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Mediator effects of customers' attitude on factors influencing intention to purchase organic beverages in Vietnam

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With rapid economic growth, Vietnamese people are increasingly interested in consuming organic food to protect the health of themselves, their families, and the living environment. This study investigates the direct and mediating effects of determinants studying Vietnamese consumers' intention toward purchasing organic beverages. We apply the theory of planned behavior and attitude–behavior–context model to establish experimental models and research hypotheses. The study collected primary data through a survey of 550 customers in six urban districts in Hanoi. Data are analyzed using AMOS software with descriptive statistics, Cronbach's alpha test, confirmatory factor analysis, and structural equation modeling. The results show that there is a significant positive relationship between customers' attitudes and intention to buy organic drinks. Five independent factors directly affect the attitude and intention to consume organic beverages, including environmental concern, health awareness, price perception, subjective norms, and marketing and communication. Furthermore, there are full mediating effects of attitudes on the relations between the five above factors and organic beverage buying intention. The study proposes some management implications including increasing customers about perception of organic beverages through social network communication, promoting social inclusion in building images of organic food, designing proper price systems for customers, and involving them in the process of building social norms about organic beverage consumption.

KEYWORDS

consumer attitude, environmental concern, subjective norms, green marketing and communication, social inclusion, sustainable development

1 Introduction

Globally, the demand for organic beverages (OB) is increasing as more and more health-conscious consumers prefer products free from synthetic flavorings, preservatives, and pesticides (Aguirre and Bosnjak, 2012; Chen and Lobo, 2012; Anders and Moeser, 2018; Hjelmar, 2020). This trend toward clean products and healthy diets is becoming more widespread in every country and has a significant impact on consumer preferences (Golian et al., 2018; Cerjak et al., 2020; Chen et al., 2022). In the beverage sector, customers shift their beverage preferences from carbonated products to organic products, especially organic fruit and vegetable juices, which have nutritional and health benefits. This trend in taste has influenced manufacturers to focus on developing organic beverage products to attract and satisfy customers (Chen et al., 2022; Corallo et al., 2022; Global Report Outlook, 2023). OB satisfy the need for taste, improve overall health, and boost the immune system of buyers. This contributes to the strong growth of the OB industry worldwide (Mainardes et al., 2017; Anders and Moeser, 2018; Nguyen et al., 2019). The forecast of the OB market size shows an increase

from US$47.84 billion in 2023 to US$60.80 billion in 2028 at an impressive growth rate of 4.91% during the period 2023–2028. The market is segmented by product type, distribution, and location to meet the diverse needs of consumers across the globe (Global Report Outlook, 2023). In addition, support from national policies for organic businesses also promotes the growth of the OB market. The OB market is also driven by the growing awareness among consumers about the health and environmental benefits of OB (Pomsanam et al., 2014; Ostapenko et al., 2020; Chen et al., 2022).

To date, many studies have identified many factors affecting OB consumption behavior (Angelovska et al., 2012; Ahmad et al., 2015; Ariffin et al., 2016; Hassan et al., 2016; Cuc et al., 2022). Researchers have employed some theoretical frameworks to analyze OB buying impacting factors, of which the most popular ones are theory of resoned action (TRA) (Fishbein and Ajzen, 1975), theory of planned behavior (TPB) (Ajzen, 1991), social cognitive theory (SCT) (Bandura, 1986), and attitude–behavior–context theory (ABC) (Ellis, 1991; Pomsanam et al., 2014; Mainardes et al., 2017; Son, 2020; Chen et al., 2022). Most of the papers indicate that there is a significant relationship between attitudes, subjective norms, perceptions, and supporting conditions with OB consumption behavior (Ahmad et al., 2015; Hassan et al., 2016; Chaubey et al., 2021; Brewer and Prestat, 2022). Accordingly, each individual's perception and attitude toward "organic" may vary depending on personal views and contextual circumstances but all have a significant impact on the intention to use OB (Ahmad and Juhdi, 2020; Doan, 2021). Subjective norms including social influence, relatives, and consumption trends also influence and determine consumers' OB consumption behavior but are different in countries with different levels of development (Cheung et al., 2015; Hassan et al., 2016; Levesque, 2021). In addition, perceptions of supporting factors such as government policies and supplier incentives also have a significant impact on OB consumer behavior. Demographic variables such as gender, age, income, and occupation can also influence consumer perceptions, attitudes, and purchasing behavior in conjunction with environmental and contextual factors including culture (Ragavan and Mageh, 2013; Mainardes et al., 2017; Nguyen and Trang, 2021). Understanding these multidimensional influences helps understand consumers' propensity to purchase OB, thus providing implications and managerial options to enhance OB (Padel and Foster, 2015; Podvorica and Ukaj, 2020). Regarding the consumption context, Saleki et al. (2019) revealed a significant contrast in why people purchase OB in developed countries compared with developing countries. In developed countries with larger markets, factors such as environmental concerns, health awareness, and knowledge strongly influence consumers' choice of OB. This is because consumers are at an advanced stage where self-expression is more important than meeting their social needs (Saleki et al., 2019; Son, 2020). However, in developing countries, the focus is mainly on basic and safety needs, not beyond that. This shows the link between different levels of needs and the demand for organic foods (OF). Podvorica and Ukaj (2020) identified limited knowledge, low awareness, tight budgets, and high prices of these beverages as major barriers to OB consumption in developing countries. The real challenge lies in convincing consumers to believe in the product, understand its benefits, and accept the higher OB costs (Bernués et al., 2013; Ueasangkomsate and Santiteerakul, 2015; Nguyen et al., 2019; Wang et al., 2019).

In Vietnam, as economy develops quickly, OB are becoming increasingly popular especially when consumers promote health awareness and want to experience high-quality products (Le, 2018; Le and Truong, 2019; Doan, 2021; Mai et al., 2023). One of the essential impact factors to buying behavior is the focus of customers on the origin and production process of the product (Ngo and Vu, 2016; Dat and Truong, 2020). For example, the TH True Milk brand is famous for its commitment to using organic ingredients and safe production processes, especially in the organic dairy sector. Diversity and creativity in products are also significant factors. Phuc Long Tea House is a typical example, offering consumers a variety of organic teas featuring Vietnamese traditional and high-quality organic tea leaves. Latterly, Starbucks Vietnam has introduced OB and coffee to the market, implementing its creativity in coffee products. In addition, the "focus of the brand on environmental protection also attracts consumers" attention. Organic products, with their environmentally friendly packaging and organic ingredients, are a typical example. At the same time, Vinh Hao Organic Rice Milk has built a reputation with organic rice milk without preservatives and no chemical sugar. These brands bring quality organic products and provide transparency and commitment to quality, attracting and retaining consumers in an increasingly competitive market (Doan, 2021; Mai et al., 2023). Although consuming OB is growing positively in Vietnam, the market still faces shortcomings and limitations. One notable challenge is the high price of organic products, which creates a financial barrier for some customers. Limitations in the reliable supply of organic ingredients are also an issue, affecting the price and popularity of products. Information and awareness about origin and production process of OB is still lacking and unclear, making it difficult for some consumers to rely on them (Son, 2020; Nguyen et al., 2019; Mai et al., 2023). Organic distribution systems face limitations due to the small scale, low presentation, and minor availability. The challenge of non-organic products being advertised as "green" or "organic" but not meeting standards is a prominent problem, creating confusion among consumers. Finally, culture remains a challenge, with some parts of the market unfamiliar with OB, especially traditional consumer groups (Nguyen et al., 2019; Nguyen and Trang, 2021; Mai et al., 2023).

