



Research on Factors Affecting Online Purchase Decisions for Fresh Food Items in Hanoi

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ABSTRACTS:

Online shopping for fresh products is a new consumer behavior that people are very interested in. For consumers, shopping for fresh seafood has many criteria to evaluate and how to buy products to ensure food safety is a difficult problem for shoppers. Our research was conducted based on a survey of 100 consumers to provide a solution to the problem of online shopping for fresh seafood in Hanoi.

Keywords: online purchasing decision, fresh food, Hanoi

1. Introduce

The deciding factors in the online shopping process for fresh food in Hanoi are becoming increasingly important for consumers. The convenience and flexibility of choosing and ordering from a variety of sources without having to travel to brick-and-mortar stores is one of the biggest advantages. This helps optimize the buyer's time and effort.

Product safety and quality are undeniable factors when consumers make purchasing decisions. Online shopping platforms regularly set strict standards for food safety and product quality, helping to create a trustworthy shopping environment. Reading reviews and viewing detailed information before deciding to buy also plays an important role, providing a comprehensive view of the product.

Promotions and offers from online stores are often a great source of encouragement for buyers. Along with that, the ability to receive fresh products in a short time through fast delivery services is another deciding factor. Highly rated customer service also contributes to a positive online shopping experience.

Amid the epidemic, personal safety becomes a top priority, and online shopping offers flexibility and reduced contact. All of these factors together create a diverse fresh food online shopping environment and quickly meet the special needs of consumers in Hanoi.

So what factors contribute to helping consumers make decisions about online seafood shopping? This study raises two questions:

Question 1: What factors influence consumers' decisions to buy seafood online in Hanoi?

Question 2: What is the level of influence and direction of factors on consumers' intention to buy seafood online in Hanoi?

2. Research scale

There are many theories that explain human behavior in general and consumer buying behavior in particular. In terms of behavioral intention, there is the Theory of Reasoned Behavior (TRA) (Fishbein and Ajzen, 1975) and the Theory of Planned Behavior (TPB) (Ajzen, 1991). In the business field, there are many studies using these two theories to find the relationship between different factors and the intention to buy seafood online. Through an overview of previous studies on the intention to buy seafood online and personal considerations, the author believes that using the Theory of Rational Behavior and the Theory of Planned Behavior as the theoretical basis for the topic. This is suitable

Table1: Scale table of research variables

The scale	Encoding the scale
Perceived usefulness	
Using the online fresh food purchasing service helps me find and update internship information quickly	AH1
Using the online fresh food purchasing service helps me save more time than conventional purchasing	AH2

Buying fresh food online is a convenient way to shop (anytime, anywhere...)	AH3
I easily compare fresh food from many different suppliers when using online shopping services	AH4
Perceived ease of use	
The interface of websites selling fresh food online is easy to operate and use	BH1
The procedures for buying fresh food online on websites are very easy to understand and follow	BH2
I easily find information and products on websites that sell fresh food online	BH3
It's easy for me to make a purchase and payment on websites that sell fresh food online	BH4
Reference group opinions	
I am influenced by my family and relatives (father, mother, spouse, siblings...) when buying fresh food online	CH1
I am influenced by friends, colleagues, and people around me when buying fresh food online	CH2
I am influenced by social media information (comments, reviews, online advertisements...) when buying fresh food online	CH3
I personally influence my personal decisions when buying fresh food online	CH4
Perceived behavioral control	
I have enough knowledge and experience to buy fresh food online	DH1
I have enough means (computer, phone...) with an Internet connection to buy fresh food online	DH2
I have a credit card/e-wallet to facilitate online fresh food purchases	DH3
I will buy fresh food online if the Internet speed and website access speed are fast enough	DH4
Be aware of risks associated with the product	
I'm worried about receiving fresh food that doesn't match the ads and reviews on the website	FH1
I'm worried that fresh food isn't being stored and packaged properly	FH2
It is difficult for me to evaluate and check the quality of fresh food when buying online	FH3
I'm worried that my fresh food will be lost or exchanged during the delivery process	FH4
Be aware of the risks involved in trading	
I'm worried that many websites are scammers to take over customers' property	GH1
I'm worried about losing money when something goes wrong during the transaction	GH2
I'm worried that my personal information will be disclosed to other partners without my consent	GH3
I'm worried that my credit card/e-wallet information will be compromised and used by others	GH4
Website design quality	
I will buy fresh food at websites with creative designs, beautiful interfaces, and easy to see	EH1
I will buy fresh food at websites with realistic, eye-catching advertising images	EH2
I will buy fresh food at websites that have detailed comments and reviews from previous buyers	EH3
I will buy fresh food from websites that provide in-depth information (nutrition, cooking suggestions...)	EH4
I will buy fresh food at websites with clear, competitive price information	EH5
Website reliability	
I only trust when I receive the exact fresh food I ordered from this Website	IH1
I only trust when I receive fresh food exactly as represented and advertised on the Website	IH2
I only trust it when I receive fresh food on time as committed by the Website	IH3
I only trust and conduct transactions on websites that have complete information about the business, address, phone number...	IH4
Website security	
I can only feel secure when the Website provides full security features	KH1
I can only rest assured when I feel that my personal information is protected by this Website	KH2

