

## **Factors Influencing Imported Beef Purchase Intention: A Case Study in Long Bien District, Hanoi, Vietnam**

**Nguyen Ngoc Mai, Do Quang Giam & Do Van Vien**

Faculty of Accounting and Business Management, Vietnam National University of Agriculture, Hanoi 131000, Vietnam

### **Abstract**

The objective of the paper was to analyze the factors influencing the purchase intention of consumers for imported beef in Long Bien district, Hanoi. Quantitative and qualitative methods were employed in this study based on an online survey using a structured questionnaire. The data were collected from 388 consumers who bought imported beef or had an intent to buy in the future. Structural equation modeling (SEM) was used to analyze the data. The results of this study showed that the factor of perceived quality and the factor of clear information on the packaging with the country of origin were the significant factors that increased purchase intention. These factors also contributed to increasing the positive attitudes towards the consumption of imported beef. Attitudes were also a mediating factor that positively influenced purchase intention. In addition, the availability of the product in the market contributed to the stronger purchase intention towards imported beef.

### **Keywords**

Purchase Intention, Imported Beefs, structural equation modeling, Hanoi

### **Introduction**

Meat and meat products are principal sources of protein in human diets. Moreover, they play the central role of meals in many families over the world. Meat consumption depends on many factors such as socio-economic factors, ethics or religious beliefs, and tradition. In Vietnam, the average consumption of beef was about 9.2 kg per person/year during the period from 2017 to 2019 (OECD-FAO, 2020). According to the General Department of Vietnam Customs (2020), Vietnam imported over 500,000 buffaloes and cows in 2020, of which, about 91.5% were cows for slaughter and 124 tons were frozen beef. These figures were valued at about US\$556 million. In fact, demand for imported beef has sharply increased in Vietnam, especially in huge urban areas.

**Received:** November 3, 2021  
**Accepted:** March 21, 2020

**Correspondence to**  
[nnmai@vnua.edu.vn](mailto:nnmai@vnua.edu.vn)

**ORCID**

Nguyen Ngoc Mai

<https://orcid.org/0000-0003-2473-0318>

Trade is one of the crucial factors which impacts food availability as well as the purchasing power of consumers, and is impacted by income, demand, and the favorites of consumers (Regmi, 2001). According to a report of World Bank (2019), Vietnam's per-person income in 2018 reached \$2,500, an increase of 2.5 times within 30 years, and the development of the economy has contributed to improved living standards and incomes for the Vietnamese. The middle class in Vietnam accounts for 13% of the total population and is predicted to increase in the future. As a result of the rising incomes, demand for a higher quality of life in urban areas will also increase. Many studies have indicated that as incomes increase, consumers consume more and more diverse foods, and become more concerned about the quality, origin, safety, and nutrition of foods (Thang & Popkin, 2004; Phuong & Mergenthaler, 2013), including meat and meat products.

Overall, an increase in income will lead to the creation of a potential market for food companies to expand their businesses (Union, 2020). Understanding the buying cycle is extremely important for businesses because only through purchasing process models can they understand the demands of customers. Research by Jadhav & Khanna (2016) illustrated that it is principal for business units to focus on the demands of customers to understand consumer behavior as the basis for making effective business and marketing strategies. There have been many studies on consumer behavior towards foods. However, studies on consumer behavior towards imported foods in general and imported beef in particular are still very limited in Vietnam.

Based on the above issues, the main purpose of the study was to determine the factors affecting the purchase intention towards imported beef of customers in Long Bien district and analyze the influence of each factor. Moreover, some business implications will also be suggested for businesses that intend to trade imported beef in the area in the future.

## Methodology

### Theoretical background and hypotheses

#### *Definitions of Purchase Intention and Imported Beef Purchase Intention*

Imported foods are prescribed in Decree No.15/2018/ND-CP, excluding functional foods in Vietnam (Government, 2018). They are foods that originate from foreign countries and have to meet food safety conditions, and they must be announced by business individuals/organizations as imported foods. Foods that meet the requirements for food safety must ensure that they do not cause harm to health and life (Assembly, 2010). Therefore, imported beef originating from other countries must also meet these requirements.

Purchase intention is a motivating factor that motivates individuals to be willing to perform a behavior (Ajzen, 1991). There have been many empirical studies on food behavior (Rana & Paul, 2017), including imported beef. Previous studies have shown that purchase intention decides the purchase behavior towards imported foods (Bukhari, 2019). Therefore, purchase intention on consumable imported beef refers to the willingness of individuals, which leads to their purchase behavior.

#### *Factors Impacting Purchase Intention toward Imported Beef*

##### *The Mediating Role of Attitude toward Imported Beef*

Consumers as coherent individuals are influenced by many external inputs that can control perception, emotions, and behavior. Psychology plays a role in influencing human behavior and that has been extensively analyzed and defined in the scientific literature. Axelson & Brinberg (1989) illustrated that psychology especially relates to the choice and purchase of products, services, or experiences.

Attitude is defined as a psychological path of evaluating a specific object with favor or disfavor (Eagly & Chaiken, 2007). Attitude is established through experiences and may transform when new experiences are obtained (Ajzen, 2005). Consumers have attitudes to specific product behaviors, for instance, which kinds of food the

person prefers to use. Attitude towards the behavior refers to the level at which a person has a positive or negative evaluation of the behavior in question. The more positive the attitude is in regard to a behavior, the stronger the individual's intention is to perform the behavior under consideration (Tarkiainen & Sundqvist, 2005).

Attitude is a variable, appearing in behavioral research models of the theory of planned behavior (Ajzen, 1991) and the model of goal-directed behavior (Perugini & Bagozzi, 2001). Attitude is a factor used to predict behavior or behavioral intentions towards different foods (Honkanen & Frewer, 2008). Several studies have shown that consumers, who have a positive attitude towards imported foods, will have a stronger purchase intention (Heslop, 2007; Wang, 2015). Attitudes and beliefs of consumers about meat and meat products depend on the attributes of the products. They are measurable variables influencing individual emotions and behaviors as well as purchase intentions. Therefore, we submit the hypothesis:

*H1: Attitude positively mediates the relationship among factors and purchase intention toward imported beef.*

#### *The behavior control perceptions*

The behavior control perception is also a variable in the theory of reasoned action (Ajzen & Fishbein, 1980), theory of planned behavior (Ajzen, 1991), and the goal-directed behavior model (Perugini & Bagozzi, 2001), and it is considered as a factor affecting intention and individual behavior. According to Hijrah *et al.* (2021), although products have similar attributes and the same quality, they can be perceived differently by consumers. It is important for marketers to recognize these complex processes to make the correct perceptions about a product or service they will sell to their goal customers. Perceived behavior control of consumers towards foods includes their perceptions of product characteristics such as perceived price, perceived quality, and their understanding of food safety, etc. The post-purchasing outcomes, which could be positive and negative, will become the input information for the next purchase process (Engel *et al.*, 1995). In regard

to consumers, there are many attributes of foods that can become the basis of purchase decisions such as nutrients in food products, sensory appeal, and price (Mukul *et al.*, 2013). They often search certification entities for verification of information on food product attributes. Buyers also rely on the country of origin information to make informed purchasing decisions towards imported food products (Ortega *et al.*, 2014).

