Factors Affecting Customer Satisfaction with The last-mile Delivery Service
of The Food and Beverage Industry E-Commerce in Hanoi City

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Abstract: The purpose of this article is to analyze the factors affecting customer satisfaction with the use of last-mile delivery service in the food and beverage industry in e-commerce in Hanoi.The authors examine the impact of factors on customer satisfaction from 2015 to 2021 using the SERVQUAL service quality model combined with the SERVPERF perceived level model, and the American customer satisfaction index model - ACSI. The results show a relatively significant impact of several factors such as reliability, assurance, empathy and perceived value. In addition, income and gender factors also affect customer satisfaction.

Keywords: Service, quality, customer, satisfaction, e-commerce, last-mile delivery, impact, factor.

1. INTRODUCTION

E-commerce in Vietnam has witnessed a positive change in recent years; specially, in the context of contagious disease COVID-19, Vietnamese shopping habits have experienced many obvious

adjustments. According to a recent Nielsen Vietnam Survey, 63% of consumers will continue to shop online more frequently. This behaviour has created an outbreak for Vietnam's e-commerce market, at the same time, the food and beverage industry also made a significant contribution.

According to the report of Vietnam E-commerce and Digital Economy Agency (Ministry of Industry and Trade). The rate of goods transactions through e-commerce increased from 25% to 30% and concentrated in some essential commodities, such as fast food, victuals, processed food... These figures confirm that digital transformation in commodity trading of food and beverage companies is an essential strategy for long-term growth not only during epidemics but also when the economy has stabilized again. The Last Mile Delivery stage is a very important point of approachto the customer, the "final" process of actually delivering to the customer can determine whether a company successful or not. It affects the profitability, customer relationships, re-business, cash flow and many other factors of a business. In addition, service quality and customer satisfaction are two different but closely related concepts in service research (Parasuraman et al. 1988). Although there have been a number of studies concerned with customer satisfaction ine-commerce last-mile delivery, however, to deeply understand the food and beverage industry with its own specifics, the previous survey and research data is still limited.

It is extremely necessary to investigate the factors affecting customer satisfaction when using last-mile delivery in e-commerce of the food and beverage industry, especially in a big city like Hanoi. Understanding these factors can help businesses in the food and beverage industry as well as delivery businesses moving towards e-commerce have a basic data analysis, evaluate and selectively apply solutions to develop the most effective products and service.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK
2.1. Literature overview

Currently, the rapid development of the Fourth Industrial Revolution (or Industry 4.0)has created certain influences and impacts on the behavior and consumption habits of each customer. Rather than accessing and using traditional forms of consumption, consumers are increasingly turning to a new type of shopping: "last-mile delivery", also known as transporting food and beverages from suppliers to customers.Overall on this issue, there have been many national and international studies attempting to find a development direction based on this field. In a study about last-mile delivery of Laras Putri Handoko (2016) with the topic: "The effect of product quality and delivery service on customer satisfaction in Zalora - Indonesia", the author pointed out that the delivery service has a great impact on customer satisfaction, and is considered to have the closest relationship to satisfaction in the online shopping environment. Another study by Ziaullah et al. (2014) also confirmed that these two factors are positively related because the existence of this shopping method breaks the barriers of distance and time, which helps customersto shop wherever they want, thus creating convenience and satisfaction. Or in terms of online food ordering, Parameshwar Ganapathi with the topic "Customer Satisfaction With Online Food Ordering Portals In Qatar" has shown that: "in two hypotheses that the author constructs, the second hypothesis has been approved". Hypothesis refers to the quality of service provided has a positive effect on customer satisfaction, and their satisfaction has a positive impact on loyalty. In terms of satisfaction, Xu Xi (2007) concluded that customer satisfaction can be measured through feedback and loyalty while Rahmata (2016) confirms several factors that influence customer satisfaction such as timeliness, cultural background values between countries.

Conducting research in the context of Malaysia, Rao et al (2011) concluded that customer satisfaction with retailers is determined by satisfaction in the order fulfillment process.