Although consumer behavior research related to OB has become more popular recently, we found that there are still some gaps in previous research. First, studies often use a certain theoretical framework when studying OB choice behavior, and there are not many studies that combine theories together. As each theory has its own strengths in analyzing the determinants of consumer behavior, applying a single theory may reduce the power to find a comprehensive and comprehensive class of factors in determining customers' intentions when choosing OB (Pomsanam et al., 2014; Mainardes et al., 2017; Son, 2020; Chen et al., 2022). Second, although there are studies on the direct impact of intrinsic and extrinsic factors on OB consumption intention, there are very few studies on the impact of mediating variables on OB consumption behavior, such as attitude variables (Wang et al., 2019; Yin et al., 2020; Dat and Truong, 2020; Doan, 2021). Third, there is also a lack of studies that incorporate extrinsic and cultural factors related to OF consumption in general and OB in particular. Hassan et al. (2016), in their study of customers' behavior in many countries, pointed out that two of Hofstede's cultural dimensions, individualism and power distance, may moderate the relationships between TPB/TRA variables and customers' consumption intentions. Therefore,

contextual factors are important and need to be integrated into consumer behavior studies, especially in countries with unique consumer contexts such as Vietnam, with rapid growth, poor food safety and hygiene, a young population, and increasing consumer awareness of food safety.

This study aimed to assess the factors affecting the OB purchase intention of consumers in Vietnam, including both direct and mediating effects. The study has theoretical and practical contributions. Theoretically, this study develops an integrated model of theories to explore the influencing factors, specifically the TPB model combined with ABC, thereby contributing to expanding academic knowledge in exploring more factors when combining theories explaining behavior. Second, the study analyzes the mediating role of attitude in connecting relationships reflecting the influence of internal and external factors on OB consumption behavior in the context of Vietnam. From there, the study contributes to an applicable theoretical framework on OB behavior, which can then be applied to other studies in developing countries and emerging economies. Third, in terms of practical contributions, this study provides managerial implications for stakeholders to promote OB consumption in Vietnam. The research results help companies better understand the impact mechanism and how to improve marketing strategies to better utilize resources and better meet customer needs, thereby increasing their sales and market share in the OB market.

The paper is structured into five main parts: the introduction established the context, rationale, and contributions of the research; part 2 analyzes the underlying theoretical framework and builds an empirical research model; part 3 describes the method to build scales, research design, data collection, and analysis; part 4 presents the research findings; part 5 includes discussion of the study results and comparisons of similarities and differences with other studies; and finally, part 6 provides conclusions and some managerial implications.

2 Theoretical framework and model development

2.1 Theoretical framework

OF have received increasing attention over the past two decades as pressure on food hygiene and safety, agricultural product quality, and the environment has increased (Massey et al., 2018; Chen et al., 2022; Abid and Jahan, 2022). The term "organic" does not only refer to the form of nutrition provided to plants and animals but also is expanded as a perspective and lifestyle in which sustainability is the core value. In that context, OF refer to agricultural products such as animals and plants grown or raised naturally without toxic chemicals. Animals such as cows, chickens, and fish are reared without pesticides or growth stimulants, except for necessary antibiotics before slaughter/meat processing while fruits and veggies are grown naturally, using organic fertilizers and no chemical pesticides. OB are made naturally from plants and rice without toxic chemicals or modified genes (Le, 2018; Ullah et al., 2018; Rizzo et al., 2020). Their processing avoids additives and harmful chemicals, ensuring a natural and safe product for health. Production methods for OB often prioritize sustainability, minimizing environmental impact. Certification by international bodies such as USDA Organic or EU Organic ensures compliance of OF with strict organic standards (Global Report Outlook, 2023).

Up to now, there have been many studies around the world on OF selection and consumption behaviors in developed and developing countries (Cheung et al., 2015; Golian et al., 2018; Huong, 2022). In particular, the research uses foundational theories including TRA, TPB, SCT, and ABC to identify determinants and the impact levels of economic, social, and psychological factors on OF consumption behavior (Thøgersen et al., 2016; Hassan et al., 2016; Saleki et al., 2019; Yin et al., 2020; Chen et al., 2022). TPB developed by Ajzen (1991) is the most widely used theory in analyzing the intentions and actual behavior of organizations and individuals. According to TPB, behavioral intention is governed by three main factors, including attitude, subjective norm, and perceived behavioral control. These factors are built on the individual's beliefs and awareness of social values and the support of relevant parties to carry out the behavior (Ajzen, 1991). We can mention typical studies applying TPB in research on the consumption intention of OF such as Pomsanam et al. (2014), Wang et al. (2019), and Thu et al. (2021). In addition to TPB, Ellis (1991) proposed the ABC model to explain individual behavior intentions. This model posits that consumer behavior can be seen as the result of the relationship between attitudes and contextual factors. It also shows that consumers exhibit behavior to achieve certain expected benefits and that such behavior is demonstrated only when the consumer develops a positive attitude toward that behavior, under strong influence of context. The theory highlights the importance of context and habits in understanding why attitudes directly influence actions.

Overall, the TRA/TPB has received considerable research attention from consumer behavior researchers. However, according to Hassan et al. (2016), an important area that has not been fully studied is the impact of national culture on the components and relationships between the TRA/TPB. Hassan et al. (2016) conducted a review of TRA/TPB studies in multiple countries simultaneously in the consumer domain and found that individualism and power distance can moderate the TRA/TPB relationships. The review emphasized that the impact of subjective norms on switching intentions varies significantly across countries, while the relationships between intentions and both attitudes and behavioral control are more similar. Furthermore, the assessment of changes in the relationships in the TRA/TPB model through multilevel modeling showed that only the subjective norm–intention relationship changed across the studied countries. The relationship between subjective norm and intention was found to be influenced by power distance, with a stronger relationship evident in high power distance cultures. Therefore, there is a need for further theoretical integration in consumer behavior research, specifically OB, to better understand the impact of TPB/TRA variables in a specific cultural-contextual environment. In Vietnam, rapid economic growth associated with environmental impacts has changed Vietnamese buyers' perceptions and their behaviors. In addition, local political and social characteristics may also provide unique dimensions of attitudes toward OF consumption including OB (Le, 2018; Mai et al., 2023). In addition, Vietnam is a country with a young population with more than 75% of the population in working age, in which young consumers are inheriting new living values and the trend of global economic integration. The above reasons pose gaps in theory and practice that require research on factors promoting OB consumption in Vietnam. From there, we choose to combine TPB and ABC to build an empirical model for this study. We propose to study a model in the figure below that combines the ABC system with TPB

factors based on specific situations. This model provides detailed information on why attitudes toward OB can always promote consumers' purchase intentions in some situational contexts and allows for analysis of the direct and indirect effects of attitudes on OB purchase intentions (Figure 1).