Quality impacts the perceptions of consumers towards the meat that they will buy and consume. Therefore, using striking extrinsic traits can help them to collect information about the quality of the product and its nutritional content (Henchion *et al.*, 2014). Perceived quality is a strong influence on purchasing intention towards imported foods (Sun & Collins, 2006; Bukhari, 2019). The choice of meat is also influenced by sensory attributes, i.e., appearance aroma, flavor, and texture, although consumers sometimes might trade sensory attributes for other benefits such as nutritional value or price (Malindi, 2010). The study of Uys & Bisschoff (2016) illustrated those extra significant attributes on buying behavior are supplier characteristics, and packaging and presentation. The sensory attribute is related to the appearance, smell, and taste of food. It has long been recognized that the sensory attribute is one of the most important factors that consumers take into account when choosing their food (Steptoe *et al.*, 1995). The choice to consume imported beef not only depends on the consumers' experiences with cues such as beef flavor, beef tenderness, and beef marbling and quality attributes (Ortega *et al.*, 2014; Tran *et al.*, 2017), but also depends on important attributes such as supplier characteristics, packaging, and presentation (Uys & Bisschoff, 2016).

*H2a: The perceived quality of imported beef positively affects consumers' attitudes towards purchasing imported beef.*

*H2b: The perceived quality affects the purchase intention of consumers towards imported beef.*

Perceived quality about a product or a service can be made from the price, the origin of

the products, the appearance, and the overall look of the product. More and more researchers are considering the issue of the food's origin in behavior studies towards foods (Phau & Chao, 2008). Attitudes leading to consumer's behaviors are influenced by the imported good's country of origin. Origin information is used by consumers as the basis in making purchase decisions towards imported foods (Ortega *et al.*, 2011), and purchasing intention is also a crucial factor in buying decision research (Font *et al.*, 2011), as the national origin of imported food forms a distinctive image of the products and their quality as assessed in the observances of consumers (Wall *et al.*, 1991; Tran *et al.*, 2017; Bukhari, 2019). The demand of consumers for imported beef depends on information about origin and price (Tran *et al.*, 2017). Ortega *et al.* (2016) indicated that country of origin information impacts the willingness of consumers to pay for imported beef.

*H3a: Origin and label information of imported beef are positively related to the positive attitudes of consumers in purchasing imported beef.*

*H3b: Origin and label information of imported beef is positively related to the purchase intention of consumers towards imported beef.*

Munnukka (2008) indicated that price was the most important factor influencing the purchasing intention of customers. Díaz (2004) showed that price as a meaningful variable affected the attitude of consumers. Price shapes the attitude of consumers towards meat (Verbeke & Viaene, 1999; Aboah & Lees, 2020). Price is also an impediment to the willingness to pay for food products, as the high price is a factor hindering consumers' purchase decisions (Tran *et al.*, 2017). The study of Hijrah *et al.* (2021) indicated that price is a factor influencing both attitude and purchase intention towards frozen beef. The price factor negatively affects attitude but positively affects intention. This means the higher price perception makes consumers have better attitudes about meat and increases purchase intention. It is different from the studies of Angulo & Gil (2007) and Font-i-Furnols &

Guerrero (2014), which showed that lower prices led to the increased buying ability of consumers. This becomes even more significant in the case of imported food in Vietnam because of the low average income per person. However, whether or not the price of imported beef is considered high or low depends on the consumers' perceptions in comparison to their income. Therefore, we submit the continuous hypotheses:

*H4a: Price affects consumers' attitudes towards imported beef.*

*H4b: Price affects consumers' purchase intention towards imported beef.*

#### *Subjective norms*

According to Wood & Hayes (2012), the social effect is a broad issue that impacts the emotions, opinions, and behaviors of people. Purchase behavior, choice of media, and innovation are related to the personality of individuals (Lastovicka & Joachimsthaler, 1988). The studies of Verbeke & Ward (2006) indicated that advertising programs can influence the expectations of consumers about meat quality, and origin also became more meaningful for consumers after information campaigns. Moreover, as a result of lacking credible information, consumers will feel uncertainty, which thereby affects their attitude. The research of Ajzen (2005) determined that uncertainty is affected by a factor named subjective norms. The term subjective norms refers to the perceived social pressure to or not to participate in a behavior.

Subjective norms are the influences of important people around consumers, their knowledge and experiences, which affect consumers' beliefs about the quality and value of imported foods. This factor involving friends, family, health professionals, and media will be meaningful for the purchase intentions of consumers towards imported beef. This is a factor that appears in the model of the Theory of Reasoned Action (Ajzen & Fishbein, 1980). Many previous studies, which applied the model of TPB (Ajzen, 1991), showed that subjective norms are a crucial factor to estimate the purchase intention and behaviors of consumers

(Huchting *et al.*, 2008). The media also exerts power on behaviors. The research of Huan (2018) surveyed 249 consumers in Ho Chi Minh City and showed that subjective norms positively affected the purchase intention of consumers towards pork. Therefore, we submit the continuous hypotheses:

*H5a: Subjective norms are positively related to consumers' attitude towards imported beef.*

*H5b: Subjective norms are positively related to consumers' purchase intention towards imported beef.*

#### *The experience factor*

The experience factor was also used in a study of purchase intentions for food by Fry *et al.* (2014) to predict behavior. This factor shows that the number of times a consumer has used a product has a positive effect on their purchase intention and behavior (Perugini & Bagozzi, 2001). Furthermore, behavior towards some imported foods can also be influenced by the experience of a consumer who has been abroad, or by a consumer being a foreign national living in the importing country (Verbeke & López, 2005). Experience is a factor affecting the intention and behavior of consumers towards imported beef the next time they consume it (Tran *et al.*, 2017). Therefore, if consumers have used imported beef, this will lead to the consumer's perception of the product. Hence, the next hypotheses are submitted that:

*H6a: Experience is positively related to consumers' attitudes towards imported beef.*

*H6b: Experience is positively related to consumers' purchase intention towards imported beef.*

#### *Availability*

In Vietnam, imported beef is principally sold at supermarkets, food stores, or chain stores. Consumers rarely look for imported beef in the local markets. The ease of identification and visibility of imported beef can lead to increased purchase intention. In fact, numerous marketing campaigns of businesses have been established, such as online shops, telemarketing, or direct selling, among others, that make businesses

increase their sales or approach specific markets. The study of purchase intention by Haruna & Review (2014) showed that product availability is a factor affecting purchase intention. Studies on purchase intention for food also chose availability as a factor to build research models (Rana & Paul, 2017). Hence, the final hypothesis was submitted that:

*H7: Availability of imported beef is positively related to consumers' purchase intention towards imported beef.*

### **Research Model**

The research model (**Figure 1**) was developed based on the conclusions and features of previous studies as described in the previous section.

