Customer Satisfaction with Chatbot Tools in Electronics Retail in Vietnam

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Abstract

Currently, Chatbot tool is being used a lot in e-retail businesses due to its convenience, speed and usefulness, so the study of factors affecting customer satisfaction with Chatbot tool is very important. in e-retailing becomes increasingly necessary for these businesses. The research has delved into analyzing and clarifying factors affecting customer satisfaction with Chatbot tools in Vietnam, including usefulness, reliability, demand, friendliness, motivation. With the results obtained from the research, the authors have proposed recommendations for e-retail businesses in Vietnam in developing and implementing plans to apply Chatbot tools to increase customer care efficiency customers and especially bring service satisfaction to customers.

Keywords: *Customer Satisfaction, Chatbot, Electronic Retail*

INTRODUCTION

The name "Chatbot" was born when people combined the terms "chat" and "robot" together. Chatbots can replace humans participating in conversations by using available answers on pre-installed software programs. With a mobile phone or a computer, Chatbots can be accessed easily to carry out discussions and interactions with organizations, agencies or individuals (Andri *et al.*, 2023). Chatbots also provide personalized support with built-in quality of service to respond to customer needs or complaints anytime, anywhere, even 24/7 (Følstad and Skjuve, 2019). Chatbots are predicted by Gartner (2016) to dominate the customer market and they claim this will happen in 2020. Especially in the business field, Haan (2018) believes that Chatbot is very flexible and quick in time, meeting customer needs 24 hours a day, anywhere, so it improves customer service of the business and it delivers positive experiences that have a positive impact on customer satisfaction

For businesses, using Chatbots will bring many benefits. First, Chatbots will provide information related to the user's question, therefore, they will only have to wait a very short period of time or can even receive an answer from the business immediately (Chung, *et al.*, 2020). Of course, this benefit will help businesses work more efficiently because they will not be overwhelmed when answering users' questions (Fisher *et al.*, 2012). Second, Chatbots can also bring better customer satisfaction because chatbots operate 24/7 so they can answer customer questions at any time (Selamat *et al.*, 2021). Third, businesses using Chatbot certainly do not need to spend extra staff salaries to limit errors, because errors from the smallest to the most serious can be minimized and all answers will be answered correctly according to what was previously installed with Chatbot (Daqar *et al.*, 2019).

According to research by Arnold (2018), through data the author has shown that young consumers seem to have completely accepted Chatbots. About 60% of Millennials (millennial generation - the demographic group between generation X and generation Z) have used Chatbots. Of those, 70% said they had very positive experiences. Also in 2018, Worldpay reported that 56% of Millennials are willing to make purchases via Chatbots, of which more than 50% have made purchases via Chatbots. However, in the age group from 18 to 24, only 14% are willing to use Chatbots to ask questions about simple information, this rate in the age group from 25 to 44 is 2.5 times higher but still only stands at 36%. Along with that, only 43%, less than half of users under the age of 34, think Chatbots can help them solve problems in an easier way (CGS. 2019). This raises the question of whether Chatbots really meet customer needs or not when the proportion of users willing to use

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Chatbots is quite small and focuses on the Millennials generation. Therefore, studying customer satisfaction with Chatbot tools in e-retailing is very important. However, currently there are not many studies addressing this aspect, especially in Vietnam. Based on the actual needs, in this study, the author will synthesize research works, analyze in depth and point out factors affecting customer satisfaction with Chatbot tools in electronic retail in Vietnam, and at the same time provide some recommendations that contribute to perfecting the Chatbot tools and improving customer satisfaction with the Chatbot tools in electronic retail in Vietnam.

