towards the product. If consumers identify with a message on organic food labels or have a positive attitude towards organic food, they are more likely to buy it (Lee & Yun, 2015). When consumers develop a positive attitude toward organic food based on the label's information, this attitude can bridge the gap between their perception of the label and purchase intention. Thus, the following hypotheses are proposed:

> *H6: Personal attitude mediates the relationship between satisfaction with the current labels and organic food purchase intention.*
>
> *H7: Personal attitude mediates the relationship between the desire for more detailed labelling and organic food purchase intention.*

Figure 1: Research Framework
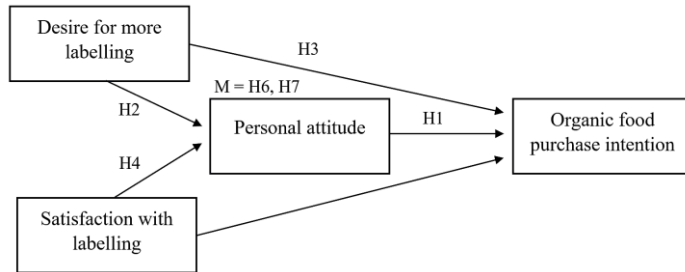
3. METHODOLOGY

A correlational study using non-contrived and cross-sectional methods was conducted to achieve the research objective. The study population consisted of Malaysian consumers aged 18 years old and above. Purposive sampling was used to select the participants due to the inaccessibility of the sampling frame. Online and email surveys were the primary methods of data collection to accommodate the large study population. The survey link and QR code poster were distributed through social media platforms and related social groups to increase the survey's reach. Additionally, an online research page was created to advertise the study. Respondents were invited to participate voluntarily and provided an information sheet containing detailed information about the study, risks, and other important details before agreeing to participate in the survey. Overall, the study employed rigorous methods to ensure the selection of an appropriate sample size and minimise potential bias.

After the necessary data screening and outlier removal, 415 valid responses were obtained for the study, meeting the minimum sample size requirement of 160 as per the total number of survey items (Hair et al., 2017). It is worth noting that the items measuring the desire for more labelling were reverse-coded, as these items are negative in nature. Additionally, the study confirmed no missing data, as the Missing Complete at Random (MCAR) test was conducted. The study utilised two software programs to carry out hypothesis testing, namely Statistical Package for Social Sciences (SPSS) and SmartPLS.

The adoption and adaptation of previous studies' survey item measurements were carefully conducted through in-depth analyses and critical reviews. Specifically, the study investigated four constructs: personal attitude, desires for more labelling, satisfaction with labelling, and organic food purchase intention. The survey items were adapted and adopted from previous validated empirical studies (Aitken et al., 2020; Auroomooga Putten & Nair, 2019; Correa et al., 2017; Wang et al., 2019).

4. DATA ANALYSIS

4.1 Respondent Profile

The demographic profile of the respondents (refer to Table 1) provides information about their characteristics. Based on the descriptive analysis of the data, most of the respondents were female (70.6%) compared to male respondents (29.4%). Moreover, most of the respondents were between the ages of 18 and 30 years old (43.7%), followed by 26.7% who were between 31 and 40 years old, 18.5% who were between 41 and 50 years old, and 11% who were 51 years old and above. In general, the majority of the respondents had a good academic background, as 65.6% reported having a Bachelor's degree education, 30.4% had a Master's degree/Doctorate, and 4.1% had other educational backgrounds. Additionally, most respondents earned an average monthly income below MYR3000 (31%), followed by 25.1%, who earned MYR3001 to MYR6000 monthly, and 28.8%, who earned an average income of MYR6000 and above monthly. However, 14.9% of the respondents reported no monthly income earned.