2.2 Model development

2.2.1 Environmental concern

In general, environmentally concerned consumers have a tendency to develop positive attitudes and are willing to pay more for environmentally friendly products as well as demonstrate environment-supportive behavior (Ullah et al., 2018; Abid and Jahan, 2022). Environmental concerns seem to be one of the main factors driving the purchase of organic drinks, which is often considered an environmentally friendly behavior (Massey et al., 2018; Thu et al., 2021). Consumers who like green products often like OF usually end up buying them. The link between what people are aware of and what they do has been explored in different theories and hypotheses (Padel and Foster, 2015; Wang et al., 2019; Chen et al., 2022). ABC model says that concern about the environment leads to a positive attitude toward it, which leads to acting in ways that help the environment (Ellis, 1991). Another theory, the TPB, says that what people think directly affects their actions and intentions (Ajzen, 1991). McDonald and Crandall (2015) research indicates that social norms and relationships significantly influence and predict individual behavior (Ladwein et al., 2021). Environmental concerns stemming from moral obligations to safeguard the environment foster a positive attitude among consumers toward preserving their surroundings. This attitude creates opportunities for developing environmentally friendly or organic products in developed nations and some developing nations (Chaubey et al., 2021). Accordingly, consumers perceive pesticides and conventional chemicals as detrimental to the environment, favoring OB as an eco-friendly alternative. While this factor positively impacts consumer attitudes, various studies suggest that it does not directly drive the purchase of OB; in some cases, attitudes primarily influence the intention of buying (Yin et al., 2020; Thu et al., 2021).

> *H1a*: Consumers' environmental concerns positively impact consumers' attitudes toward purchasing OB.
>
> *H1b*: Consumers' environmental concerns positively impact consumers' intention of buying OB.
>
> *H1c*: There is a full mediator effect of customers' attitude on relation between environmental concern and OB buying intention.

2.2.2 Health awareness

Health awareness is one of the first reasons consumers are interested in buying OB (Sundar et al., 2015; Nguyen et al., 2019; Wang et al., 2019). Health awareness reflects an individual's thinking about health issues and willingness to take action to ensure their health. When buying, they require foods with nutritional content, quality, flavor, and safety (Thøgersen et al., 2016; Chen et al., 2022). Health awareness is the main factor determining the consumption of organic drinks (Rizzo et al., 2020; Mai et al., 2023). Although Dahm et al. (2019) found that health awareness did not predict significantly OB purchasing attitudes, most previous studies have confirmed a positive relationship between these variables (Hjelmar, 2020; Huong, 2022; Mai et al., 2023). Cheung et al. (2015) confirm that health awareness was the strongest determinant of attitudes toward OB. Research also shows that consumers believe OB have more nutrients than conventional products. Le (2018) showed that easier access to information in the media has

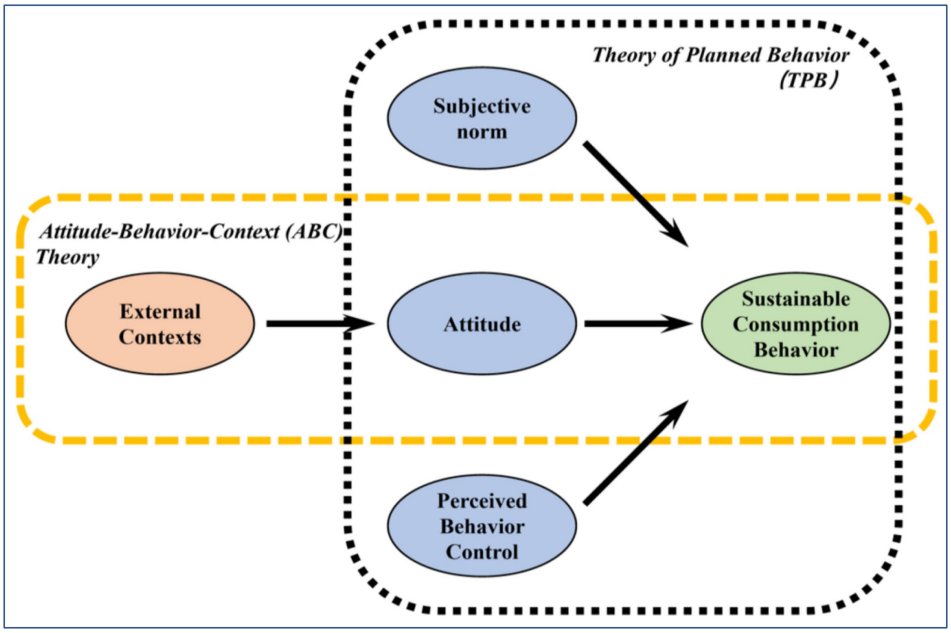

FIGURE 1
Combination of TPB and ABC theories with main components. Source: Ajzen (1991) and Ellis (1991).

made consumers more interested and aware of protecting health and improving quality of life. Factors of demographics make consumers in developed countries especially concerned about safe, nutritious, environmentally friendliness, and the risk of increasing the likelihood of some diseases such as obesity and diabetes. Consumers also do not mind high prices as long as the food is safe for them and their relatives (Chen and Lobo, 2012; Mainardes et al., 2017; Mai et al., 2023).

> *H2a*: Consumers' health awareness positively impacts consumers' attitudes toward purchasing OB.
>
> *H2b*: Consumers' health awareness positively impacts consumers' intention of buying OB.
>
> *H2c*: There is a full mediator effect of customers' attitude on relation between health awareness and OB buying intention.

2.2.3 Knowledge about OB

Consumer awareness and knowledge about OB are critical in their purchasing decisions (Wang et al., 2019; Doan, 2021; Huong, 2022). A customer's knowledge about a certain product is a socio-psychological process that includes their perception, attitude, reflection, and analysis of information about that product (Levesque, 2021). According to Mai et al. (2023), one of the main reasons for the low consumption rate of OF is due to limited customer awareness of them. Some researchers also consider the lack of knowledge about OB a barrier to purchasing OB (Angelovska et al., 2012; Ahmad and Juhdi, 2020; Abid and Jahan, 2022). Knowledge about OB requires consumers' understanding of OB and the ability to evaluate this product's quality and beneficial characteristics (Ariffin et al., 2016). In the context of the rapid emergence of food-related illnesses, food safety has become a top concern with buyers. Anders and Moeser (2018) assert that food safety concerns are the main factor explaining consumer attitudes toward OB. Research by Golian et al. (2018) showed that food safety is also the main driving force behind purchasing organic drinks. Recent studies show that customers' health awareness is the most important reason for choosing OF because people mostly believe that OF can be safe and beneficial to their health than conventional foods of the same type (Chaubey et al., 2021; Chen et al., 2022; Mai et al., 2023). Customers' awareness that OF are healthier, have higher nutritional content, and have more unique flavors than traditional foods has led to their positive attitudes toward OF in general and OB in particular. Furthermore, organic farming is also considered safer than conventional industrial farming. Preservatives and other chemicals that are harmful to human health or cause diseases for animals (bird flu or avian influenza, mad cow, etc.) have recently made consumers worried (Le, 2018; Thu et al., 2021). In addition, certifications for organic products are essential for consumers to recognize and purchase OB. Unclear information on labels (ingredients used, product features, etc.) or fake or unverified certifications erodes consumer trust. Increasing customers' product knowledge about the benefits of OB can facilitate greater consumption of OB knowledge is an important enabler to promote the implementation of actions (Nguyen et al., 2019; Wang et al., 2019; Son, 2020).

> *H3a*: Consumers' knowledge about OB positively impacts consumers' attitudes toward purchasing OB.
>
> *H3b*: Consumers' knowledge about OB positively impacts consumers' intention of buying OB.
>
> *H3c*: There is a full mediator effect of customers' attitude on relation between knowledge about OB and OB buying intention.