Theoretical Basis And Proposed Research Hypothesis Model

Customer Satisfaction With Chatbot Tools In Electronic Retail

There have been quite a few studies done around the world on customer satisfaction. Oliver (1980) pointed out that customer satisfaction with the quality of an organization's services or products is affected by two main factors: customer expectations about the service before purchasing and perception about that service after experiencing it. Satisfied consumers mean they have a customer experience that satisfies their previous expectations about the business's products or services (Oliver, 1997). In terms of satisfaction, Yuksel *et al.* (2001b) believe that satisfaction has two main aspects: after consuming the final product, the customer gets satisfaction and during the product experience process service, customers are satisfied with that process. Several other authors point out that customer satisfaction is expressed through their reaction to the difference between actual experience and expected expectations. In 2001, Kotler clarified that after actual experiences with a business's products or services, customers will have feelings or feelings of satisfaction or dissatisfaction compared to previous expectations. This is defined as customer satisfaction. Two different groups of authors, Yang *et al.* (2004) and Chen *et al.* (2008), both stated that customer satisfaction is a concept that measures all levels of customer satisfaction with organizations providing products and services through contact and interaction. Business results and benefits of organizations and businesses providing services are greatly affected by customer satisfaction. That's why almost all of these organizations and businesses try their best to maximize customer satisfaction (Ryu *et al.*, 2012). During the period of rapid technological development, computers can replace many human activities, satisfaction is considered the main factor determining positive behavioral intentions such as repurchase intention, communication intention, electronic word of mouth (e-WOM) and long-term loyalty (Anderson *et al.*, 2003).

Verhagen *et al.* (2014) researched and showed that: there are many factors of Chatbots that affect the level of customer satisfaction, for example, communication quality such as how Chatbots shows user understanding, politeness, and quick response. Deep professional understanding as well as realistic detailed images of products and services play a very important role in increasing customer satisfaction and thereby achieving long-term benefits, especially are in high quality and highly competitive industries.

According to results from a study by Howlett *et al.* (2017), Chatbots' 24-hour availability and quick responses improved customer satisfaction, such as 44% of check-ins to the Marriott International hotel chain in 2017 was made possible by using Chatbots, making bookings easier and faster. Without a Chatbots, users would have to initiate a discussion with the hotel manager or search for the necessary information on relevant websites themselves. This can cause customers to waste time and may not be able to book the desired room due to late arrival. With the features provided by Chatbots (in specific context), customers can feel personalized.

Chatbots in education also affect student academic achievement and satisfaction. Some previous studies have shown Chatbots to be deployed effectively in a learning situation, for example, a professor at Georgia Tech university, assigned students a bot teaching assistant (Jill Watson is based on IBM's Watson platform), over the course of a semester the Assistant Chatbots were able to answer online questions instantly for students, students were surprised and at the same time very satisfied (Winkler *et al.*, 2018).

From a healthcare perspective, Chatbots have shown impressive added value to the sector, like the Your.MD chatbot called Healthily, this digital health technology company uses Chatbots to provide gives patients the most important health information and links them to check possible symptoms and in addition, side effects help to find health safety information, even referrals patients to appropriate care (Your.MD, 2021).

Chatbots are also introduced in the press, the improvement of media news and the use of Chatbot features in this field will positively impact the press, customers interact with personalized bots to provide Providing instant and reliable news. The media is betting on the production of channels in Telegram with an active presence in the application. One of the most famous Chatbots in Spain appeared on Telegram to provide political news to which the audience reacted positively to the service provided (Sánchez *et al.*, 2017).

Based on the opinions given, it can be understood that: *Customer satisfaction with Chatbot tools in e-retail is a satisfying emotional state that can be considered a mental state, which can comes from being comfortable in the situation, one's body and mind with the impact of Chatbot tools.*

Factors Affecting Customer Satisfaction With Chatbot Tools In Electronic Retail

Some case studies conducted recently on factors affecting customer satisfaction with Chatbot tools include:

Edmondo (2018) studied the perception and attitude of Italian consumers towards Chatbot adoption (with a total of 168 questionnaires filled out and after filtering all the data, 131 valid respondents was used to conduct data analysis). Research results show that the main determinants that play a positive role in consumers' perceptions and attitudes about Chatbots are usefulness, ease of use and risk. Zarouali *et al.* (2018) studied consumers' experiences with a Chatbot on Facebook. After analytical models, the authors have shown that there are two main factors that positively impact consumer attitudes towards Chatbot tools: usefulness and ease of use. Fu *et al.* (2020) found that needs and emotions are the two main driving forces that affect customers' motivation to use and satisfaction with Chatbots. Nguyen *et al.* (2021) conducted a research project on the factors that determine the intention to continue using Chatbot services of banks in Vietnam. After analyzing the model, the authors showed that satisfaction, reliability and usefulness are three factors that affect users' intention to continue using Chatbot services. Xusen *et al.* (2021) conducted an exploration of consumer reactions to text-based Chatbots in e-commerce. Research shows that credibility, friendliness, empathy and trust are factors that demonstrate consumer response to Chatbots. In 2021, Han conducted an overview survey on Chatbots for e-retailing in the period of rapid development of technology and e-commerce on a global scale. The author approaches a group of young consumers, sees whether this group of people is willing to use Chatbots in shopping and what factors influence the decision to use Chatbots. Research has made a new discovery by showing that users' perception of Chatbots is greatly influenced by humanity. Humanity is clearly shown in the communication process between humans and Chatbots, users will feel more comfortable and trusting when Chatbots communicate with them like a friend. Communication takes place naturally with useful exchanges instead of dry responses according to pre-installed instructions. This makes users more excited and motivated to shop. In general, for the study, the authors can see that the stimulation (motivation) of Chatbots has a great influence in forming consumer purchasing behavior. Tan (2023) identifies factors that affect user satisfaction when using Chatbots in e-commerce (research on Gen Z generation) including system quality factors, quality of information. information, quality of service, ease of use, usefulness. Andri and colleagues (2023) has shown that there are four factors that affect customer satisfaction with Chatbot tools in this country including: response level, usefulness, response speed, convenience.

Propose A Model And Research Hypothesis

Based on analysis and synthesis of research conducted around the world related to factors affecting customer satisfaction with chatbot tools in electronic retail; Starting from the research goal of pointing out the factors affecting customer satisfaction with chatbot tools in e-retailing, as a basis for proposing solutions to improve customer satisfaction with e-retailing chatbot tools. With chatbot tools in electronic retail, The authors propose a research model below:
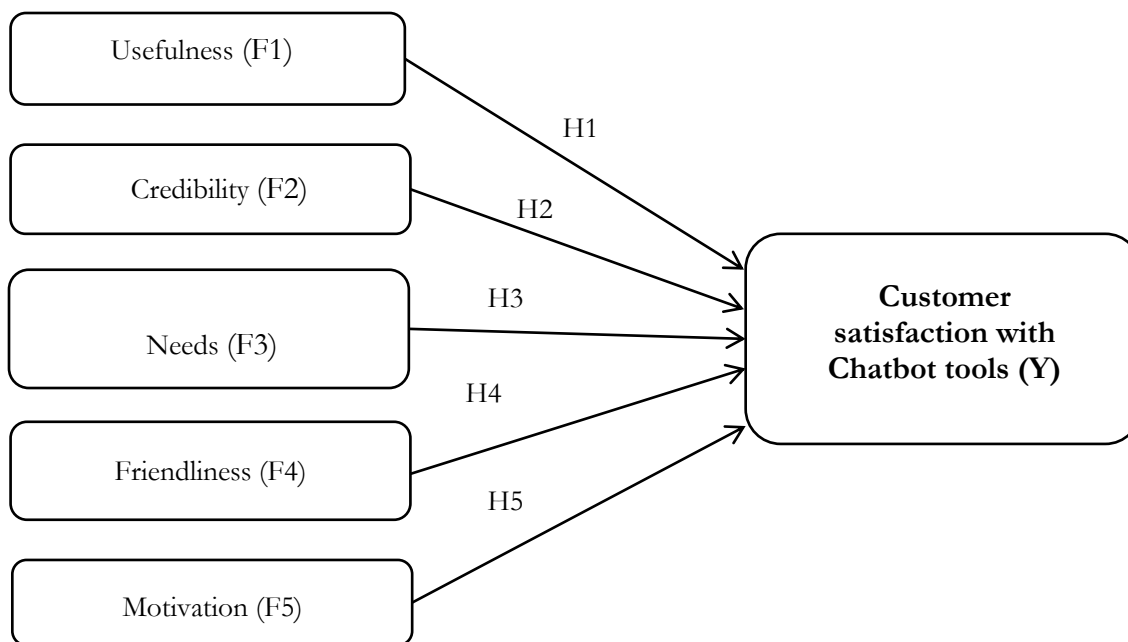
Figure 1: Proposed research model (author's suggestion)

Based on the proposed research model, the author synthesizes and develops research hypotheses, specifically as follows:

- Usefulness: Adam *et al.* (2020) Chatbot's usefulness will affect users' perceptions. The authors believe that when Chatbots use names to address or use singular pronouns in the first person, this is a way for Chatbots to publicize their identity. This action makes the reader feel very sympathetic. It not only makes it easier for readers to receive information, but also increases the user's sense of identity. On that basis, the author makes hypothesis 1.