Table 1: Demographic profile

Variables		Frequency	Per cent %
Gender	Female	293	70.6
	Male	122	29.4
Age groups (years old)	18 - 30	181	43.7
	31 - 40	111	26.7
	41 - 50	77	18.5
	51 and above	46	11.0
Education level	High school/ Certificate/ Diploma or equivalent	88	21.3
	Bachelor's degree or equivalent	195	47
	Master/ Doctorate or equivalent	126	30.4
	Others	6	1.4
Average monthly income (RM)	Below MYR3000	129	31
	MYR3001 – MYR6000	104	25.1
	MYR6001 and above	120	28.8
	None	62	14.9
Citizenship	Malaysian	383	92.3
	Non-Malaysian	32	7.7
Total		**415**	**100**

4.2 Composite Reliability, Convergent Validity and Discriminant Validity

A thorough analysis of the items used in data collection was conducted to ensure the validity and reliability of the study findings. Table 2 presents the factor loading and mean scores for each item

in detail, allowing for a comprehensive understanding of the collected data. The study conducted reliability and validity tests further to confirm the validity and reliability of the constructs. The results of these tests are presented in Table 3, which shows that Cronbach's alpha and composite reliability (CR) scores for all constructs exceeded 0.70 and 0.60, respectively, indicating that the constructs are highly reliable. Additionally, the Average Variance Extracted (AVE) scores for each construct were above 0.50, indicating good convergent validity (Hair et al., 2017).

To test the discriminant validity of the study instruments, the heterotrait-monotrait ratio of correlations (HTMT) was used. The results revealed that all constructs had scores of 0.85 and below, confirming the discriminant validity of the study instruments. Overall, these findings provide strong evidence for the reliability and validity of the study's instruments and analysis and help ensure that the findings are accurate and trustworthy.

Table 2: Factor Loading and Mean Score of Survey Items

No	Items	Load.	Mean
Attitude			
A1	The purchase of organic food is important for everyone.	0.841	4.029
A2	The purchase of organic food is beneficial.	0.884	4.398
A3	It is a wise decision to purchase organic food.	0.898	4.246
A4	Purchasing organic food makes me happy.	0.828	3.908
A5	Consuming organic food is good for my health.	0.807	4.482
Satisfaction with labelling (good labelling)			
SL1	Most organic food products' packaging is clearly labelled, so it's easy to tell whether they are organic or not.	0.874	3.790
SL2	When shopping, I can easily distinguish between organic and regular product	0.859	3.839
SL3	It is easy to identify organic food products in the market	0.855	3.877
SL4	I trust the information on the organic food product label	0.846	3.737
SL5	I am confident that I understand the information on organic food labelling	0.838	3.884
A desire for more labelling (lack of labelling)			
DL1R	There should be specific information on packaging explaining the health benefits of organic food products.	0.863	1.817
DL2R	I would like specific information on packaging explaining the ethical impact of organic products	0.920	1.737
DL3R	I want specific information on packaging explaining the impact of organic products on the environment.	0.914	1.723
Organic food consumption intention			
I1	I intend to purchase organic food next time because of its positive environmental contribution.	0.880	4.096
I2	I intend to consume organic food if it is available for purchase.	0.873	4.145
I3	I will buy organic food even if I need to spend a few extra ringgit.	0.826	3.795
I4	I plan to purchase more organic food compared to regular food.	0.877	3.812
I5	I will purchase organic food for health benefits.	0.814	4.212

Table 3: Factor Loading and Mean Score of Survey Items

| Constructs	Cronbach's Alpha	CR	AVE	Validity (HTMT)	Summary		Index
				SL	ML	PA	PI
Satisfaction with labelling (SL)	0.908	0.931	0.731				
Desire for more labelling (ML)	0.882	0.927	0.809	0.556			
Personal attitude (PA)	0.905	0.930	0.726	0.486	0.424		
Organic food purchase intention (PI)	0.907	0.931	0.730	0.526	0.474	0.797	

4.3 Direct Path Hypothesis Testing

The Structural Equation Modelling (SEM) analysis was conducted (refer to Figure 1). The study's direct path analysis employed 2000 bootstrapped and 95% bias-corrected confidence. The t-value (1.96 and above) and p-value (less than 0.50) are used as statistical indicators to confirm the significance of the relationship tested, as supported by Hair et al. (2017).