2.2.4 Price perception of OB

As to Ueasangkomsate and Santiteerakul (2015; *There is a full mediator effect of customers' attitude on relation between knowledge about OB and OB buying intention*), price perception includes the consumer's sense of value corresponding to quality and social class. Some previous studies have shown the significant influence of price awareness on customers' attitudes and intention to purchase OF (Ragavan and Mageh, 2013; Ullah et al., 2018; Nguyen et al., 2019; Saleki et al., 2019). The high price of OF that customers are willing to pay is related to their investment in the health of themselves and their families, and they are willing to pay more because they perceive OF to reveal their higher social status than other groups. As production costs are high, organic products often cost 50–100% higher than conventional products (Ullah et al., 2018; Dat and Truong, 2020; Mai et al., 2023). OB products sold at supermarkets are also priced relatively higher than those sold directly by farmers because the supermarkets must deduct the portion of products damaged due to transportation and display for sale (Cheung et al., 2015; Ostapenko et al., 2020). As to Brewer and Prestat (2022), the biggest challenge to enhance the OB consumption is proving to consumers the product quality, making them fully understand the products' benefits and hence accept their high price. Chaubey et al. (2021) showed that the high price of OB affected negatively consumers' perceived value (i.e., the higher product price is incompatible with added benefits) and thus limits their purchasing.

> *H4a*: Price perception positively impacts consumers' attitudes toward purchasing OB.
>
> *H4b*: Price perception positively impacts consumers' attitudes toward purchasing OB.
>
> *H4c*: There is a full mediator effect of customers' attitude on relation between price perception and OB buying intention.

2.2.5 Subjective norms

Ajzen (1991) stated that Subjective norms are social pressures that motivate someone to perform a particular behavior. Subjective norms refer to how individuals' awareness, emotions, and beliefs can be influenced by other people (Ladwein et al., 2021). It can also be defined as the changes in individuals' opinions, emotions, and awareness resulting from the influence of other individuals or groups (Huong, 2022; Doan, 2021; Mai et al., 2023). Essentially, subjective norms mean that individuals are susceptible to the standards and expectations of others and groups. Subjective norm is the primary factor affecting the buyers' OF purchase intentions. Subjective norms come from imitating the behavior of relatives, friends, colleagues, or social groups. They can also come from values shaped by society through communication or sharing (Hjelmar, 2020). According to Levesque (2021), subjective norms can be a blend of external factors that influence an individual's values and the individual's own internal values. For example, people who highly value health safety and environmental protection combined with being influenced by social

norms will have a higher tendency to consume OF than others (Ngo and Vu, 2016; Nguyen et al., 2019). Therefore, subjective norms are proposed to be studied as a factor influencing customers' attitudes and intentions to purchase OF in this study.

> *H5a*: Subjective norms impact positively consumers' attitudes toward purchasing OB.
>
> *H5b*: Subjective norms impact positively consumers' intention of buying OB.
>
> *H5c*: There is a full mediator effect of customers' attitude on relation between subjective norms and OB buying intention.

2.2.6 Marketing and communication of OB

Marketing activities associated with an environmental perspective are called "organic marketing," "green marketing," and "environmental marketing," which include marketing activities that attempt to reduce negative impacts on society, the environment, and existing production systems, promoting products and services that are less harmful on the nature (Krstić et al., 2021; Cuc et al., 2022). It has been recognized that activities such as green promotions, green stores, and green labeling significantly influence consumer choices for environmentally friendly products (Nguyen and Trang, 2021; Krstić et al., 2021). Leveraging marketing and communication for product promotion is a significant factor of OF buying intention. In general, consumers can acquire OF information via promotions and information campaigns (e.g., by messages, TV, newspapers, TikTok, Facebook, or social networks; Podvorica and Ukaj, 2020; Mai et al., 2023). The OF awareness is increased by proper information to consumers showing OF benefits. A found that stores practicing green marketing contributed to increasing consumer awareness of the quality and image of OB. Several authors highlight the crucial role of attitudes in shaping behavior, stressing the importance of comprehending attitudes toward OB (Angelovska et al., 2012; Doan, 2021; Chen et al., 2022).

> *H6a*: Marketing and communication positively impact consumers' attitudes toward purchasing OB.
>
> *H6b*: Marketing and communication positively impact consumers' intention of buying OB.
>
> *H6c*: There is a full mediator effect of customers' attitude on relation between marketing and communication and OB buying intention.

2.2.7 Attitudes and intention to buy OB

Attitudes toward OB and the purchasing intention of OB have always been the focus of research related to OB behaviors (Ragavan and Mageh, 2013; Rizzo et al., 2020; Nguyen and Trang, 2021; Chen et al., 2022). Consumers' attitudes toward purchasing OB indicate their positive or negative evaluations toward purchasing OB. The intention has been deemed as "attitude's conative component," while intention refers to the likelihood that a person will perform a certain behavior in the future (Ngo and Vu, 2016; Massey et al., 2018; Son, 2020). In other words, attitude plays an important role and is an essential predictor of understanding intention and behavior. Some previous studies have concluded that attitudes toward purchasing OF have a significant and positive impact on consumers' intention to purchase OF (Pomsanam et al., 2014; Yin et al., 2020; Son, 2020; Thu et al., 2021; Chen et al., 2022). Consumers with a positive attitude toward OB often believe buying it is essential and a good choice for them and their families, so the intention to buy is likely to increase. More specifically, customers' positive attitudes toward OF can be related to education, income level as well as the belief that consuming OF is beneficial to health, the environment, and ethics (Wang et al., 2019; Nguyen et al., 2019; Mai et al., 2023). Ueasangkomsate and Santiteerakul (2015) found a significant positive relationship between consumers' attitudes toward consuming OB and the proportion of them actually consumed. Similarly, an empirical paper conducted by Nguyen et al. (2019) indicated that students having positive attitudes toward OF would consume more OB on campus, at home, and at restaurants. In another study by Cheung et al. (2015) focusing on Hong Kong urban consumers, using TPB they found that factors such as the product itself, policy framework, and lifestyle, directly and indirectly, affect how consumers judge and intend to buy OB.

> *H7*: Consumers' attitudes toward OB positively impact the intention to buy OB.

Figure 2 presents the conceptual model of this study based on developed hypotheses:

3 Methodology and data

This study applies a quantitative analysis approach based on building models and research assumptions, and then testing the assumptions with empirical data sets. We have reviewed studies on factors affecting OF in general and OB in particular to analyze the overall knowledge in this field including theories, models used, assumptions, variables, relationships, and ways to measure variables in quantitative models of OF and OB consumer behavior. To conduct the review analysis, we searched and selected reference documents and implemented a five-step process, including (i) formulating research questions, (ii) defining protocols for reviewing literature, (iii) building scales for variables, (iv) collecting data in the field, and (v) analyzing data and synthesizing results. Figure 3 shows the steps in the study process.

3.1 Formulating research questions

The research question plays a central role in the study and is the result of the analysis process, reviewing theoretical and practical gaps. From the research context in part 1 and reviewing the gaps, this study raises the question "What factors affect the intention to use OB of consumers in Vietnam?," and "The extent to which behavioral, economic, and social factors affect the intention to use OB of consumers?"