Hypothesis 1: Usefulness positively impacts customer satisfaction with Chatbot tools in e-retail (H1)

- Credibility: Xusen *et al.* (2021) also suggest that one of the ways to increase customer trust in automated tools is to make the system's identity public. Consumers absolutely have the right to be clearly informed about the identity of Chatbots, they not only feel respected but are also very satisfied with it. On that basis, the author proposes hypothesis 2.

Hypothesis 2: Credibility positively impacts customer satisfaction with Chatbot tools in e-retail (H2)

- Needs: Jing-Chun Fu (2020) Individual needs refer to the various personal needs of consumers. He also gave a practical example: the manager in a disease of the Ministry of Health can completely designate the nearest pharmacy for each individual. On that basis, the author makes hypothesis 3.

Hypothesis 3: Demand positively impacts customer satisfaction with Chatbot tools in e-retail (H3)

- Friendliness: Xusen Cheng (2021) did a study on human acceptance of Chatbots. In this study, the author has clarified the two elements of Chatbots that are most interested in by users and rated as having the highest influence: friendliness and trust. In fact, when users interact with Chatbots through text, users will have bad experiences if Chatbots only respond in a rigid way based on pre-programmed and seemingly unresponsive answers not clearly understanding customers' wishes. In addition, communicating with customers in a friendly way will make customers have a better mood, better understand the difficulties that the business is facing, and thereby will stick with the business for a long time. On that basis, the author makes hypothesis 4.

Hypothesis 4: Friendliness positively impacts customer satisfaction with Chatbot tools in e-retail (H4)

\-   Motivation: Fu *et al.* (2020) researched that motivation is one of the main factors affecting whether customers are attracted to a business's products or services. In fact, in businesses, new customers will often be interested in the values they can receive from consuming products and services. However, for each new customer to become a loyal customer of the business, in addition to providing valuable products and services, the business also has a certain emotional connection with the customer. When customers truly trust and are satisfied with the business, receiving advice and care through Chatbots tools will easily make them feel more satisfied and use it more. On that basis, the author proposes hypothesis 5.

Hypothesis 5: Motivation has a positive impact on customer satisfaction with chatbot tools in e-retailing (H5)

RESEARCH METHODOLOGY

To analyze and test the proposed hypothesis, the author conducted a sociological investigation to collect data and used research data analysis methods as detailed below.

Data Collection

After a preliminary survey, the author conducted a sociological survey of individuals who regularly used Chatbot tools while shopping on e-retail platforms. Data were collected from survey questionnaires sent in the form of online Google Forms with a quantity of 268 questionnaires and sent online to survey subjects who were people in Hanoi and Ho Chi Minh City during the period from March 2023 to June 2023. After finishing the survey, the number of valid votes collected was 230 responses used for the analysis process. Table 1 below will show basic statistics about the investigated data.

Table 1: Characteristics of the study sample (N=230)

Data characteristics	Quantity	Ratio (%)
- Sex		
Male	152	66,1
Female	78	33,9
- Age		
Under 18	38	16,5
From 18 – 21	101	43,9
From 21 – 25	51	22,2
Above 25	40	17,4
- Job		
Student	52	22,6
Working for organizations	129	56,1
Free labor	49	21,3
- *Average income per month*		
Under 3 million	65	28,3
From 3 – 7 million	57	24,8
From 7 – 10 million	54	23,5
Above 10 million	54	23,5
- Marital status		
Married	132	57,4
Single	98	42,6
- Learn about Chatbots through any Vietnamese sales software		
Botbanhang	101	43,9
BotCake	100	43,5
Botstar	80	34,8
Harafunnel	66	28,7
Bizfly	54	23,5
Other	5	2,1

Source: Compiled by the author from survey data

From table 1, demographic statistics in the survey show that 66.1% are men, 33.9% are women; People aged 18 - 21 account for 43.9%, from 21 - 25 account for 22.2%, over 25 account for 17.4% and the remaining under 18 account for 16.5%. The study also shows that 56.1% of the people surveyed are working for organizations, 22.6% are students and 21.3% are freelance workers. Regarding marital status, 57.4% are married, 42.6% are single. The majority of survey respondents know Chatbot through Botbanhang (43.9%), followed by Botcake (43.5%), Botstar (34.8%), Harafunnel (28.7%), and Bizfly (23.5%).