In Vietnam, there are also some studies consulting this issue. Vu Le Huy et al (2020) have researched to test the relationship between quality of delivery service to satisfaction in retail e-commerce and thereby find the relationship between satisfaction and customer loyalty. The result shows that the quality of delivery service has a positive effect on satisfaction and that satisfaction has a positive effect on customer loyalty. In addition, the authors also focused on studying the impact of operational service quality in meeting and satisfying customers' needs during the shopping process, but the final results indicated that quality of delivery service has a stronger impact. Besides, there are also many research articles that have approached and exploited the topic of satisfaction in many different fields. In the field of education, Nguyen Thi Ngoc Xuan (2015) said that satisfaction in student's service quality is strongly reflected through the outcome factors. In the retail aspect, Nguyen Thi Mai Trang (2006) said that supermarket's service quality is reflected through the quality of goods, service staff, supermarket display, supermarket premises and supermarket safety. On the beverage aspect, Bui Vu Hung with the study "Research on customer satisfaction with Dung Quat beer products of Dung Quat brewery in Quang Ngai" has concluded the factors that affect the satisfaction is the product, employee's service attitude, company image, product quality and finally product design. Thus, it can be seen that satisfaction has been exploited by the authors on many different aspects.

However, in Vietnam, there is currently no complete research about customer satisfaction in the last-mile delivery of the food and beverage industry. The previous studies only investigated about satisfaction in other respects. Therefore, the authors will focus on understanding and analyzing the top factors determining customer satisfaction in using the last-mile delivery service ofthe food and beverage industry in Ha Noi.

2.2.Theoretical framework

2.2.1. *Customer satisfaction*

Bachelet (1995) defined customer satisfaction as the emotional response from customers to their experience with a product or service. Zeithaml and Bitner (2000) state that customer satisfaction is the customer's assessment of a product or service that meets their wants and requirements.This concept has concretized "customer satisfaction" as the assessment measured against the product or service.

According to Kotler (2001), customer satisfaction is the degree of a person's emotional state resulting from a comparison between the results obtained from product/service consumption and customer expectations. Expectations here are seen as human wishes or beliefs, originating from personal needs, previous experiences, and external information such as advertising and word of mouth from family and friends.

Customer satisfaction is a comparison between expectations before and after purchasing a product or service. On that basis, Kotler identifies three levels of satisfaction: (1) If the received result is less than expected, the customer will feel dissatisfied; (2) If the received result is as expected, the customer will feel satisfied; (3) If the received result exceeds customer expectations, the customer will feel very satisfied.

2.2.2.Factors affecting customer satisfaction in services

Research by Zeithaml and Bitner (2000) on the relationship between service quality and customer satisfaction indicates that the overall relationship of satisfaction includes service quality, product quality, and price. Besides, satisfaction is affected by factors of situations and personal factors.

Curry and Sinclair (2002) also point out the relationship between product/service quality and customer satisfaction. If the quality of the product or service meets the customer's expectations, it will lead to customer satisfaction. If not, it will cause customer dissatisfaction. Moreover, unless the service quality is improved based on the customer's need, customers will never be satisfied. Therefore, when using the service, if customers feel that the service has high quality, they will be satisfied and vice versa. In conclusion, the quality of products and services plays a vital role in delivering customer satisfaction.

2.2.3.Models measuring service quality and customer satisfaction

2.2.3.1.SERVQUAL model of Parasuraman et al (1988)

One of the most commonly used survey instruments for evaluating service quality is the SERVQUAL model, in which service quality is the difference between customer expectations and their perception when used through the service (Parasuraman et al, 1988).

The model consisted of 5 factors, which are:

- Tangibles: reflected in the factors that customers can directly perceive with their senses, including facilities, equipment, machines, personnel, and communication materials.

- Reliability: reflected in the level of prestige and accuracy in the implementation and provision of services by what was promised to customers.

- Responsiveness: reflected in the ability to perform, provide services quickly, ready to respond to needs, and resolve complaints from customers.

- Assurance: reflected in factors that create confidence, peace of mind for the customers when using the service, including the ability to communicate, inspire and professional knowledge of employees.

- Empathy: reflected in the care and attention of the employees to make customers feel welcome and comfortable when using the service.
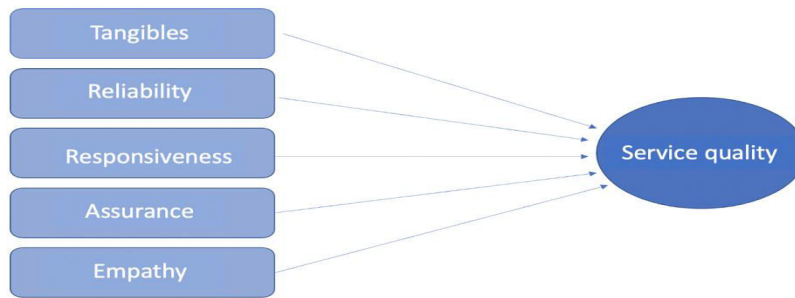
Figure 1: SERVQUAL model
(Source: Parasuraman and partners, 1988)

Up to now, this model has been used by many researchers around the world to evaluate the quality of different types of services such as hotels (Saleh and Ryan, 1992), aviation (Frost and Kumar, 2000), local rights (Wisniewski, 2001; Brysland and Curry, 2001), tourism and travel (Fick and Ritchie, 1991). The results obtained show the usefulness and accuracy of the SERVQUAL model, along with the adjustments from the assessment will limit the existing disadvantages of this model.