3.2 Defining a protocol for literature review

The research team used keywords to find and filter documents most relevant to the topic and research question and used Boolean

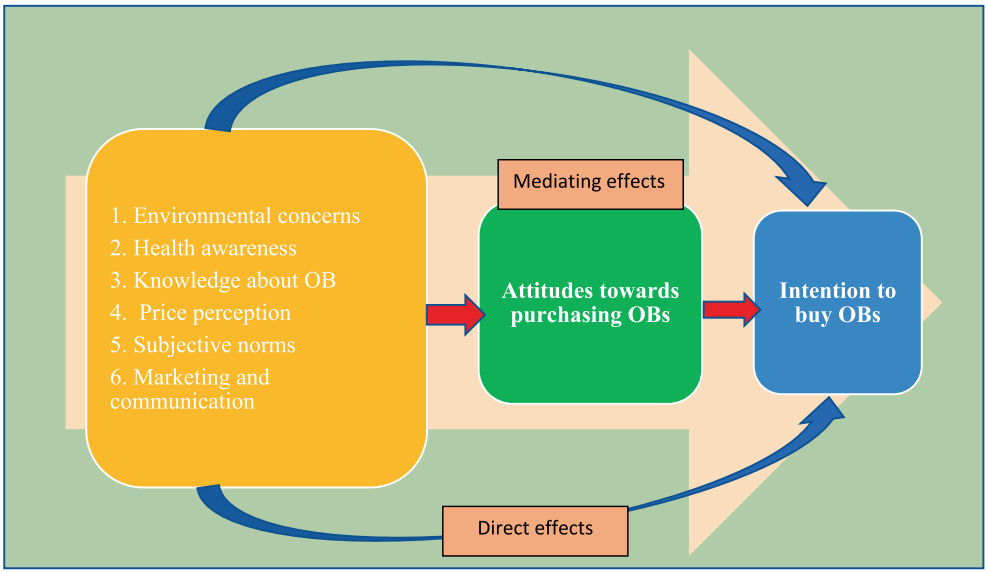

FIGURE 2
Proposed research model. Source: Study design (2024).

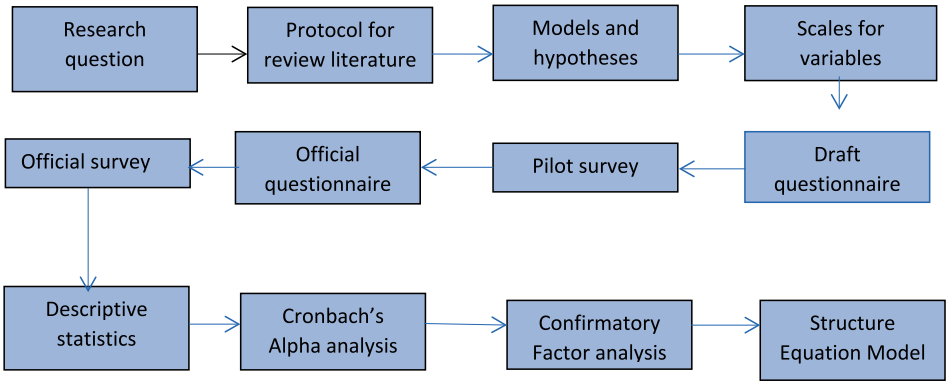

FIGURE 3
Research process. Source: Research design (2024).

operators ("AND" and "OR") to improve the accuracy of the search. The searched databases included Scopus, Web of Sciences, and Google Scholar. In the first round of searching with the keywords "factors affecting OB of customers," 157 documents were found. In the next round, we introduced selection criteria including excluding book chapters and proceedings but including English articles in Q3 to Q1 journals of Scimago. The results showed that 83 documents met the above criteria. The research team evaluated the documents based on abstract and title to select 25 articles directly related to the research topic. These articles were then collected in full and reviewed in depth to understand the model, theory as well as related hypotheses.

3.3 Building scales for variables

The observed variables and scales used in this research were selected and adjusted from previous research by Massey et al. (2018), Son (2020), Chen et al. (2022), and Mai et al. (2023). Accordingly, we used some observed variables with corresponding statements to measure related factors. The paper employed a five-point Likert scale to measure the level of agreement with statements. Respondents' views fluctuated from level 1 = strongly disagree, level 2 = disagree, level 3 = neutral, level 4 = agree, and level 5 = strongly agree. The model included seven independent variables, one mediating variable, and one dependent variable (OB buying intention) (Table 1).

3.4 Collecting data

We collected data through a focus group discussion (FGD) and a direct customer survey. First, the study conducted an FGD with 12 customers to build measurement scales for observed variables. During the discussion, the opinions of the participants were recorded as a basis for calibrating the model and the scale of factors in the model. FGD results showed that discussion participants agreed on eight

TABLE 1 Measurement of observed variables in the research model.

No.	Factors	Observed items	References
1	Environmental concerns (EVN)	EVN1: The natural balance is fragile and vulnerable	Massey et al. (2018), and Son (2020)
		EVN2: I am especially concerned and worried about pesticide residues and preservatives in beverages	
		EVN3: Using environmentally friendly products is a good solution to protect the environment	
		EVN4: There is a close relationship between the environment and food quality	
2	Health awareness (HEA)	HEA1: I care very much about the health of myself and my family	Le (2018), Chen et al. (2022), and Mai et al. (2023)
		HEA2: I think of myself as a consumer with good health awareness	
		HEA3: OF bring safety and improved health to you and your family	
		HEA3: I am always concerned about the quality and safety of today's beverages	
		HEA5: I often choose beverages carefully to protect my health	
3	Knowledge about OB (KNO)	KNO1: I know more about organic beverages than the average person	Massey et al. (2018), Abid and Jahan (2022), and Mai et al. (2023)
		KNO2: I understand the method to produce and evaluate the quality of organic beverages	
		KNO3: I understand the health and environmental benefits that organic beverages bring about	
		KNO4: I know where OF are sold and how it is distinguished from conventional food	
4	Price of OB (PRI)	PRI1: Organic beverages are still too expensive	Ahmad and Juhdi (2020), Cuc et al. (2022), and Nguyen and Trang (2021)
		PRI2: The price of organic beverages is a barrier to purchase	
		PRI3: People should buy organic beverages, even though they are more expensive than conventional beverages (reverse coding)	
5	Subjective norms (SN)	SN1: I think my core values drive OB consumption	Massey et al. (2018), and Wang et al. (2019)
		SN2: The effectiveness of OB consumption by my relatives and friends affects my OB buying intention	
		SN3: I think the social communication about OB impacts my intention to buy	
		SN4: I think the trend of using OF impacts my buying intention	
6	Organic marketing and communication (OMC)	OMC1: Organic beverages use labels certified by reputable organizations	Nguyen et al. (2019), and Cuc et al. (2022)
		OMC2: The parameters/indicators on the organic certification are clear and consistent	
		OMC3: I receive information about OF through traditional media (newspapers, radio, and TV) and social networks (Facebook, TikTok, and Instagram)	
		OMC4: I receive information about OF from OF suppliers, salespeople, phone advertisements, emails, and face-to-face consultations	
7	Attitudes toward purchasing OB (ATT)	ATT1: Purchasing OB brings more benefits than conventional beverages	Ueasangkomsate and Santiteerakul (2015), Ahmad and Juhdi (2020), Cuc et al. (2022), and Nguyen and Trang (2021)
		ATT2: I like the idea of consuming OB to protect the health and safety of myself and my family	
		ATT3: Purchasing OB instead of conventional beverages makes me feel happy	
		ATT4: I feel happy because I use OB and contribute to protecting the environment	
8	Intention to buy OB (ITBO)	ITBO1: I will purchase OB in the near future.	Massey et al. (2018), Wang et al. (2019), and Mai et al. (2023)
		ITBO2: I will buy OB even if I have to pay more	
		ITBO3: I will recommend buying OB for the others	
		ITBO4: I will spending more time searching for and studying OB before buying them	