Measure

The survey questionnaire was designed to measure research factors using a multi-item structure based on the synthesis of many previous studies on customer satisfaction with Chatbot tools in electronic retail, with reliability, high trust. Each item is measured using a Likert scale (five levels): (1) Lowest level (disagree); (5) Highest degree (agree).

Analytical Method

To analyze the collected data, the authors conducted SPSS statistical analysis software in 3 steps. First of all, the authors checked the reliability of the scale using the Cronbach Alpha coefficient; Testing determines the internal consistency and correlation between observed variables in the scale for general survey results to evaluate their reliability. When the Cronbach Alpha coefficient has a value greater than 0.7, the survey data is considered reliable. Second, to reduce the number of observed variables for the research model based on the linear relationship of factors with observed variables, the authors used the Exploratory Factor Analysis (EFA) method. Helps evaluate scale values. The author decided to use the EFA method in this case because there are currently no specific hypotheses about the factors and variables observed in previous studies. In this method, the observed variables that are retained must have a value greater than 0.5. Finally, the authors will complete the research process by testing the validity of the proposed hypotheses through linear regression analysis. Regression analysis will help the authors determine the dependent relationship between the dependent variable and the independent variables and also estimate the expected value of the dependent variable when the value of the independent variable is known in advance.

Summary Of Analysis Results and Discussion

Check Reliability

Table 2 below clearly shows the reliability test results. According to this result, all Cronbach Alpha values of the observed variables of the factors are greater than 0.7, which shows that all variables are These are all reliable for the research model.

Table 2: Check reliability

Measures	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Usefulness			
F11	.696	.833	
F12	.734	.819	
F13	.734	.817	0.860
F14	.676	.831	
F15	.587	.852	
Credibility			
F21	.629	.866	
F22	.702	.854	.878
F23	.696	.855	

Measures	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
F24	.697	.855	
F25	.656	.862	
F26	.726	.850	
Needs			
F31	.686	.693	
F32	.664	.722	.804
F33	.607	.777	
Friendliness			
F41	.700	.759	
F42	.580	.813	
F43	.691	.763	.827
F44	.645	.785	
Motivation			
F51	.618	.771	
F52	.621	.769	
F53	.638	.763	.812
F54	.649	.755	
Customer satisfaction with Chatbot tools			
Y1	.622	.754	
Y2	.669	.730	
Y3	.555	.784	.804
Y4	.632	.748	
Y5	.622	.754	

Source: Author's analysis results

Factor Analysis

The authors performed both the Kaiser-Meyer-Olkin (KMO) test and the Bartlett test. Both of these tests are statistically significant (Sig. < 0.05). Testing these two quantities is to test the hypothesis that the variables have no correlation in the population. If the value of this test is statistically significant Sig. < 0.05, the observed variables will be correlated with each other in the whole. Only if the statistical significance of factor analysis and KMO is between 0 and 1 is the value accepted. From the results of Table 3 below, it can be seen that the calculation results of the Bartlett and KMO tests are 0.000 and 0.94, respectively reflecting that the data collected from the questionnaire is reasonable for factor analysis.

Table 3: KMO and Bartlett test results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.949
Bartlett's Test of Sphericity	Approx. Chi-Square	3344.816
	df	231
	Sig.	.000

Source: Data processing on SPSS 20.0

To evaluate the correlation between independent variables and dependent variables, the authors used exploratory factor analysis (EFA). First, the authors will simultaneously analyze the factors of the independent variable to evaluate the correlation between them. Table 4 below clearly shows the results of this analysis.