2.2.3.2.SERVPERF model of Cronin and Taylor (1992)

The SERVPERF model is built by Cronin and Taylor (1992), based on the SERVQUAL model theory by Parasuraman et al (1988). The difference of this model is that service quality is measured by perceived value. The SERVPERF model uses the same scale as the SERVQUAL model, consisting of 22 observed variables belonging to 5 groups of factors that reflect service quality, including tangibles, reliability, responsiveness, assurance, and empathy, measured by a Likert scale.

2.2.3.3.American Customer Satisfaction Index model of Fornell (1996)

The American Customer Satisfaction Index (ACSI) model of Fornell (1996) is a national index for American customers to assess the product or service quality.

The model shows the factors that lead to satisfaction, including expectations, perceived quality, and perceived value of the customer. The results of that satisfaction include customer complaints or customer loyalty.
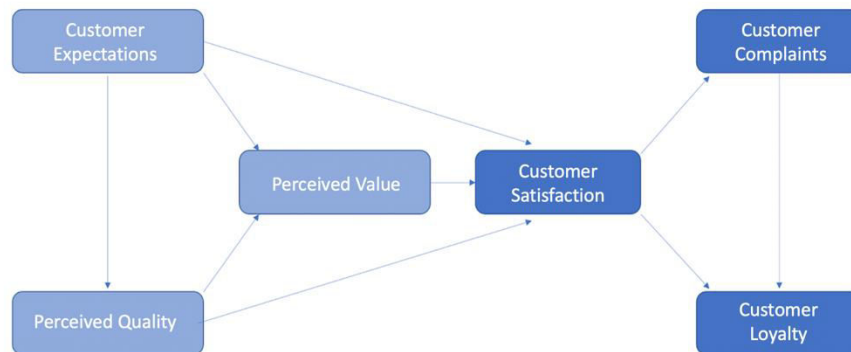

Figure 2: ACSI model
(Source: Fornell,1996)

According to the ACSI model, perceived value is affected by customer expectations and perceived quality, in which expectations have a direct impact on perceived quality. If customers are not satisfied, they will tend to turn to other businesses or complain to the business. Conversely, if the customer is satisfied, they will be more likely to continue using the products and services from that business.

2.3. Proposed research model and research hypothesis

Through reference to previous research models on customer satisfaction and service quality, as well as research overview, the authors decided to choose the SERVQUAL service quality model and the CSI customer satisfaction index model as the modeling foundation for the research.
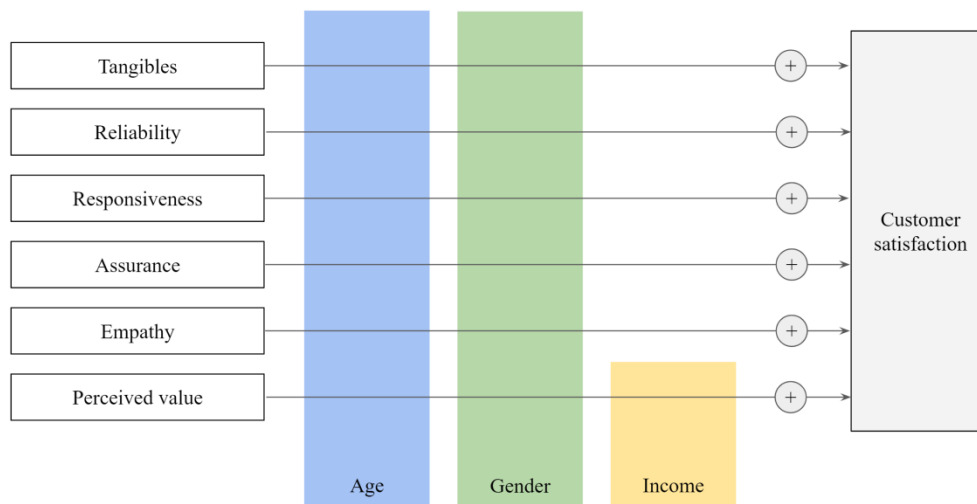
Figure 3: Proposed research model
(Source: Authors)