Source: Research design (2024).

factors that are assumed to be included in the model including dependent, mediating, and independent variables. FGD also suggested using a five-level Likert scale for measuring observed variables. The population of the research was OB consumers in Vietnam. With scarce resources, we focused on researching and investigating customers in the Hanoi capital. We employed the formula by Hair et al. (2013) to estimate the sample size:

$$n = Z^2 * \frac{p*(1-p)}{e^2}$$

where n is *the* sample size, *z* is the z-score, *e* is the margin of error, and *p* is the standard of deviation. In the study, we supposed a 90% confidence level and 50% standard of deviation with a 5% margin of error (for a z-score of 1.65). The sample to ensure reliability was estimated at 480. In reality, the team collected 550 questionnaires in six urban districts of Hanoi, including Dong Da, Ba Dinh, Hoan Kiem, Hai Ba Trung, Thanh Xuan, and Long Bien. We used the cluster survey method combined with random selection to select the research sample. The interviews were implemented at major malls including ANONE, Big C, and Vincom. In addition, interviews were also conducted at food supermarkets including convenience stores, organic

stores, and Vinmart systems in Hanoi. Customers were randomly selected after making a purchase/visit the stores. They were approached and introduced to the purpose of the interview and asked for their consent to participate in the interview. Those who agreed had to sign a consent form. For those who disagreed, the study randomly selected other customers to interview. The official survey was conducted from 15 March 2024 to 15 April 2024 in Hanoi.

3.5 Analyzing data and synthesizing results

After collection, data from questionnaires were coded and entered, and then, we used SPSS 23.0 and AMOS 20.0 software to process data. We examined the non-response bias by using a *t*-test, and there were no statistical differences identified in the measurement scale of each variable. Hence, the bias of non-response did not influence the model. In addition, common method bias can inflate the relationship between exogenous and endogenous factors with a single participant. To ensure that bias did not influence the model, we employed Harman's one-factor test and the results indicated no impact of common method bias was found. Descriptive statistics were used to analyze the mean, frequency, and distribution of variables reflecting the socio-economic characteristics and response options of consumers (age, gender, income, education, etc.). Then, the study conducted Cronbach's alpha analysis to assess the reliability and validity of a scale and to assess whether the variables measure the same value or not, thereby allowing us to remove inappropriate variables. According to Hair et al. (2013), the larger the Cronbach Alpha value, the more valuable the scale. If the Cronbach's alpha coefficient > 0.7, the scale can be accepted. In addition, if the Cronbach's alpha if item deleted value is greater than the Cronbach's alpha coefficient, the variable should be considered. After having Cronbach's alpha analysis, the study proceeds to the next step of confirmatory factor analysis (CFA). The initial assumption of CFA is that the observed variables have been identified as belonging to which factors. The task of this analysis is to observe whether the observed variables have been grouped correctly, in order to establish suitable measurements used to test the structural model. To measure the suitability of the model to the survey data set, Hair et al. (2013) suggest using evaluation indexes such as chi-square/df; GFI; TLI, CFI, RFI, RMSEA, and PCLOSE. If a model has a value of hi-square/df < 3; GFI, TLI, CFI RFI, CFI from 0.9 to 1; and RMSEA <0.08, it is considered a model that fits well to the survey data set. Finally, the study used structural equation modeling (SEM) to analyze multidimensional relationships between many variables in a proposed model of factors affecting OB consumption intention, in which regression coefficients with *p*-values less than 0.05 were retained and indicate a significant correlation between the analyzed variables.

4 Results

4.1 Socio-economic characteristics of the sample

Table 2 briefly describes the demographic characteristics of the sample. Of the 550 people interviewed, 45.1% were men and 54.9% were women. The proportion of women was more than men, reflecting the fact that women are often responsible for shopping for the family as well as gender characteristics. Respondents were over 18 years old, with the highest proportion falling in the 18–45-year-old group (accounting for 44.5%), followed by the 36–50-year-old group (accounting for 39.6%) and the over 50-year-old group (17.7%). This age structure is consistent with the age structure of the overall Vietnamese population when the young population dominates and it is the main purchasing force in society. Among the 550 respondents, the group with an income of less than 10 million VND/month accounted for the highest percentage (42.5%), and next was the group with an average income of 11–35 million VND/month. Only 13.3% of respondents with an income of over 50 million VND/month constitute a high-income group in Vietnam. The respondents also had a relatively high level of education, with 33.2% having graduated from university and 17.8% having graduated from university. However, the high school graduate group still dominated with 41.4%.

4.2 Cronbach's alpha analysis and validity test results

The observed variables in the analysis demonstrated strong reliability with each Cronbach's alpha coefficient (α) exceeding the accepted threshold of 0.7 (Hair et al., 2013). We saw that the α values ranged from 0.721 to 0.856 with all total variable correlation greater than 0.3, hence ensuring all observed variables were retained for analysis. Additionally, all FL values exceeded 0.5 with CRs surpassed 0.7, and AVE coefficients were above 0.5, confirming the absence of multicollinearity (Table 3). Moreover, there were valid indicators for analyzing the path structure by SEM model, namely reliability, unidimensionality, and validity. The discriminant relations between studied variables are illustrated in Table 4. With construct degree, the values in diagonal cells for constructs were larger than the values between one construct and any others (Table 4).

4.3 Confirmatory factor analysis results

After Cronbach's alpha analysis, the study implements CFA. The goal of CFA is to confirm whether the data fit a hypothesized measurement model prior to research or theory. As to Hair et al. (2013), the validity of the measurement model is assessed by comparing the theoretical model with the actual data. This includes examining factor loadings (with a standard threshold of 0.7 or higher for adequate loadings) and fit indices such as the chi-square, the root mean square error of approximation (RMSEA), the goodness of fit index (GFI), and the comparative fit index (CFI). If a model has a value of chi-square/df < 3; GFI, TLI, CFI RFI, CFI from 0.9 to 1; RMSEA <0.08, it is considered a model that fits well to the survey data set. In our analysis, CFA results revealed significant findings with $p < 0.001$, χ^2/df at 2.006, GFI of 0.935, AGFI at 0.918, CFI at 0.932, NFI of 0.942, and RMSEA at 0.046. These indicators indicated the suitable fit of the proposed model.

4.4 Structure equation model results

In the SEM model, most of the independent variables exhibited high significant levels (Sig = 0.000) showing significant relationships. The hypothesis testing outcomes affirmed the acceptance of hypotheses H1a, H2a, H4a, H6a, and H7. Regarding their impact on the consumers' attitudes toward buying OB, environmental concerns ($\beta = 0.319$, $p < 0.01$), health awareness ($\beta = 0.262$, $p < 0.01$), price perception ($\beta = 0.271$, $p < 0.01$), subjective norms ($\beta = 0.262$, $p < 0.01$), and OMC ($\beta = 0.241$, $p < 0.05$) all positively influenced consumers' attitudes. However, the link between knowledge of OB and intention to buy OB lacked statistical significance ($\beta = 0.213$, $p > 0.05$). Additionally, the study also did not find a significant relationship between knowledge of OB and customers' attitudes toward OB ($\beta = 0.237$, $p > 0.05$) (Table 5; Figure 4).

4.5 Mediating effect results

This study used the analytical procedure of Hair et al. (2013) to evaluate the influence of independent variables on the dependent variable (intention to buy OB) with the impact of the mediating variable (attitude toward buying OB). We employed a four-step approach (Hair et al., 2013) to evaluate the mediating effect of the attitude variable, in which for each independent variable, three equations were established to evaluate the statistical significance of the mediating effect. The results of the analysis are shown in Table 5. Analysis of mediating effects allowed for an overall picture of the interrelationships between factors that impact the intention to buy OB from customers in Vietnam.