I can only rest assured that transactions on this Website are always guaranteed to be safe	KH3
I can only feel secure when the website does not have ads or links with links that I do not know well.	KH4
Website provides service to customers	
I will buy fresh food from websites that are willing and ready to meet customer needs	LH1
I will buy fresh food from websites that show concern and sincerity in solving customer problems.	LH2
I will buy fresh food at websites where customer questions are answered promptly and quickly	LH3
I will buy food at websites that have quick, convenient and secure payment tools	LH4
Food origin	
I only buy fresh food online from reputable sources	MH1
I only buy fresh food online of clear origin	MH2
I only buy fresh food online that has food safety inspection and certification	MH3
I prioritize buying fresh food online that is organic	MH4
Decide to buy	
I decided to buy fresh food online	NH1
I will continue to buy fresh food online in the future	NH2
I am willing to recommend to relatives and friends to buy fresh food online	NH3
I do not agree to buy fresh food on websites	NH4

The research was conducted through two stages: qualitative research and official quantitative research.

- In qualitative research, the author uses the expert interview method to discover, adjust, and add new variables and new scales used to measure research concepts based on understanding the connotation of the concept. concept and on the basis of choosing the approach as well as the research context. The interviewees were consumers who wanted to shop for fresh seafood online in Hanoi

- Quantitative research with 100 consumers in Hanoi. The goal of quantitative research is to test the reliability of the scale (assess whether the established observed variables are reliable to measure the research concept) and adjust unsatisfactory scales. demand through the Cronbach Alpha coefficient analysis method, EFA analysis of SPSS 20 software. In addition, using a regression model to evaluate the impact of factors on the intention to buy seafood online on the Internet. Hanoi area

3. Research results

3.1. Sample statistics

Table 2: Sample statistics

Criteria	The components	Amount of people	Ratio (%)
Sex	Female	40	47
	Male	45	53
Year old	Under 18	28	33

	From 18 years old to under 35 years old	37	44
	Over 35 years old	20	23

Thus, according to the results of running statistical SPSS with 85 samples meeting the requirements, the results are as follows:

Gender: 40 female, 45 male, equivalent to 47% female and 53% male.

The age group participating in the survey includes 3 subjects: under 18 years old, from 18 to 35 years old and over 35 years old. The largest number of survey participants were between 18 and 35 years old, with 37 participants, accounting for 44% of the total survey responses. This is also the group with the highest demand for fresh food among the three groups. Followed by the group under 18 years old with 28 answers, accounting for 33% and the group over 35 years old with 20 votes, accounting for 23%.

3.2 Measurement scale statistics:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AH1	85	1	5	4,02	,963
AH2	85	1	5	3,95	1,068
AH3	85	3	5	4,24	,766
AH4	85	1	5	4,01	,893
BH1	85	2	5	3,79	,927
BH2	85	2	5	3,72	,796
BH3	85	2	5	3,98	,988
BH4	85	2	5	3,96	,851
CH1	85	1	5	3,48	1,250
CH2	85	1	5	3,53	1,097
CH3	85	2	5	3,87	,884
CH4	83	1	5	3,78	,925
DH1	85	2	5	3,94	,864
DH2	85	2	5	4,06	,878
DH3	85	2	5	4,05	,999
DH4	85	2	5	3,94	,992
FH1	85	1	5	4,08	,966
FH2	85	1	5	4,00	,926
FH3	85	2	5	4,00	,886
FH4	85	1	5	3,82	,966
GH1	85	1	5	3,91	1,065
GH2	85	2	5	4,01	1,018
GH3	85	2	5	3,87	1,044
GH4	85	2	5	3,85	1,006
EH1	85	1	5	3,69	1,058
EH2	85	2	5	4,05	,858