#### *Questionnaire*

The questionnaire consisted of two parts, and included mainly closed questions. The first part covered questions to confirm that the interviewees were those who purchase or make purchasing decisions about imported beef for their family; respondents' socio-economic characteristics; consumers' knowledge of imported beef in the current market; consumers' reasons for buying imported beef; and consumers' general assessment of imported beef.

The second part of the questionnaire was composed of eight sections, and the 5-point Likert scale ranging from "strongly disagree" to "strongly agree" was used to test the variables. In this study, seven groups of variables were established and 39 items were chosen (**Table 1**). The survey instruments were referred from previous studies and adapted for this study. With regard to each study, the researchers changed some scales or measurement tools to match the purpose of the study because of the differences in population, income, geography, or the type of products in the studies. Therefore, the main purpose of scale developments was suitable for the language, culture, and environment of the target respondents of the study. This is called adaptation. In this study, a few other indicators were developed from discussions with Vietnamese specialists and consumers.

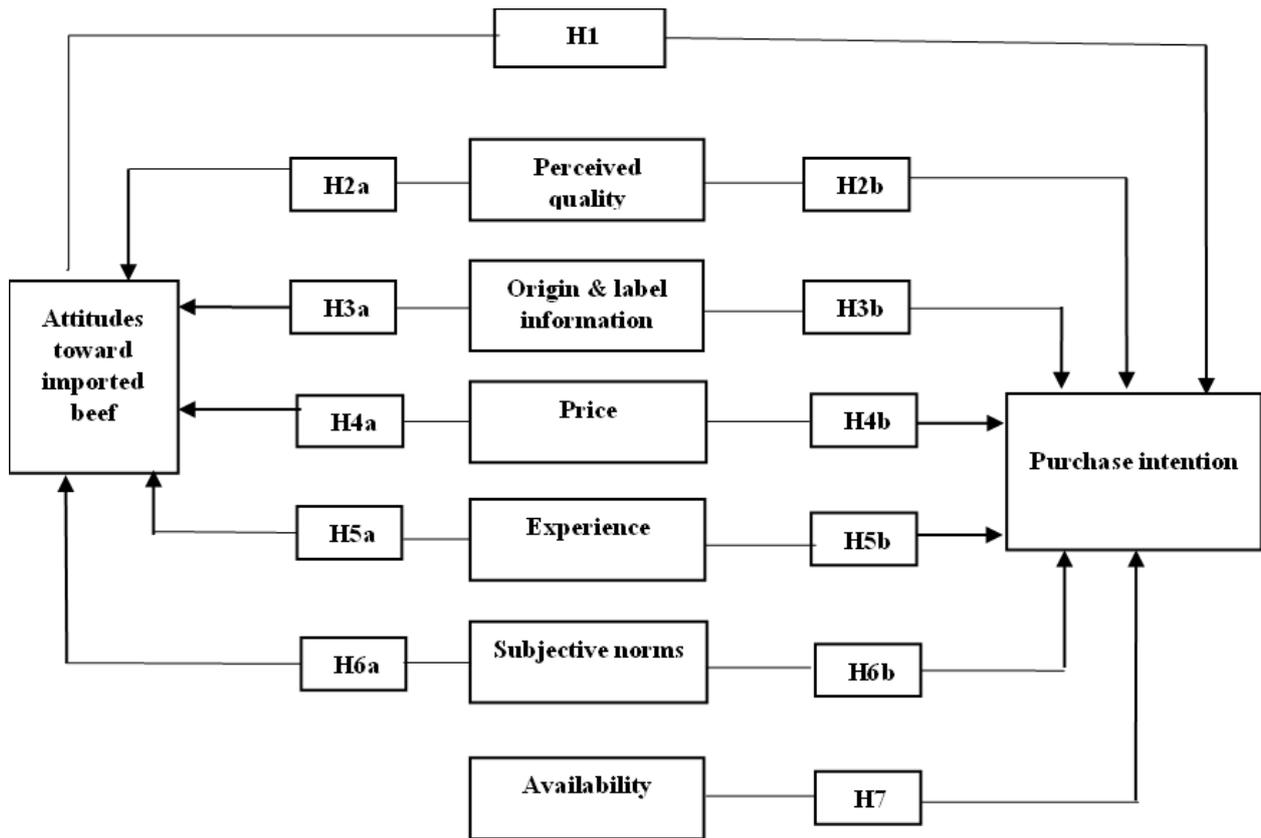


Figure 1. Research Model

## Data Collection and Analysis

### Data Collection

Primary data were collected in two ways, namely direct survey and indirect survey. The indirect survey was conducted by sending questionnaires via social networks such as Facebook and online tools, i.e., Messenger, Zalo, Gmail, and Microsoft Teams. To ensure that the participants lived in Long Bien, the authors used a question to confirm their address before sending the questionnaire. With regard to direct investigation, the participants were chosen randomly through the convenient method of surveying in supermarkets, food shops, and markets in the Long Bien area for two months (from October to December 2020). Moreover, the availability of imported beef in this area was confirmed before collecting data. In multivariate studies, the survey sample size should be 5 to 10 times of number of variables at the 10 percent and 5 percent of margins of error, respectively (Hair et al., 2019). In this study, the total number of independent variables in the developed

questionnaire was 39. Hence, the number of samples should be 390 at the 5 percent margin error. The results were formulated with only 388 samples of questionnaires that were totally answered and completed by the participants.

### Data Analysis

#### (i) Descriptive statistics

Descriptive statistics were used to analyze the respondents' demographic characteristics and their evaluation of imported beef purchases. These values will be shown in the form of a percentage.