First of all, with the environmental concern variable, in step 1 of analyzing the mediating effect of awareness on consumption intention, the impact coefficient of environmental concern on intention to buy OB was 0.379 (sig < 0.05), so it satisfied the condition of step 1. Step 2 evaluated the impact of EA on attitude on OB buying and gave results with a coefficient value of 0.355 (sig < 0.05), so it also satisfied the conditions of step 2. In step 3, the impact of attitude toward OB on intention to buy OB resulted in an impact coefficient of 0.401 ($p < 0.05$), which also satisfied the condition of step 3. Step 4 tested the impact of environmental awareness and attitude on OB buying intention with an impact coefficient value of 0.337 (sig <0.05). Thus, the sig of all four steps gave values less than 0.05 and indicated that there was a full mediation effect of attitude about OB between EA and intention to buy OB. Since then, hypothesis H1c was supported. Applying the same four-step analysis process to other independent variables, including health awareness, knowledge about OB, price perception, subjective norms, and marketing and communication resulted in: there was a full mediating effect of attitude toward OB between health awareness, price perception, subjective norms, marketing and communication, and intention to buy OB (sig values of four steps <0.05 for each of the above variables). Therefore, hypotheses H2c, H4c, H5c, and H6c were accepted. However, KNO did not show a significant impact on buying intention when the mediating variable attitude toward OB was included in the model. Thus, attitude toward OB did not create a mediating effect in the relationship between knowledge and purchasing intention. Hypothesis H3c was thus rejected (Table 6).

TABLE 2 Characteristics of the studied sample.

Characteristics	N	%
Gender		
Male	248	45.1
Female	302	54.9
Age		
From 18 to 35	245	44.5
From 36 to 50	218	39.6
Over 50	87	15.9
Education		
Schools	228	41.4
University	183	33.2
After university	98	17.8
Other	41	7.6
Monthly income (million VND)		
<1	234	42.5
11–35	138	25.1
36–50	105	19.1
>50	73	13.3

Source: Research results (2024).

5 Discussion

This study is based on the combination of TPB and ABC theories to build an empirical model of factors affecting OB consumption in Vietnam. In our opinion, previous studies on OB behavior lack multifaceted approaches or integrated models. Therefore, our model provides a new theoretical structure to predict customers' intention to use OB in a developing country with a dynamic economy. In addition, the study also evaluates the mediating role of attitude toward OB consumption intention as well as the influence of factors on customers' OB consumption attitude and behavior in Vietnam, thereby clarifying the contextual and cultural factors in consumption behavior. Vietnam, with its dense and diverse urban population, opens up many opportunities and challenges in researching the topic of OB (Ngo and Vu, 2016; Nguyen et al., 2019). In the context of urbanization and economic growth, understanding the factors affecting OB consumption intentions is becoming increasingly urgent (Ngo and Vu, 2016; Doan, 2021; Nguyen et al., 2019). Not only that, Vietnam is also home to many middle- to high-income and higher-income groups. The diversity of income and lifestyle creates a multidimensionality in the consumer market, posing many challenges and opportunities for the OB industry. Therefore, this study contributes to theoretical aspects and provides implications for promoting OB consumption for managers and businesses in Vietnam as well as providing a case study in developing countries in the literature.

First, the results indicate that there is a significant relationship between attitude toward OB and the purchase intention of OB. This is an important finding for OB businesses; to promote consumption intention, it is necessary to maintain and promote a positive attitude toward OB among customers. In addition, factors such as environmental concern, health awareness, price perception, subjective norms, and communication and marketing also have a positive and

TABLE 3 Validity and reliability test results.

Variables and items	Cronbach's alpha (α)	Standardized factor loading (FL)	Composite reliability (CR)	Average variance extracted (AVE)
Environmental concerns (ENV)	0.852			
ENV1		0.783		
ENV2		0.803	0.808	0.756
ENV3		0.846		
ENV4		0.749		
Health awareness (HEA)	0.792			
HEA1		0.779		
HEA2		0.723	0.801	0.762
HEA3		0.741		
HEA4		0.701		
HEA5		0.688		
Knowledge about OB (KNO)	0.761			
KNO1		0.726		
KNO2		0.764		
KNO3		0.766	0.712	0.692
KNO4		0.745		
Price of OB (PRI)	0.752			
PRI1		0.727		
PRI2		0.729	0.719	0.669
PRI3		0.745		
Subjective norm (SN)	0.789			
SN1		0.746		
SN2		0.749	0.721	0.703
SN3		0,721		
SN4		0.704		
Organic marketing and communication (OMC)	0.798			
OMC1		0.769		
OMC2		0.731	0.745	0.678
OMC3		0.742		
OMC4		0.711		
Attitudes toward purchasing (ATT)	0.807			
ATT1		0.798		
ATT2		0.764	0.797	0.671
ATT3		0.777		
ATT4		0.757		

Source: Research results (2024).

significant impact on both OB attitude and consumer intention to use OB. This finding is similar to results in studies by Son (2020), and Wang et al. (2019) in developing countries. Thus, OB and OF businesses should raise customers' awareness of the health benefits, environmental protection of OB, and other knowledge about OB to promote their purchasing behavior. In addition, businesses should also develop marketing and communication measures to continuously interact with customers to create a positive image of OB and higher awareness about the benefits of OB. In Vietnam, social networks are growing strongly with more than 100 million Facebook and TikTok accounts, young people mostly use social networks to gather information. Therefore, communication measures must necessarily

TABLE 4 Discriminant validity correlation of variables.

Variables	Mean	Std	ENV	HEA	KNO	PRI	SN	OMC	ATT
ENV	3.712	1.261	0.801						
HEA	3.814	1.125	0.356	0.797					
KNO	3.721	1.119	0.330	0.291	0.767				
PRI	3.621	1.182	0.377	0.313	0.369	0.795			
SN	3.374	1.104	0.373	0.383	0.384	0.358	0.769		
OMC	3.424	1.132	0.328	0.493	0.352	0.793	0.701	0.743	
ATT	3.641	1.039	0.543	0.403	0.503	0.534	0.635	0.534	0.713

Source: Research results (2024).

TABLE 5 Results of testing research hypotheses.