EH3	85	2	5	4,12	,837
EH4	85	2	5	3,99	,970
EH5	85	3	5	4,29	,704
IH1	85	2	5	4,22	,864
IH2	85	2	5	4,07	,870
IH3	85	3	5	4,16	,784
IH4	85	3	5	4,34	,733
KH1	85	2	5	3,95	1,022
KH2	85	2	5	3,96	,969
KH3	85	2	5	4,13	,884
KH4	85	2	5	3,99	1,018
LH1	85	2	5	4,08	,862
LH2	85	2	5	4,26	,833
LH3	85	2	5	3,99	1,029
LH4	85	3	5	4,29	,769
MH1	85	2	5	4,16	,911
MH2	85	2	5	4,16	,924
MH3	85	1	5	4,06	,980
MH4	85	2	5	4,11	,845
NH1	85	1	5	3,68	1,071
NH2	85	2	5	3,72	,895
NH3	85	2	5	3,74	1,093
NH4	85	1	5	3,38	1,215
Valid N (listwise)	83				

3.3. Check the reliability of the scale

Based on analytical standards Hair et al. (1998), Nunnally and Bernstein (1994): Cronbach's Alpha coefficient if < 0.6: Variable scale is not appropriate; 0.6 - 0.7: Acceptable with new research; 0.7 – 0.8: Acceptable; 0.8 – 0.95: Good; >=0.95: Acceptable but not good, then the scales do not have too much difference, they can also measure the same content of the research concept (multicollinearity phenomenon), Coefficient Total variable correlation: > 0.3 observed variables contribute to the measurement value of research concepts, less than 0.3 are trash variables and will be eliminated.

Table 3: Reliability test results

Factor	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AH	0.769		
AH1		.676	.653
AH2		.493	.766
AH3		.595	.710
AH4		.552	.722

BH	0.851		
BH1		.667	.821
BH2		.617	.840
BH3		.697	.810
BH4		.800	.765
CH	0.676		
CH1		.364	.690
CH2		.550	.544
CH3		.551	.562
CH4		.412	.638
DH	0.857		
DH1		.736	.806
DH2		.791	.783
DH3		.709	.816
DH4		.591	.886
FH	0.842		
FH1		.734	.773
FH2		.661	.806
FH3		.638	.815
FH4		.672	.801
GH	0.871		
GH1		.726	.835
GH2		.670	.857
GH3		.764	.820
GH4		.742	.829
EH	0.818		
EH1		.610	.787
EH2		.777	.733
EH3		.533	.804
EH4		.621	.799
EH5		.547	.802
IH	0.850		
IH1		.672	.818
IH2		.615	.844
IH3		.777	.773
IH4		.713	.803
KH	0.903		

KH1		.828	.858
KH2		.779	.876
KH3		.786	.875
KH4		.746	.889
LH	0.861		
LH1		.782	.792
LH2		.699	.826
LH3		.645	.861
LH4		.741	.814
MH	0.766		
MH1		.645	.667
MH2		.592	.696
MH3		.696	.634
MH4		.349	.812
NH	0.714		
NH1		.663	.549
NH2		.581	.618
NH3		.602	.587
NH4		.244	.818

In the above analysis, we can see that the scales with retained Cronbach's Alpha values include BH1, BH4, EH4, IH1, IH4, FH3, KH4, KH1, LH1, LH3, MH3. These scales will continue to be retained for EFA testing.

3.4. Exploratory factor analysis

Next, after testing the reliability of the scales, the authors will use exploratory factor analysis (EFA) to test the scale value. EFA helps eliminate poor quality scales, forming a set of scales with better explanatory meaning. Testing standards (Anderson and Gerbing, 1988): Factor loading < 0.5 ; KMO coefficient (Kaiser – Meyer – Olkin): $0.5 < \text{KMO} < 1$; Bartlett's test: Sig. < 0.05 ; total variance extracted $< 50\%$.

Table 4: KMO and Bartlett's test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.258
Bartlett's Test of Sphericity	Approx. Chi-Square	4750,125
	df	630
	Sig.	.000

The Bartlett test is statistically significant (Sig. = 0.000 < 0.05), so the observed variables are correlated with each other in the population.