#### (ii) Test of Cronbach's alpha reliability

Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. In other words, it estimates how reliable are the responses of a questionnaire (or domain of a questionnaire), instrumentation, or rating evaluated by subjects, which will indicate the stability of the tools. Variables will be rejected if the item-total correlation coefficient is less than 0.3 and the

**Table 1.** Variables of the Research Model

Variables (factors)	Variable Indicators	Code	Source
Perceived quality	It is more suitable for BBQ, hotpot, and steak dishes	PQ1	Developed
	It has less fat than domestic beef	PQ2	Wang (2015)
	It is very safe because it is tested for food safety	PQ3	Developed
	It tastes better than domestically raised beef	PQ4	Wang (2015)
	It is softer and more fragrant when cooked compared to domestically raised beef	PQ5	Calvo-Porrall <i>et al.</i> (2013)
	The quality is very good because food safety is ensured in the farming process in developed countries	PQ6	Developed
	The packaging of imported beef is easier to preserve and store	PQ7	Developed
	The packaging is more convenient when processing	PQ8	Wang (2015)
	It has higher nutritional values than domestic beef	PQ9	
Origin & label information	It comes from developed countries, so food safety is ensured	OLI1	Calvo-Porrall <i>et al.</i> (2013)
	The packaging has information about the country where it was manufactured, so you can trust it	OLI2	Developed
	The packaging has information about the importer, so it is easy to trace the origin	OLI3	Developed
	The packaging has a clear expiration date, so rest assured	OLI4	Developed
	It originates from developed countries, so I can rest assured about it being free from diseases	OLI5	Developed
	It originates from developed countries, so the quality is carefully checked before slaughtering	OLI6	Developed
Perceived price	Price is suitable with my income	PR1	Developed
	Price is not expensive	PR2	
	Price is a good value for the money	PR3	Wang (2015)
	Price is cheaper than domestic beef	PR4	
	Price is unstable	PR5	Developed
Subjective norms	Most people important to me think that I should buy imported beef	SN1	
	Most people important to me would want me to purchase imported beef	SN2	
	People whose opinion I value would prefer that I do not buy imported beef	SN3	Yadav & Pathak (2016)
	I bought it because it advertised a lot	SN4	
	My friends recommend buying it	SN5	
Experience	I used to eat at restaurants so I bought it	EX1	Developed
	I have eaten it and found it delicious so I bought it	EX2	Developed
	Imported beef is a regular dish of my family	EX3	Developed
	I bought it because it is suitable for processing types of foreign dishes (BBQ, steak, hot pot)	EX4	Developed
	I had been given imported beef as a gift so I wanted to use it again	EX5	Developed
Availability	Can be bought in shops close to where I live or work	AV1	
	Is easily available in shops and supermarkets	AV2	Wang (2015)
	Is easily available in the local market	AV3	Developed
	Can be bought on social media (Facebook, Zalo)	AV4	Developed
	Can be bought on websites about imported foods	AV5	Developed
Attitudes	I have a positive evaluation of imported beef	AT1	Hijrah Hati <i>et al.</i> (2021)
	Buying imported beef is pleasant	AT2	
	Buying imported beef is a wise choice	AT3	Yadav & Pathak (2016)
	I like the idea of buying imported beef	AT4	
Purchase intention	I intend to buy imported beef because it is more delicious than domestic beef	PI1	
	I intend to buy imported beef because it has a clear origin and label information	PI2	
	I intend to buy imported beef because it is suitable for my friends and relatives	PI3	Developed
	I intend to buy imported beef because it is suitable for my income	PI4	
	I intend to buy imported beef because I experienced it and want to try it again	PI5	
	I would buy imported beef products in the near future	PI6	Hijrah Hati <i>et al.</i> (2021)

Cronbach's alpha coefficient is less than 0.6 (Peterson, 1994).

(iii) *Exploratory factor analysis (EFA)*

The EFA method was used to select independent variables that affect consumers' purchase intention towards imported beef, which was defined as the dependent variable. According to Hair *et al.* (2019), the factor loading in the range of 0.3 to 0.4 is considered to meet the minimal level for interpretation of the structure. However, the author had chosen a value of 0.4 to eliminate insignificant variables. Variables with the factor loading values of 0.4 in EFA will continue to be excluded. Along with this was the use of the KMO (Kaiser - Meyer - Olkin) test and Bartlett's test to check the relevance of the data. If the KMO value is  $< 0.5$ , the factor analysis will be not suitable for the data.

(iv) *Confirmatory factor analysis (CFA)*

The purpose of CFA evaluates achieving the convergent value of the model that is based on evaluating the model's compatibility with the data and market news. The fit of the research model will be confirmed if the model fit indexes reach the acceptable value, e.g.,  $CMIN/df < 5$  with sample  $N > 200$ , then the model is considered to have a good fit; or  $CIF > 0.9$ ,  $RMSEA < 0.8$  and  $GIF > 0.8$  (Doll *et al.*, 1994; Baumgartner & Homburg, 1996).

(v) *Structural equation modeling analysis*

A structural equation model (SEM) was built to assess the association between the factors and the attitudes and purchase intentions towards imported beef (Hair *et al.*, 2019). The study used AMOS 20 to test the hypotheses and to analyze SEM.

## Results and Discussion

### Overview of the respondents

**Table 2** shows that most participants were female (332 people out of a total of 388 respondents). It can be seen that over 70% of the respondents belonged to the age group from 24-44 years old. The biggest age group was 25-34 years old (39.95%) and the second-largest group was 35-44 years old (35.05%). There were no

respondents in the over 65 years old group. In fact, our data show that males rarely shop for food and people in the over 65 years old group rarely go to markets or supermarkets in Vietnam. The monthly household income of 45.62% of the respondents was in the higher middle range of VND 20 to 40 million, equivalent to about US\$900 to 1800.

**Figure 2** indicates that the respondents bought imported beef for a number of reasons, of which being suitable for BBQ, steak, and hotpot was considered as the most important reason, followed by the origin and label information, better taste, and then easy stores. There were extremely few respondents who thought that imported beef was cheaper than domestic beef.

**Figure 3** shows the origin of beef that respondents bought. It can be seen that beef imported from the U.S. and Australia were purchased most popularly among the respondents, while a few customers purchased Japanese beef. The price of Japanese beef probably contributed to these results as Japanese beef is expensive in Vietnam markets, about US\$800 per kg of back sirloin, which is triple the price of Australian beef and 10 times higher than U.S. beef.