Hypotheses	Estimate (β)	*T*-value	*p*-value	Results
H1a: ENV → ATT	0.319	5.399	***	Accepted
H2a: HEA → ATT	0.262	4.736	***	Accepted
H3a: KNO → ATT	0.237	3.072	0.093	Rejected
H4a: PRI → ATT	0.271	2.275	***	Accepted
H5a: SN → ATT	0.261	1.906	***	Accepted
H6a: OMC → ATT	0.241	2.106	**	Accepted
H1b: ENV → ITBO	0.269	3.399	***	Accepted
H2b: HEA → ITBO	0.239	4.736	**	Accepted
H3b: KNO → ITBO	0.213	3.072	0.112	Rejected
H4b: PRI → ITBO	0.164	3.271	***	Accepted
H5b: SN → ITBO	0.219	3.906	**	Accepted
H6b: OMC → ITBO	0.198	3.112	***	Accepted
H7: ATT → ITBO	0.304	4.376	***	Accepted

**$p < 0.05$, ***$p < 0.01$. Source: Research results (2024).

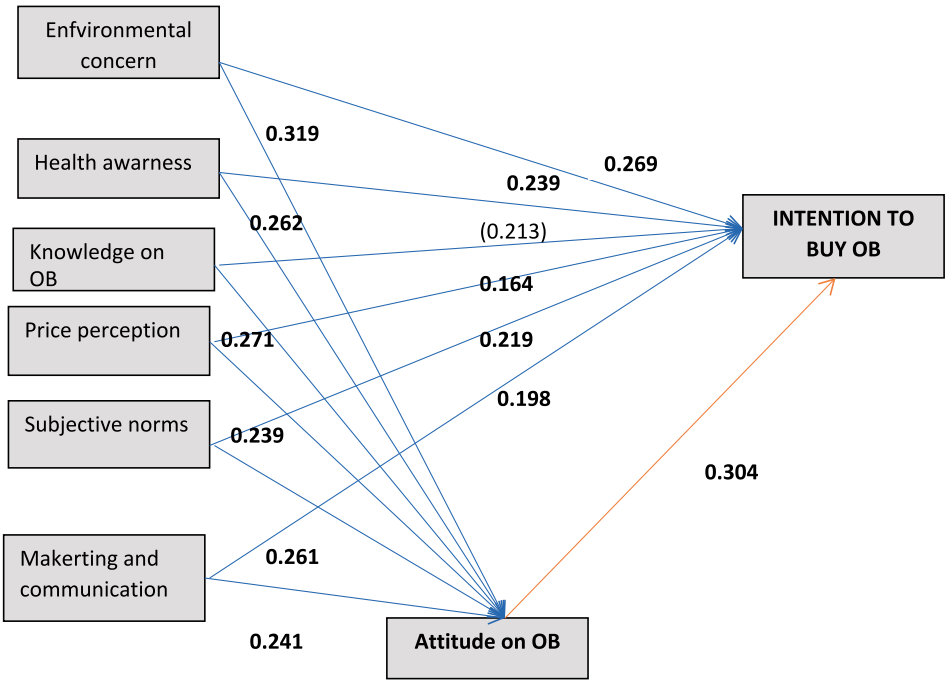

FIGURE 4
SEM analysis results. Source: Research results (2024).

TABLE 6 Mediating effect results.

Hypotheses	Mediating effect	Estimate (β)	*p*-value	Significant for the next step	Result
Hypothesis: ENV → ATT → ITBO					
H1c	ENV → ITBO	0.379	0.000	Significant	Full mediation
	ENV → ATT	0.355	0.000	Significant	
	ATT → ITBO	0.401	0.000	Significant	
	ENV x ATT → ITBO	0.337	0.000	Significant	
Hypothesis: HEA → ATT → ITBO					
H2c	HEA → ITBO	0.411	0.000	Significant	Full mediation
	HEA → ATT	0.386	0.000	Significant	
	ATT → ITBO	0.352	0.000	Significant	
	HEA x ATT → ITBO	0.391	0.000	Significant	
Hypothesis: KNO → ATT → ITBO					
H3c	KNO → ITBO	0.087	0.103	Not significant	No mediation
	KNO → ATT	0.124	0.024	Significant	
	ATT → ITBO	0.362	0.097	Not significant	
	KNO x ATT → ITBO	0.185	0.125	Not significant	
Hypothesis: PRI → ATT → ITBO					
H4c	PRI → ITBO	0.421	0.000	Significant	Full mediation
	PRI → ATT	0.314	0.000	Significant	
	ATT → ITBO	0.345	0.000	Significant	
	PRI x ATT → ITBO	0.382	0.000	Significant	
Hypothesis: SN → ATT → ITBO					
H5c	SN → ITBO	0.341	0.000	Significant	Full mediation
	SNI → ATT	0.363	0.000	Significant	
	ATT → ITBO	0.405	0.000	Significant	
	SN x ATT → ITBO	0.348	0.000	Significant	
Hypothesis: OMC → ATT → ITBO					
H6c	OMC → ITBO	0.422	0.000	Significant	Full mediation
	OMC → ATT	0.413	0.000	Significant	
	OMC → ITBO	0.394	0.000	Significant	
	OMC x ATT → ITBO	0.347	0.000	Significant	

Source: Research results (2024).

be through digital platforms and social networks to connect with customers. This result is similar to research by Ragavan and Mageh (2013), Saleki et al. (2019), Thu et al. (2021), and Mai et al. (2023). Hypothesis H3a and H3b predicting the impact of knowledge on OB did not show a statistically significant relationship in the study. So knowledge on OB in this case does not affect customers' awareness and intention to buy OB. A partial explanation can be that in Vietnam, factors such as subjective norms and social consumption trends as well as the impact of familiar people on individuals' consumption behavior are very important. Sometimes, they do not necessarily have knowledge about OB but are influenced by acquaintances and collective behaviors in society. This finding contrasts with results in studies by Massey et al. (2018), Nguyen et al. (2019), and Nguyen and Trang (2021), which demonstrated that knowledge on OB is an important factor influencing attitude and intention to consume OF.

In addition, the study shows that there is a total and significant mediating effect between environmental awareness, health awareness, subjective norms, price perception, and marketing and communications on customers' intention to purchase OB through the intermediate variable (attitude toward OB). This means that when consuming OB, customers want to be assured that they are acting meaningfully in environmental protection and health safety and that these factors are significant in shifting their intentions. Customer on the OB consumption side. This result is similar to previous studies on the mediating effect of attitude on OF consumption intention (Ahmad and Juhdi, 2020, Brewer and Prestat, 2022, Mai et al., 2023).

6 Conclusion

This research not only contributes to the theoretical framework in analyzing customer behavior with OB consumption intention but also brings implications for OB stakeholders. In particular, the most important finding of the study is the mediating role of attitude on customers' intention to consume OB, in which important factors that influence OB include environmental awareness, health perception, subjective norms, price perception, and marketing. Based on these findings, OB manufacturers should continue to

communicate and market to consumers the health benefits, environmental protection, and sustainable production and consumption of OB. It is important for manufacturers to keep environmental, health, and ethical values in mind when producing and sourcing OB. The communication channel that should be aimed at is social networks with young people combined with creating social OB consumption trends. Subjective norms are very important in promoting consumer intention and behavior and changing customers' attitudes toward the good values of OB. In addition, the price of OB also needs to be designed and considered by manufacturers to match customers' willingness to pay. Obviously, producing and providing OB will cost businesses more, but if a satisfactory price list cannot be built, consumers may also turn away from OB. In developing countries like Vietnam, although income has increased, increased payments for OB can also be a barrier to consumption intention. Therefore, it is necessary to have product pricing strategies that are cleverly designed and follow a suitable roadmap to reach customer payments.

This study has some limitations, which can be further improved in future papers. First, the study was limited to only one city, Hanoi, with a rather small sample size. To have comprehensive implications with a broader scope of application, studies in cities and rural areas with larger sample sizes are needed. Second, we used cross-sectional with self-reported data from customers and this can create social biases that do not completely accurately reflect actual behavior. Third, the study focused on many OF at the same time, so the results only reflect general behavioral trends and attitudes about OB. Subsequent studies can focus on a specific type of OB to make distinctions and provide more detailed implications for managers and businesses in promoting OB consumption.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

Ethics statement

The studies involving humans were approved by the Scientific and Traning Committee NEU. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

DT: Conceptualization, Formal analysis, Project administration, Validation, Visualization, Writing – original draft. TH: Data curation, Methodology, Supervision, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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