A summary of the direct path analysis is presented in Table 4. In general, all five direct path analyses that were tested are significant. The analysis found that when personal attitude increased by one standard deviation, organic food purchase intention increased by 0.610, which supported H1 (PA → PI: $\beta = 0.610$, $t = 15.070$, $p = 0.000$). Besides, when satisfaction with organic food labelling increased by one standard deviation, personal attitude increased by 0.346, which supported H2 (SL → PA: $\beta = 0.346$, $t = 6.956$, $p = 0.000$). Moreover, an increase in satisfaction with organic food labelling will increase the purchase intention of the product. When satisfaction with organic food labelling increased by one standard deviation, purchase intention rose by 0.151, which supported H3 (SL → PI: $\beta = 0.151$, $t = 3.262$, $p = 0.001$).

On the other hand, when the desire for more labelling on organic food product packaging increases by one standard deviation, personal attitude will be decreased by -0.207, which supported H4 (ML → PA: $\beta = -0.207$, $t = 3.479$, $p = 0.001$). Additionally, the desire for more labelling was reported to be statistically significant in reducing consumer purchase intention, which supported the H5. When the desire for more labelling increased by one standard deviation, purchase intention declined by -0.119 (ML → PI: $\beta = -0.119$, $t = 2.716$, $p = 0.007$). Thus, H5 is supported.

Figure 1: SmartPLS Analysis
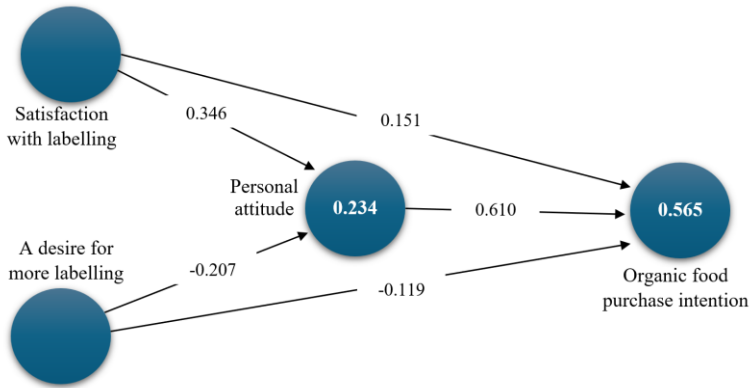
Table 4: Summary of the Direct Path Analysis

H	Relationship			Path coefficient (β)	STDEV	*t*-value	*p*-value	Decision
1	PA	→	PI	0.610	0.040	15.070	0.000	Supported
2	SL	→	PA	0.346	0.050	6.956	0.000	Supported
3	SL	→	PI	0.151	0.046	3.262	0.001	Supported
4	ML	→	PA	-0.207	0.059	3.479	0.001	Supported
5	ML	→	PI	-0.119	0.044	2.716	0.007	Supported

4.4 Mediator Hypothesis Testing

A total of 2,000 bootstrapped samples with 95% bias-corrected confidence intervals were employed to confirm the mediating effect of personal attitude. First, the direct effects of satisfaction with labelling and the desire for more labelling on consumption intention were found to be significant, as indicated in Table 4, which justifies the undertaking of mediator analysis (H2: SL → PA: $\beta = 0.346$, $t = 6.956$, $p = 0.000$; H4: ML → PA: $\beta = -0.207$, $t = 3.479$, $p = 0.001$). Following this, the indirect effect of personal attitude as a mediator on purchase intention was assessed for both paths (refer to Table 5 for the indirect effect analysis).

Personal attitude was statistically significant as a mediator between satisfaction with labelling and purchase intention (indirect effect = SL → PA → PI: $\beta = 0.211$, t = 6.320, $p = 0.000$). Thus, H6 is supported. The analysis confirmed a significant effect of satisfaction with labelling toward organic food purchase intention directly and indirectly (through personal attitude). This suggests that a higher satisfaction with labelling not only increases consumers' immediate intention to purchase organic food but also contributes to a more favourable personal attitude, further strengthening their purchasing intention.