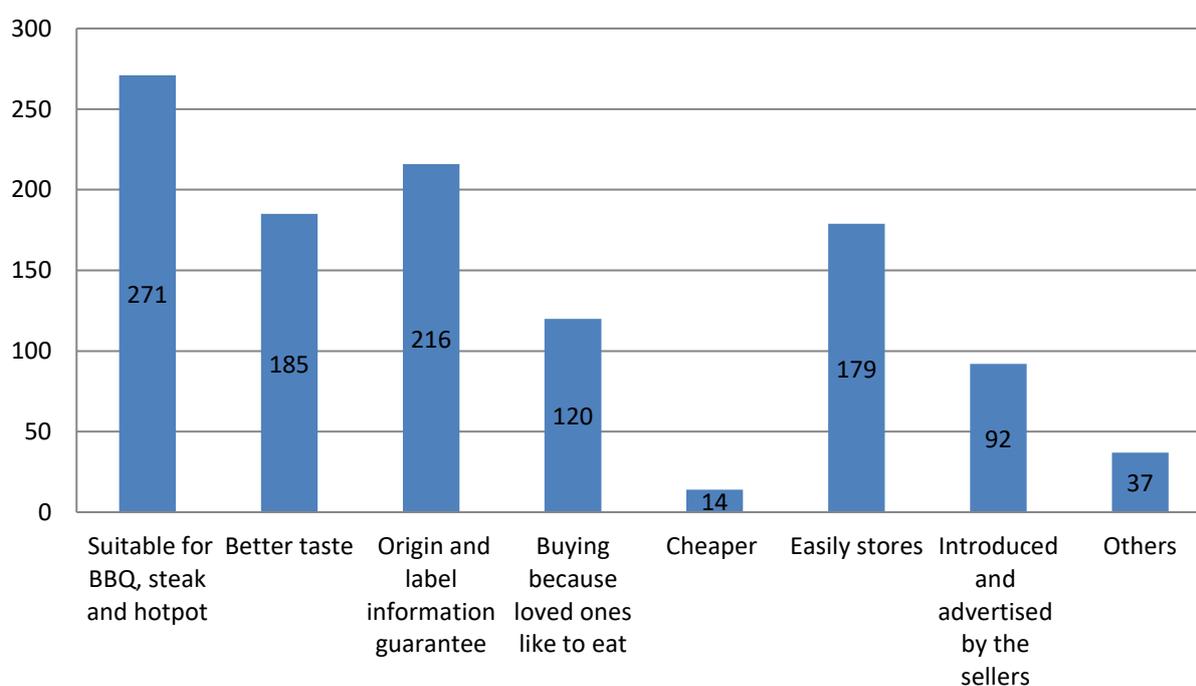
### Factors affecting imported beef purchase intention

**Table 3** illustrates that all eight factors have a Cronbach's Alpha coefficient value higher than 0.6. Moreover, the results of the reliability test also showed that no variables were rejected (the lowest value was 0.3 for CCQ4). Therefore, the scales for all the measured factors were reliable and suitable to continue being used in EFA (Peterson, 1994).

This study used principal axis factoring with promax rotation and factor loading at 0.4 to ensure that the remaining values would be significant (Hair *et al.*, 2019). Regarding the independent variables, the final EFA results (**Table 4**) indicated that the eight initial factors were grouped into six factors including PQ, OLI, PR, SN, AT, and PI. Therefore, the factors of experience and availability disappeared. The value for KMO was 0.934, and Bartlett's test had a significance level below 0.001; all of the

**Table 2.** Respondents' socio-economic characteristics

Item	Characteristic	No. of respondents	Percentage response
Gender	Male	56	14.43
	Female	332	85.57
Age	18-24	86	22.16
	25-34	155	39.95
	35-44	136	35.05
	55-64	11	2.84
	65 +	0	0.00
Household income per month	Below 5 million VND	22	5.67
	5-10 million VND	29	7.47
	10-20 million VND	142	36.60
	20-40 million VND	177	45.62
	Above 40 million VND	18	4.64



**Figure 2.** Reasons for Buying Imported Beef

remaining items with commonalities were greater than 0.4 and the sum of the extracted variance was 63.57%. Therefore, the results of the factor analysis could be suitable for using CFA.

The reliability of coefficients (Cronbach's alpha) and composite reliability for all the constructs were better than 0.70 (the

recommended value). The results of CFA in **Table 5** show a good fit of the measurement model ( $\chi^2 = 862.233$ ; CMNI/Df = 2.275, GFI = 0.867, TLI = 0.932, CFI = 0.941, RMSEA = 0.057) after deleting one of the attitude items. The convergent and discriminant validity of the constructs were tested during the measurement

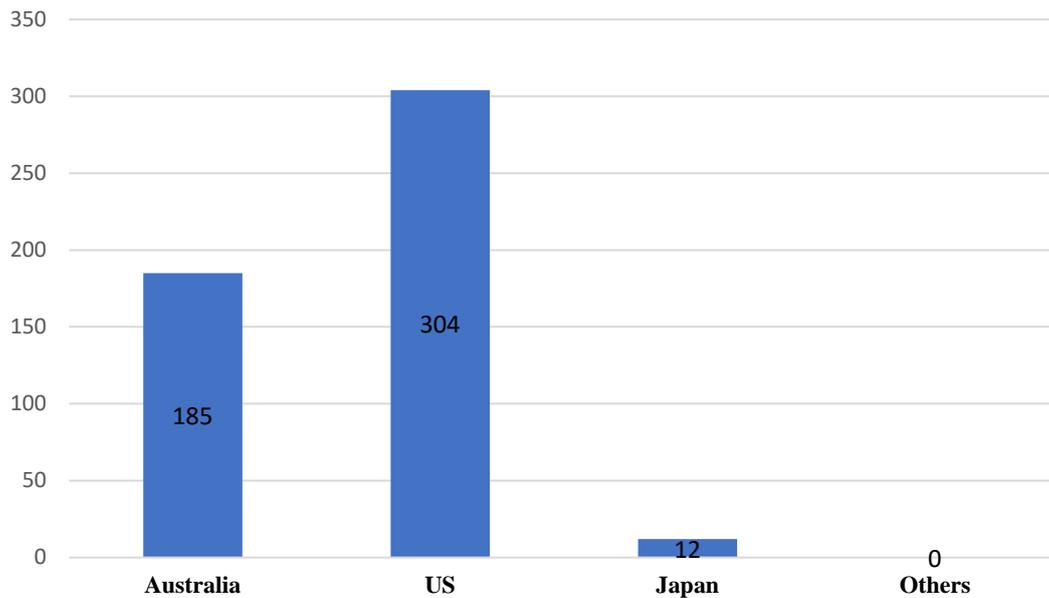


Figure 3. Types of Imported Beef that Respondents Buying

model assessment. The results of CFA showed that all the item-factor loading were greater than 0.59 and significant, which provided evidence of convergent validity for the latent constructs. The average variance extracted (AVE) also supported the convergent validity of all the constructs, except the value of perceived price. The AVEs of attitude, perceived origin and label information, perceived quality, availability, and purchase intention were greater than 0.50, but the AVE value of perceived price was 0.491. Hence, the results of CFA indicated a good fit of the measurement model ( $\chi^2 = 740.065$ ; CMNI/Df = 2.456, GFI = 0.871, TLI = 0.935, CFI = 0.944, RMSEA = 0.061) after deleting one of the perceived price items. Moreover, the model study was changed to be suitable with the hypotheses H1, H2a, H2b, H3a, H3b, and H4 as mentioned in the previous section.