Table 4: Correlation between factors of independent variables through factor analysis (EFA)

	Factor group				
	1	2	3	4	5
F21	.745				
F22	.803				
F23	.798				
F24	.798				
F25	.765				
F26	.821				
F11		.820			
F12		.797			
F13		.842			
F14		.797			
F15		.729			
F41			.716		
F42			.566		
F43			.701		
F44			.651		
F51				.791	
F52				.791	
F53				.805	
F54				.815	
F31					.871
F32					.858
F33					.818

Source: Author's analysis results

From Table 4, it can be seen that all factors of the model's independent variables ensure practical significance (with factor loading coefficients greater than 0.5); And the above 22 factors of the independent variable can be shortened into 5 groups:

- *Usefulness* is determined by variables: F11, F12, F13, F14, F15

- *Credibility* is determined by variables: F21, F22, F23, F24, F25, F26

- *Needs* are determined by variables: F31, F32, F33

- *Friendliness* is determined by variables: F41, F42, F43, F44

- *Motivation* is determined by variables: F51, F52, F53, F54

EFA analysis was also performed on the remaining five factors as factors of the dependent variable to determine the correlation between them. Table 5 below clearly shows the analysis results. From this result, it can be seen that the factors of the dependent variable all ensure practical significance and these five factors can be shortened into a group of factors called "Satisfaction with the tool Chatbot".

Table 5: Factor analysis (EFA) for the factors of the dependent variable

	Component
	1
Y1	.860
Y2	.878
Y3	.804
Y4	.827
Y5	.812

Source: Author's analysis results

SUMMARY OF REGRESSION ANALYSIS RESULTS

Table 6: Summary of regression analysis results

Hypothesis	*Independent variable affecting "customer satisfaction with Chatbot tool"*	*F-statistic*	*Adjusted R²*	*VIF*	*Standardized Coefficient*	*Critical ratio*	*p-value*
H1	Usefulness			1.372	.261	3.998	.000
H2	Credibility			2.336	.136	2.008	.004
H3	Needs	61.308	.727	2.377	.038	.577	.564
H4	Friendliness			1.615	.285	3.871	.000
H5	Motivation			1.149	.215	3.312	.001

Source: Author's analysis results

The results of Table 6 show that the five groups of factors proposed by the authors all have a significant impact on "Customer satisfaction with Chatbot tools in electronic retail in Vietnam" because of the value F (F-statistic) is very high, specifically 61,308. Along with that, the adjusted R2 coefficient reached 72.7%, showing that five independent variables can explain 72.7% of the variation of the dependent variable (Customer satisfaction with Chatbot tools in electronic retail in Vietnam). At the same time, the model does not have multicollinearity because all variance inflation factors (VIF) are quite less than 4 (according to Klein's rule of thumb).

Based on the analysis results, we can conclude the following hypotheses:

- *Hypothesis H1* states that usefulness positively impacts customer satisfaction with Chatbot tools in e-retail. This hypothesis is proven by the p-value of 0.000 which is less than 0.05. These studies have confirmed that to create satisfaction with Chatbot tools, Chatbot tools need to create usefulness, create value for customers, satisfy customers' needs and answer questions ask questions effectively.

- *Hypothesis H2* states that trust positively impacts attitudes toward customer satisfaction with Chatbot tools in e-retail. This hypothesis is proven by the p-value of 0.004 which is less than 0.05. Accordingly, the authors affirm that the more reliable the Chatbots tool is, the more trust it will gain from customers, which will create customer satisfaction with them.

- *Hypothesis H3* is proposed which confirms that customer needs will have a positive impact on customer satisfaction with Chatbot tools in e-retail in Vietnam. However, actual data analysis shows that the value of p is 0.564, much larger than 0.05. Although there have been some previous studies around the world in certain fields confirming this, with the results of this analysis, this hypothesis has been rejected, this hypothesis is not consistent with the condition. Specific conditions of electronic retail in Vietnam.

- *Hypothesis H4* states that friendliness has a positive impact on customer satisfaction with Chatbot tools in e-retail in Vietnam. This hypothesis is supported by a p-value of 0.000 which is less than 0.05. This research has once again affirmed that Chatbot tools need to be user-friendly, accessible, easy to use and familiar to create customer satisfaction.

- *Hypothesis H5* states that motivation has a positive impact on customer satisfaction with Chatbot tools in e-retail in Vietnam. This hypothesis is proven by the p-value of 0.001 which is less than 0.05.