Personal attitude was also found to be statistically significant as a mediator between the desire for more labelling of organic food products and purchase (Indirect effect = ML → PA → PI: $\beta = -0.126$, $t = 3.447$, $p = 0.001$). Thus, H7 is supported. The analysis confirmed a significant negative

effect of the desire for more labelling toward organic food purchase intention directly and indirectly (through personal attitude). It means that when consumers seek more labelling information, it can create a negative perception of the product, leading to decreased purchase intent.

Table 5: Summary of the Mediator Analysis

H	Indirect effect path coefficient (β)		STDEV	t-value	p-value	Decision
6	SL → PA → PI	0.211	0.033	6.320	0.000	Supported (Partial mediation)
7	ML → PA → PI	-0.126	0.037	3.447	0.001	Supported (Partial mediation)

4.5 The Magnitude of Relationship and Predictive Relevance

Table 6 summarises the magnitude of the relationship and predictive relevance of the study constructs. The coefficient of determination (R^2) analysis showed that the study model can explain 56.5% of the variance ($R^2 = 0.565$). Meantime, only 23.4% of the variance of personal attitude can be explained by the model ($R^2 = 0.234$).

The effect size (f^2) analysis was also performed to assess a predictor construct's relative impact on the endogenous construct (refer to Table 6). The (f^2) value indicators are 0.02 (small), 0.15 (medium), and 0.35 (large) (Cohen, 1988). The analysis found that personal attitude (PA = 0.656) denoted a large f2 in generating R^2 of organic food purchase intention. Meanwhile, satisfaction with labelling (SL = 0.035) and desire for more labelling (ML = 0.024) denoted a small f^2 in generating R^2 of organic food purchase intention. Lastly, satisfaction with labelling (SL = 0.118) and desire for more labelling (ML = 0.042) denoted a small f^2 in generating R^2 of personal attitude.

Table 6: Analysis of R^2, Q^2, and f^2

Constructs	R^2	Q^2	f^2	
			PA	PI
Personal attitude (PA)	0.234	0.223	-	0.656
Satisfaction with labelling (SL)	-	-	0.118	0.035
Desire for more labelling (ML)	-	-	0.042	0.024
Organic food purchase intention (PI)	0.565	0.268	-	-

The predictive relevance Q^2 of the model has also been accessed as supported by Hair et al. (2017). Based on the Q^2 assessment presented in Table 6, the Q^2 assessment value of personal attitude is 0.223, and the Q^2 assessment value of organic food purchase intention is 0.268. Thus, the predictive model's relevancy to the study is confirmed as the Q^2 assessment values are greater than zero (Kamarudin et al., 2021).

Next, the predictive power of Q^2 was tested by comparing the root mean square error (RMSE) and mean absolute error (MAE) of partial least square (PLS) and the linear regression model (LM) scores of the relevant items (Hair, 2021; Shmueli et al., 2019). Most items (RMSE = 7 out of 10;

MAE = 6 out of 10) scored highest on LM compared to PLS (refer to Table 7). Thus, the model has medium predictive power (Shmueli et al., 2019).

Table 7: The Predictive Power of Q^2

The predictive power of Q^2					
PLS			**LM**		
ITEMS	RMSE	MAE	ITEMS	RMSE	MAE
A1	0.889	0.720	A1	**0.891**	**0.723**
A2	0.656	0.509	A2	**0.658**	0.504
A3	0.758	0.609	A3	0.756	0.603
A4	0.917	0.735	A4	0.915	0.733
A5	0.658	0.524	A5	0.657	0.520
I1	0.745	0.563	I1	**0.751**	**0.566**
I2	0.711	0.546	I2	**0.721**	**0.551**
I3	0.916	0.717	I3	**0.922**	**0.725**
I4	0.948	0.750	I4	**0.957**	**0.757**
I5	0.754	0.578	I5	**0.755**	**0.580**
				7 out of 10	6 out of 10

5. CONCLUSION AND DISCUSSION

The study successfully achieved its research objective of examining the effect of labelling on organic food product packaging towards purchase intention. With the increasing awareness among consumers regarding their well-being and healthy lifestyles, food labelling has become a crucial aspect in the decision-making process of purchasing food products. Proper food labelling plays a significant role in providing consumers with essential information about their purchasing product. The findings of this research are critical for both consumers and food producers as they provide insights into the influence of labelling on purchase intention and the need for better product labelling in the future.