The results of structural equation modeling are provided in **Table 6**. The findings from the data analysis revealed that the factors perceived quality, and origin and label information belonged to the factor of product attributes. The availability and attitude factors had effects on the purchase intention towards imported beef with a statistically significant level of less than 5% (**Table 7**). The estimates of standardized regression weights in the model (**Table 7**) show

the impacts of the independent variables on the dependent variable. Specifically, the weight of the origin and label information factor affected the intention with the highest value ( $\beta = 0.346$ ), followed by the perceived quality factor ( $\beta = 0.33$ ), and perceived availability ( $\beta = 0.189$ ), respectively. The factor with the lowest influence was the consumer's attitude ( $\beta = 0.155$ ).

It can be seen that the results of the study illustrated the relationships among the factors belonging to imported beef's attributes, with the attitude and purchase intention of consumers. In other words, if consumers more positively perceived the quality and origin, they had a more positive attitude towards imported beef. Moreover, this made them have a stronger purchase intention. The results are similar to other reviewed studies. Perceived quality positively affects intention to buy imported beef. Previous studies showed that product quality attributes positively affect purchase intention (Sun & Collins, 2006; Uys & Bisschoff, 2016; Tran *et al.*, 2017).

The results also exposed that purchase intention towards imported beef was affected by attitude. The study of Hijrah *et al.* (2021) also concluded that attitude towards frozen beef was a positive influence on purchasing intention. Furthermore, previous research confirmed the

**Table 4.** Rotated Principal Axis Factoring of the Variables

Scale	Factor					
	1	2	3	4	5	6
PQ6	0.833					
PQ4	0.818					
PQ7	0.806					
PQ8	0.783					
PQ5	0.750					
PQ1	0.693					
PQ3	0.679					
OLI1		0.892				
OLI2		0.890				
OLI5		0.850				
OLI4		0.828				
OLI3		0.761				
OLI6		0.484				
AV4			0.851			
AV3			0.838			
AV5			0.829			
AV1			0.776			
AV2			0.564			
AT1				0.852		
AT2				0.818		
AT3				0.799		
AT4				0.796		
PI6				0.499		
PI1					0.727	
PI4					0.611	
PI3					0.605	
PI2					0.449	
PR1						0.745
PR2						0.701
PR3						0.573
KMO Measure of Sampling Adequacy.						0.934
Bartlett's Test of Sphericity						
Approx. Chi-Square						8382.064
df						435
Sig.						0.000

strong association between attitudes and purchase intention or purchase behavior of consumers (Ajzen & Fishbein, 1980). Joshi & Rahman (2015) indicated that product

availability, limited availability, and difficulties in accessing products were major barriers to purchasing, which has been shown in most studies. This factor was used in many studies in

**Table 5.** Validity and Reliability Measures

Scale	Variable	Factor Loading	AVE	Composite reliability	Cronbach's alpha ( $\alpha$ )
PQ6	Perceived quality	0.670	0.619	0.918	0.922
PQ4		0.892			
PQ7		0.860			
PQ8		0.886			
PQ5		0.698			
PQ1		0.792			
PQ3		0.670			
OLI1	Origin and label information	0.885	0.725	0.94	0.942
OLI2		0.831			
OLI5		0.849			
OLI4		0.846			
OLI3		0.881			
OLI6		0.814			
AV4	Availability	0.876	0.63	0.893	0.891
AV3		0.880			
AV5		0.812			
AV1		0.774			
AV2		0.591			
AT1	Attitudes	0.823	0.528	0.873	0.795
AT2		0.816			
AT3		0.785			
AT4		0.783			
PI6		0.583			
PI1	Purchase intention	0.695	0.521	0.813	0.878
PI4		0.748			
PI3		0.698			
PI2		0.745			
PR1	Perceived price	0.629	0.491	0.74	0.738
PR2		0.815			
PR3		0.643			

analyzing behaviors towards foods (Rana & Paul, 2017). For example, availability was found to have a positive effect on purchase intention toward imported foods from Europe and traditional foods (Wang, 2015).

In particular, studies have also shown that price indicates the cost of buying a product, and this factor significantly has an effect on the attitude and purchase intention towards meat or

imported food (Bukhari, 2019; Hijrah *et al.*, 2021). However, previous research has shown that the perceived price factor has a positive impact on the intention to buy imported beef, while the results of this study rejected the price hypothesis. In fact, if consumers had a positive attitude towards the consumption of imported beef, they have carefully considered the factors of attributes for consumption purposes and

**Table 6.** Model Fit Indices of the Structural Model

Indices	Reported value	Recommended value
CMIN/DF	2.456	<3
GFI	0.871	0.80
AGFI	0.839	0.80
NFI	0.908	0.80
IFI	0.944	0.80
TLI	0.934	0.80
CFI	0.943	0.80
RMSEA	0.061	<0.08

**Table 7.** Results of Structural Equation Modeling

Hypothesis				Standardized Estimate ( $\beta$ )	S.E.	C.R.	P
H2a	Attitudes	←	Perceived quality	0.174	0.097	2.054	0.040
H3a	Attitudes	←	Origin & label information	0.312	0.072	3.692	***
H4	Purchase intention	←	Availability	0.189	0.033	3.586	***
H3b	Purchase intention	←	Origin & label information	0.346	0.053	4.415	***
H2b	Purchase intention	←	Perceived quality	0.330	0.063	4.712	***
H1	Purchase intention	←	Attitudes	0.155	0.037	3.300	***

Note: \*\*\* means  $P < 0.001$

considered the price and features of the product. Another difference of this study compared to previous quantitative studies that have looked at imported beef or imported foods is that this study included a group of factors as the origin and label information, and showed that it has an impact on the purchase intention towards imported beef. In fact, the problem of product safety is at an alarming level, and the situation of pork being sold as counterfeit beef, or the poor quality of beef in residential markets have caused a loss of consumer trust in Vietnam. Therefore, consumers prioritize buying beef products that have a clear origin and originated from countries with developed agriculture, ensuring high technical standards for livestock and slaughter.