CONCLUSION AND SOME RECOMMENDATIONS

In summary, in this research article, the authors have developed and experimentally analyzed a model of factors affecting customer satisfaction with Chatbot tools in e-retailing in Vietnam. The results show that usefulness, credibility, friendliness and motivation are factors that have a positive impact on customer satisfaction with Chatbot tools in e-retail in Vietnam. The results of this research have theoretical and practical significance. From a theoretical research perspective, the results of this study have provided empirical evidence on factors affecting customer satisfaction with Chatbot tools in e-retailing in Vietnam.

Regarding practical significance, first of all, this study confirms that Chatbot is an effective customer support tool that greatly helps both customers and businesses. Therefore, Vietnamese electronic retail businesses need to actively research and apply to take better care of customers, bring useful experiences to customers, and contribute to promoting products, services and products its brand.

Second, when deploying Chatbot tools in general, especially in the field of electronic retail, businesses need to pay special attention and closely follow the quality of Chatbot's answers so that customers can have confidence. Trust Chatbot before making decisions to purchase products and services from businesses.

Third, Chatbots need to be built with friendly, approachable answers that closely follow the content of customers' questions, while also communicating with customers flexibly so that customers feel they are communicating with real customer service staff.

Fourth, the answers in the Chatbot tool should also have elements that stimulate customer needs, creating useful messages so that customers are motivated to communicate, learn and purchase our products and services enterprise.

In addition to the positive results that the authors' research has achieved, the research also has many issues that have not been thoroughly analyzed and need to be improved in the next research articles.

Firstly, although the research sample was conducted nationwide in Vietnam, the number of samples was small and mainly customers of businesses in big cities so the research results are unclear. There are limits to accuracy. If future studies can survey a larger number of samples, diverse in customers according to demographic criteria and from more businesses, the results will certainly be more accurate. Second, customer satisfaction with Chatbot tools in e-retail is a new and constantly changing issue, especially when AI technology is currently developing and gradually replacing humans in many fields area. The results of this study only discovered certain influencing factors, not all factors affecting customer satisfaction with Chatbot tools in e-retail. Future research can propose and develop new models to show other factors affecting customer satisfaction with Chatbot tools in e-retailing in Vietnam. Finally, the survey questions mainly used a Likert scale (five points), so it may not be possible to collect complete information about research factors. Future studies can use questions more diverse to obtain complete and more reliable data.

The feedback and guidance from the Journal of Ecohumanism will be invaluable in strengthening the paper and ensuring its relevance to your readership. I look forward to the chance to further develop this research for publication in your journal.

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Appendix: factors in the survey
* Customer satisfaction with Chatbot tools in e-retailing (Y)
- Chatbot tools provide usefulness (Y1).
- Chatbot tools bring credibility (Y2).
- Satisfaction with Chatbot arises from customer needs (Y3).
- Chatbot tools bring friendliness (Y4).
- Chatbot tools creates shopping motivation for customers (Y5).
* Usefulness (F1)
- Using Chatbot in e-retail is a smart choice (F11)
- Chatbots are really helpful (F12)
- Chatbots help save time and personnel (F13)
- Chatbots help reduce costs (F14)
- Chatbots help simplify sales (F15)
* Credibility (F2)
- Chatbots are really easy to use (F21)
- Chatbot meets customer expectations (F22)
- Trust the recommendations and decisions provided by Chatbots (F23)
- Chatbot stimulates the shopping experience (F24)
- Chatbots are better than traditional marketing (F25)
- The way to shop and pay with Chatbot is quite simple (F26)
* Needs (F3)
- Chatbots are truly necessary in e-commerce (F31)
- Chatbots easily solve needs (F32)
- Customers may realize that they need to use Chatbot (F33)
* Friendliness (F4)
- Chatbots make customers feel like they are communicating with someone (F41)
- Chatbot interaction is quite natural (F42)
- How a Chatbot responds affects the trust level of a business (F43)
- Customers feel comfortable with the products and services provided by Chatbots (F44)
* Motivation (F5)
- Easily distinguish whether you are talking to a human or Chatbots (F51)
- Easy to understand how to use Chatbots (F52)
- Chatbots stimulates customers to buy (F53)
- Chatbots make it more convenient to buy products that customers want (F54)