Based on the above findings, it can be concluded that there is a significant relationship between all hypotheses (H1-H7). The findings indicate that personal attitude significantly influences organic food purchase intention (H1), aligning with previous studies that highlight the critical role of attitude in shaping consumer purchase intention toward organic products (Bai et al., 2019; Xie et al., 2020). This significance can be attributed to the growing individual awareness of environmental degradation and climate change risks associated with conventional food production methods. As consumers become more informed, they develop stronger preferences for organic food due to its perceived safety, health benefits, and lower environmental impact. These positive perceptions lead to favourable attitudes, which, in turn, directly influence purchase intention.

Moreover, modern consumers increasingly prioritise personal, social, and environmental goals when making purchase decisions, reflecting a growing awareness of sustainability and health. Attitudes toward purchasing organic food are crucial, as they shape consumers' perceptions of the feasibility of achieving these goals through their choices, as highlighted by Xie et al. (2020). Consequently, consumers often refer to food labels to ensure products align with their values, emphasising the pivotal role of labelling satisfaction. When consumers are satisfied with the clarity

and trustworthiness of labels, it enhances their confidence in the product's benefits, significantly influencing their attitude toward the product and thereby reinforcing the positive outcome of H2.

Moreover, satisfaction with labelling on organic food packaging significantly influences purchase intention (H3), supporting previous research that emphasises the role of effective labelling in conveying crucial information about search, experience, and credence attributes (Aitkens et al., 2020). A well-designed label serves as a strong quality indicator, enabling consumers to make informed decisions by clearly communicating the product's characteristics and benefits. In a competitive market, an effective label not only differentiates the product but also acts as a unique selling proposition for producers. Additionally, exposure to advertisements and clear labelling fosters both conscious and subconscious perceptions of the product. When consumers are satisfied with the label, it reinforces their trust and confidence, leading to a stronger intention to purchase. This reinforces the finding that satisfaction with labelling significantly enhances the likelihood of purchasing organic food products.

On the other hand, the desire for more labelling has been found to negatively influence consumers' personal attitudes toward organic food (H4) and their purchase intentions (H5). It appears that consumers are more likely to purchase products when they are satisfied with the information provided on the existing labels. Purchase intentions are influenced not only by the labels themselves but also by consumers' confidence in the label's components and the information they convey. A desire for more labelling suggests a lack of confidence or dissatisfaction with the current labels, which can negatively impact personal attitudes. This is supported by previous studies, which indicate that purchase decisions are often formed in non-purchase contexts, highlighting the importance of clear and sufficient labelling in persuading consumers (Weber & Schweiger, 2017). As such, the desire for more information can create frustration or scepticism, explaining the negative impact on personal attitude and purchase intention. Thus, the negative effect of insufficient labelling on both personal attitude (H4) and organic food purchase intention (H5) is well-justified.

Moreover, the study revealed that personal attitude partially mediates the positive relationship between satisfaction with labelling and organic food purchase intention (H6). This indicates that while effective labelling directly influences purchase intention, it also indirectly shapes consumers' attitudes. Specifically, when consumers are satisfied with the information provided on labels, their positive attitude toward organic food is enhanced, which in turn strengthens their intention to purchase.

Similarly, the personal attitude partially mediates the negative relationship between the desire for more labelling and purchase intention (H7). When food labels are insufficient, they negatively impact purchase intention for organic food, both directly and indirectly, through personal attitude. Food labels serve as crucial quality indicators for consumers, helping them identify and recognise organic products. When labelling is inadequate, consumers may perceive a gap in the necessary information, leading to uncertainty about the product's quality. This uncertainty can foster negative attitudes toward organic food, ultimately diminishing their intention to purchase. Besides, consumers' attitudes toward food labelling significantly impact their consumption choices, particularly for first-time purchases, as supported by Aitken et al. (2020). Consumers are less likely to trust the product without sufficient labelling, and their attitude reflects this distrust.