The results extracted exactly 07 factors (07 independent variables): KH, LH, MH, BH, EH, IH, FH

Table 6: Rotated Component Matrix^a

	Component		
	1	2	3
KH4	,852		
LH3	,850		
LH1	,790		
KH1	,726		
MH3	,505		
BH1		,829	
EH4		,794	
BH4		,768	
IH1			,841
FH3			,804
IH4			,720

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

- The running results show that group Bh1, EH4 and BH4 are omitted. The MH3 scale was also abandoned because it had a test value of 0.505.
- Scale FH3: It is difficult for me to evaluate and check the quality of fresh food when buying online. It can explain the meaning of variable IH: website reliability, so the authors changed the name FH3 to IH5 and continue running.
- Scale KH1: I only feel secure when the website provides full security features, KH4: I only feel secure when the website does not have ads or links with links that I do not know clearly, LH1: I will Buy fresh food at websites that are willing and ready to meet customer needs and LH3: I will buy fresh food at websites where customer questions are answered promptly and quickly. can explain the quality of the website when customers conduct exchanges and orders on it. Therefore, the group will create a new variable, named the OH variable, including the OH1, OH2, OH3, OH4 scales which are renamed KH1, KH4, LH1, KH3.
- Thus OH (OH1, OH2, OH3, OH4), IH (IH1, IH4, IH5),

Sau khi biến đổi biến kết quả ra bảng như sau:

Table 7: Rotated Component Matrix^a

	Component	
	1	2
OH2	,911	
OH4	,861	
OH3	,834	
OH1	,756	
IH1		,903

IH4	,777
IH5	,745

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

These two groups of factors explain 75.501% of the variation in the data and the eigenvalues of the factors are all greater than 1, so using the factor analysis method is appropriate.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,754	53,631	53,631	3,754	53,631	53,631	2,973	42,475	42,475
2	1,531	21,869	75,501	1,531	21,869	75,501	2,312	33,026	75,501
3	,652	9,316	84,817						
4	,450	6,431	91,247						
5	,246	3,513	94,760						
6	,215	3,076	97,836						
7	,151	2,164	100,000						

Extraction Method: Principal Component Analysis.

3.5 Correlation analysis

Table 9: Correlations

		OH	IH	Y
OH	Pearson Correlation	1	,415**	,877**
	Sig. (2-tailed)		,000	,000
	N	85	85	85
IH	Pearson Correlation	,415**	1	,802**
	Sig. (2-tailed)	,000		,000
	N	85	85	85
Y	Pearson Correlation	,877**	,802**	1
	Sig. (2-tailed)	,000	,000	
	N	85	85	85

** . Correlation is significant at the 0.01 level (2-tailed).

Thus, the variables in the model are not correlated

3.6. Regression analysis

Table 10: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,522 ^a	,273	,255	,680

a. Predictors: (Constant), OH, IH

b. Dependent Variable: Y

Table 11: Anova analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14,247	2	7,123	15,390	,000 ^b
	Residual	37,955	82	,463		
	Total	52,201	84			

a. Dependent Variable: Y

b. Predictors: (Constant), OH, IH

The sig value of the test is: $0.000 < 0.05$. Thus, the built linear regression model is suitable for the population, can be generalized and applied to the population.

Table 12: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1,341	,491		2,731	,008		
	IH	,141	,119	,123	1,186	,239	,828	1,208
	OH	,424	,096	,459	4,438	,000	,828	1,208

a. Dependent Variable: Y

The regression results show:

- All VIFs are < 2 , so multicollinearity does not occur

Thus: website reliability is a factor influencing online purchasing decisions for fresh food products in Hanoi.

4. Conclusion

Nowadays, online shopping is no longer strange to the majority of people, especially young people. However, there are still many doubts about buying fresh food due to the quality of the product upon delivery as well as the security issue of the website when customers conduct online transactions.

4.1. Solution group increases the quality of fresh food on the website

According to survey results, the quality of fresh food directly affects consumers' online purchasing needs for this item. Because it is a fresh product, standards applied to food hygiene quality must be given top priority. Over there, work on cold storage as well as transportation also needs to be taken into account so that the food delivered to customers is truly fresh. Only then can we attract and retain customers using this service.

4.2. The solution group increases the security and responsiveness of the website

According to survey results, security factors and website responsiveness account for the majority of customers' decisions to buy fresh food online. Businesses must invest in website security because this is the factor that customers are most concerned about when conducting transactions. In addition, the ability to respond and support customers online also helps customers trust in using online fresh food purchasing services more.

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