## Implications

The first suggestion for the government is to publicize the information of beef importers, allowing consumers to clearly know about the

origin and information label. Although price is not significant to purchase intention, the price of imported beef in the market is not cheap compared with domestic beef. For example, at the end of the year, the demand for meat for festivals, meetings, and Vietnamese Lunar New Year celebrations tends to increase, leading to an increase in the price of imported beef. Therefore, the appropriate authorities should ensure sufficient inventory throughout the year and should enact policies to keep the price of meat stable when the demand for beef tends to increase. Moreover, the development of careful quality standards and careful beef censorship before customs clearance will ensure the quality of imported beef.

Furthermore, the Vietnamese government should issue policies to encourage organizations and enterprises to enhance the quality of Vietnamese cows in order to meet domestic demand and to compete with imported beef. And, domestic market management institutions need

to strictly supervise the price of imported beef in the market to ensure benefits for customers.

In fact, the tradition of consumers in Vietnam is using fresh meat, while most imported beef is frozen beef. However, the perception of consumers can be changed over time, so the next suggestion for businesses and distributors is that they should enhance advertising and communication about the attributes of imported beef as well as the safety standards from the place of origin or the differences in breeding and slaughter of the exporting beef countries. In marketing campaigns, advertising programs, and social media campaigns, businesses and distributors can use tools such as videos or pictures, brochures, banners, or booklets to introduce potential consumers to the attributes of frozen meat.

The study is limited to the urban consumers in a specific geographical area, and readers are cautioned not to extrapolate or generalize the results. Thus, the next studies should extend the research area and focus on both urban and rural customers. Moreover, the questionnaire developed in the study is a valid one that collected reliable data in the beef buying behavior market. Hence it can be used with confidence in future studies.

## Conclusions

Customer's purchase intention of imported beef in the selected market was positively influenced by the four factors of (i) perceived quality, (ii) perceived origin and information label, (iii) availability, and (iv) attitude towards imported beef. Among these factors, the most important ones that affected both purchase intention and attitude of consumers were origin and label information, followed by perceived quality. Attitude and availability had less influence on the consumer's purchasing intention towards imported beef. Surprisingly, the price of imported beef was not a significant factor affecting the consumer's purchase intention in the selected market, meaning that the market mechanism of imported beef is not working well. Commonly, the price of imported beef in the

Hanoi market is high compared with domestic beef, especially during the Lunar New Year, spring festivals, or special events.

## References

- Aboah J. & Lees N. (2020). Consumers use of quality cues for meat purchase: Research trends and future pathways. *Meat Science*. 166: 108142.
- Ajzen I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*. 50: 179-211.
- Ajzen I. (2005). *Attitudes, Personality and Behavior*. McGraw-Hill Education (UK).
- Ajzen I. & Fishbein M. (1980). Understanding attitudes and predicting social behavior. Prentice-Hall. Englewood Cliffs, N.J. 25 pages.
- Angulo A. M. & Gil J. M. (2007). Risk perception and consumer willingness to pay for certified beef in Spain. *Food quality and preference*. 18(8): 1106-1117.
- Assembly (2010). Law No. 55/2010/QH12 of June 17, 2010, on food safety. Retrieved from <https://vanbanphapluat.co/law-no-55-2010-qh12-of-june-17-2010-on-food-safety> on June 28, 2021.
- Axelsson M. L. & Brinberg D. (1989). A Social-Psychological Perspective on Food-Related Behavior.
- World Bank (2019). The changing nature of work. 1818 H Street NW, Washington, DC 20433, USA.
- Baumgartner H. & Homburg C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*. 13(2): 139-161.
- Bukhari S. F. (2019). Purchase behaviour of western imported foods by Pakistani buyers. *Journal of Contemporary Islamic Research*. 1(1): 1-14.
- Calvo-Porrall C., Lévy-Mangin J.-P. & Bourgault N. (2013). Domestic or Imported Beer Brands? Analysis and Assessment of Brand Equity in the Spanish Market. *Journal of International Food & Agribusiness Marketing*. 25: 324-347.
- Díaz I. M. (2004). Price knowledge: Effects of consumers' attitudes towards prices, demographics, and socio-cultural characteristics. *Journal of Product & Brand Management*. 13: 406-428.
- Doll W. J., Xia W. & Torkzadeh G. (1994). A Confirmatory Factor Analysis of the End-User Computing Satisfaction Instrument. *MIS Quarterly*. 18(4): 453-461.
- Eagly A. H. & Chaiken S. (2007). The Advantages of an Inclusive Definition of Attitude. 25(5): 582-602.
- Engel J. F., Blackwell R. D. & Miniard P. W. (1995). *Consumer behavior*. Dryden Press. Fort Worth.
- Font-i-Furnols M. & Guerrero L. (2014). Consumer preference, behavior and perception about meat and