Furthermore, effective labelling transforms the credibility of organic products into tangible search attributes, allowing consumers to assess quality more accurately before making a purchase. This process is disrupted when labels fail to provide adequate information, leading to a more negative consumer attitude and adversely influencing their purchase intention. As consumers increasingly seek assurance regarding the safety and quality of their food choices, the role of labelling becomes even more critical in shaping their attitudes and guiding their purchasing decisions, which justifies the findings of H6 and H7.

5.1 Limitation of Research and Future Research Direction

The study has provided valuable insights into how labelling on organic food product packaging affects purchase intention. However, there are limitations that need to be acknowledged. Firstly, the study was conducted in a specific geographic region so that the findings may be limited. Future research could expand the sample size and geographical scope to improve the external validity of the findings. Secondly, the study used a cross-sectional design, which limits the ability to draw causal inferences and comparisons. Future research could use longitudinal designs to explore the causal relationships between labelling and purchase intention. Thirdly, the study only focused on the influence of labelling on purchase intention and did not investigate actual purchase behaviour. Future research could examine the relationship between labelling and actual purchase behaviour to better understand the role of labelling in influencing consumer behaviour. Moreover, the study only focused on organic food products and did not explore the effect of labelling on non-organic food products. Future research could examine the influence of labelling on purchase intention and behaviour for non-organic food products. Further research could also explore the influence of other factors, such as price, on the relationship between labelling and purchase intentions. Additionally, it would be valuable to investigate the effects of different types of labelling, such as nutritional and allergen labelling, on consumer behaviour. Finally, examining the role of labelling in shaping perceptions of quality and safety in food products could provide further insights into its influence on consumer behaviour.

5.2 Implications of Study

Despite these limitations, this study has important practical implications for organic food producers, retailers, and policymakers. The study highlights the importance of satisfaction with labelling practices on organic food product packaging to influence consumer purchase intention and how a desire for more labelling negatively influences consumer attitude and purchase intention. Producers and retailers can use the findings to improve their labelling practices to provide clear, detailed, and relevant information that addresses consumers' desire for transparency. This can include highlighting the product's organic certification, nutritional benefits, sourcing details, and eco-friendly practices. Doing so aligns with consumer expectations for more comprehensive labels, fostering trust and encouraging purchase decisions. Additionally, incorporating easily understandable icons or labels emphasising health benefits, sustainability, and ethical sourcing can further engage consumers and influence their purchasing behaviour. Policymakers can develop guidelines and regulations that ensure food labels provide accurate and relevant information to consumers. By improving transparency and standardising labelling, these policies can enhance consumer trust and confidence in organic products. In turn, this can stimulate growth in the organic market by attracting more informed consumers, boosting demand, and fostering competitiveness among producers.

From an academic standpoint, this study contributes to the discourse by critically applying Cognitive Consistency Theory within the context of organic food purchasing. It challenges the traditional focus on external factors by emphasising how labelling satisfaction strengthens the alignment between consumers' pre-existing attitudes and their purchase intentions. The research underscores the importance of consistent and transparent labelling in reinforcing consumer confidence and promoting organic products, offering more profound insights into how congruence between internal beliefs and external information shapes decision-making processes. Additionally, the study examines the mediating role of personal attitudes, which advances understanding of the psychological mechanisms behind consumer choices. These findings extend the application of Cognitive Consistency Theory and prompt further investigation into how this theory may influence attitudes and behaviours across diverse consumer segments and product markets, contributing to a more nuanced theoretical framework in consumer behaviour studies.

Conclusion

In summary, the research findings highlight the critical role of labelling satisfaction on organic food product packaging in shaping consumers' purchase intentions. The study reveals that personal attitudes toward organic food significantly influence these intentions, with labelling satisfaction positively impacting both personal attitudes and purchase intentions. Conversely, the desire for more comprehensive labelling negatively affects personal attitudes and, subsequently, purchase intentions. Notably, personal attitude serves as a mediator in the relationship between labelling and purchase intention. These insights underscore the importance of food producers and retailers developing more effective labelling strategies to enhance consumer satisfaction and provide essential product information.

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