- meat products: An overview. *Meat Science*. 98(3): 361-371.
- Font-i-Furnols M., Realini C., Montossi F., Sañudo C., Campo M., Oliver M., Nute G. R. & Guerrero L. (2011). Consumer's purchasing intention for lamb meat affected by country of origin, feeding system and meat price: A conjoint study in Spain, France and United Kingdom. *Food Quality and Preference*. 22: 443-451.
- Fry M.-L., Drennan J., Previte J., White A. & Tjondronegoro D. (2014). The role of desire in understanding intentions to drink responsibly: AN application of the model of Goal Directed Behaviour. *Journal of Marketing Management*. 30: 551-570.
- General Department of Vietnam Customs (2020). Statistics of imported goods. Retrieved from <https://www.customs.gov.vn/default.aspx> on July 10, 2021.
- Government (2018). Decree 15/2018/ND-CP. Regulations detailing a number of articles of the Law on Food Safety. Retrieved from National database of central legal documents on June 28, 2021.
- Hair J. F., Black W. C., Babin B. J. & Anderson R. E. (2019). *Multivariate data analysis*. pages
- Haruna V. J. I. M. & Review B. (2014). A New Model of Green Purchase Intention and its Derivatives: Confirmatory Factor Analysis Validation of Constructs. 6: 261-268.
- Henchion M., McCarthy M., Resconi V. C. & Troy D. (2014). Meat consumption: Trends and quality matters. *Meat Science*. 98(3): 561-568.
- Heslop L. (2007). Literature review of Canadian consumer attitudes and perceptions. A Report to Agriculture and Agri-Food Canada, Consumer Analysis Section.
- Hijrah Hati S., Zulianti I., Achyar A. & Safira A. (2021). Perceptions of nutritional value, sensory appeal, and price influencing customer intention to purchase frozen beef: Evidence from Indonesia. *Meat Science*. 172: 108306.
- Honkanen P. & Frewer L. (2008). Russian consumers' motives for food choice. *Appetite*. 52: 363-71.
- Huan N. K. N. a. N. Q. (2018). The influence of beliefs, attitudes, and standards on purchase intention towards pork in Ho Chi Minh City. *Asian Business and Economic Research Journal*. 5: 68-84.
- Huchting K., Lac A. & Labrie J. (2008). An Application of the Theory of Planned Behavior to Sorority Alcohol Consumption. *Addictive behaviors*. 33: 538-351.
- Jadhav V. & Khanna M. (2016). Factors Influencing Online Buying Behavior of College Students: A Qualitative Analysis. *The Qualitative Report*. 21: 1-15.
- Joshi Y. & Rahman Z. (2015). Factors Affecting Green Purchase Behaviour and Future Research Directions. *Technology Analysis and Strategic Management*. 3(2). DOI:10.1016/j.ism.2015.04.001.
- Lastovicka J. & Joachimsthaler E. (1988). Improving the Detection of Personality-Behavior Relationships in Consumer Research. *Journal of Consumer Research*. 14: 583-87.
- Malindi H. E. (2010). A framework to measure customers' perceptions on the quality of red meat. Potchefstroom: North-West University (Dissertation -MBA).
- Mukul A., Afrin S. & Hassan M. (2013). Factors Affecting Consumers' Perceptions about Organic Food and Their Prevalence in Bangladeshi Organic Preference. *Journal of Business and Management Sciences*. 1: 112-118.
- Munnukka J. (2008). Customers' purchase intentions as a reflection of price perception. *Journal of Product & Brand Management*. 17(3): 188-196.
- OECD-FAO (2020). *Agricultural Outlook*. Rome, Italy.
- Ortega D., Wang H. H. & Widmar N. (2014). Aquaculture imports from Asia: An analysis of U.S. consumer demand for select food quality attributes. *Agricultural Economics*. 45(5). DOI:10.1111/agec.12111.
- Ortega D., Wang H. H., Widmar N., Wu L. & Bai J. (2011). Chinese Consumers' Demand for Food Safety Attributes: A Push for Government and Industry Regulations. *American Journal of Agricultural Economics*, vol. 94(2), pages 489-495.
- Ortega D. L., Hong S. J., Wang H. & Wu L. J. M. s. (2016). Emerging markets for imported beef in China: Results from a consumer choice experiment in Beijing. 121: 317-323.
- Perugini M. & Bagozzi R. J. T. B. j. o. s. p. (2001). The role of desires and anticipated emotions in goal-directed behaviours: broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, 40, 79-98. <http://dx.doi.org/10.1348/014466601164704>.
- Peterson R. A. (1994). A Meta-analysis of Cronbach's Coefficient Alpha. *Journal of Consumer Research*. 21(2): 381-391.
- Phau I. & Chao P. (2008). Country-of-origin: State of the art review for international marketing strategy and practice. *International Marketing Review*, 25 (4). DOI: 10.1108/imr.2008.03625daa.001.
- Phuong N. & Mergenthaler M. (2013). Meat consumption patterns in Vietnam: effects of household characteristics on pork and poultry consumption. DOI: 10.13140/RG.2.1.1217.1122.
- Rana J. & Paul J. (2017). Consumer behavior and purchase intention for organic food: A review and research agenda. *Journal of Retailing and Consumer Services*. 38: 157-165.
- Regmi A. (2001). Changing structure of global food consumption and Trade. Market and Trade Economics Division. Economic Research Service, U.S. Department of Agriculture, Agriculture and Trade Report. WRS-01-1. 111 pages.

- Stephoe A., Pollard T. & Wardle J. J. A. (1995). Development of a Measure of the Motives Underlying the Selection of Food: the Food Choice Questionnaire. 25: 267-284.
- Sun X. & Collins R. (2006). Chinese Consumer Response to Imported Fruit: Intended uses and their effect on perceived quality. *International Journal of Consumer Studies*. 30 (2). DOI:10.1111/j.1470-6431.2005.00474.x
- Tarkiainen A. & Sundqvist S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*. 107: 808-822.
- Thang N. & Popkin B. (2004). Patterns of food consumption in Vietnam: Effects on socioeconomic groups during an era of economic growth. *European journal of clinical nutrition*. 58: 145-53.
- Tran T., Moritaka M. & Fukuda S. (2017). Country of Origin, Price Consciousness, and Consumer Innovativeness at Food Service Outlets in Developing Markets: Empirical Evidence from Brands of Imported Beef in Vietnam. *International Journal of Marketing Studies*. 9: 50.
- Union E. (2020). *The Food and Beverage Market Entry Handbook: Vietnam: a Practical Guide to the Market in Vietnam for European Agri-food Products*. 10.2818/067189. pages 239.
- Uys P. & Bisschoff C. (2016). Identifying consumer buying preferences of beef. *Problems and Perspectives in Management*. 14: 256-263.
- Verbeke W. & López G. (2005). Ethnic food attitudes and behavior among Belgians and Hispanics living in Belgium. *British Food Journal*. 107: 823-840.
- Verbeke W. & Viaene J. (1999). Beliefs, attitude and behaviour towards fresh meat consumption in Belgium: empirical evidence from a consumer survey. *Food Quality and Preference*. 10(6): 437-445.
- Verbeke W. & Ward R. W. (2006). Consumer interest in information cues denoting quality, traceability and origin: An application of ordered probit models to beef labels. *Food Quality and Preference*. 17(6): 453-467.
- Wall M., Liefeld J. & Heslop L. A. (1991). Impact of country-of-origin cues on consumer judgments in multi-cue situations: a covariance analysis. *Journal of the Academy of Marketing Science*. 19(2): 105-113.
- Wang O. (2015). *Consumer attitudes towards European food versus traditional Chinese food in selected urban settings in China*. Thesis submitted in fulfillment of the requirements for the degree of Doctor (PhD) in Applied Biological Sciences. XV, 178 pages. ISBN-number: 978-90-5989-854-7.
- Wood W. & Hayes T. (2012). Social Influence on consumer decisions: Motives, modes, and consequences. *Journal of Consumer Psychology*. 22: 324-328.
- Yadav R. & Pathak G. S. (2016). Intention to purchase organic food among young consumers: Evidences from a developing nation. *Appetite*. 96: 122-128.