Although the SERVQUAL model's dependent variable is "service quality", it is the factor that has a great influence on "customer satisfaction." As a result, the authors decided to use five independent variables of SERVQUAL model in conjunction with the CSI model's "perceived value" factor as the variables of this study to increase the model's coherence. The regression model is formatted as follows:

$$CS = b0 + b1*TG + b2*RL + b3*RP + b4*AS + b5*EP + b6*PV$$

In which: CS: Customer satisfaction, TG: Tangibles, RL: Reliability, RP: Responsiveness, AS: Assurance, EP: Empathy, PV: Perceived value, bi: Regression coefficients with variables.

The main hypotheses of the study:

- H1: "Tangibles (TG) has a positive correlation with customer satisfaction (CS)."
- H2: "Reliability (RL) has a positive correlation with customer satisfaction (CS)."
- H3: "Responsiveness (RP) has a positive correlation with customer satisfaction (CS)."
- H4: "Assurance (AS) has a positive correlation with customer satisfaction (CS)."
- H5: "Empathy (EP) has a positive correlation with customer satisfaction (CS)."
- H6: "Perceived value (PV) has a positive correlation with customer satisfaction (CS)."

To best suit the socio-cultural level and economic development in Hanoi at the time of the study, particularly for the food and beverage industry, the authors have adjusted the original observed variablesto propose thescale for these six independent variables.

Table 1: Scale of independent variables

Independent variables	Observed variables	Encoding	Sources
Tangibles (TG)	Delivered products looks similar to the images posted by the supplier.	TG1	Parasuraman and partners (1988); authors
	Product appearance is guaranteed during delivery (no shipping damage).	TG2	
	Delivery person wears the right uniform for me to recognize.	TG3	
Reliability (RL)	Delivery person is willing to listen to my comments on arising problems.	RL1	Parasuraman and partners (1988); authors
	Delivery person always proactively informs me of changes arising in the delivery process.	RL2	
	I can track my delivery via mobile app updates.	RL3	
	The food and beverage delivery app I use always has enough delivery personnel to complete the delivery on time.	RL4	
	I was rarely kept waiting for long by the delivery person.	RL5	
	Delivery person delivers the correct order from the beginning.	RL6	
	The delivery location is exactly the place I requested.	RL7	
Responsive-ness (RP)	Delivery person always updates the order with me via app or phone.	RP1	Parasuraman and partners (1988); authors
	Delivery person is always willing to help me solve the arising problems (such as wrong delivered product,…).	RP2	
	Delivery person is responsible for handling the problems as quickly as possible (such as proactively dealing with the food supplier,…).	RP3	
	Delivery person always responds to your feedback in the most reasonable and convincing	RP4	

	way.		
Assurance (AS)	Delivery person has a friendly, polite and, professional attitude.	AS1	Parasuraman and partners (1988); authors
	Delivery person adheres to the principles of ensuring food hygiene and safety.	AS2	
	Delivery person proficient in operation on delivery application.	AS3	
	Delivery person with good expertise (delivery at the right address to the right time).	AS4	
Empathy (EP)	Delivery staff and shipping unit care about the interests of customers.	EP1	Parasuraman and partners (1988); authors
	Delivery staff and shipping unit are always eager to listen to customer feedback and reviews.	EP2	
	Delivery staff and shipping unit have an receptive attitude to the comments of customers.	EP3	
	The shipping unit often has incentives for their customers.	EP4	
Perceived value (PV)	Food and beverage delivery services bring many benefits to me.	PV1	Fornell (1996); authors
	The service quality of the shipping unit deserves the service cost.	PV2	
	Food and beverage delivery services meet my wants and needs.	PV3	

(Source: Authors)

The above statements are evaluated on a 5-point Likert scale with the following levels: (1) "Strongly disagree"; (2) "Disagree"; (3) "Neutral"; (4) "Agree"; (5) "Strongly agree".

In addition, the authors also identified three more demographic variables as "gender", "age" and "income" are three moderator variables that affect "customer satisfaction". Regression equation with moderator variables is shown as follows:

$$Y = b_0 + b_1X + b_2M + b_3XM$$

In which: X is the independent variable; M is the moderator variable; Y is the dependent variable; b_i: Regression coefficient with variables.

The research sub-hypotheses:

- H7a: "The influence of TG on CS of young people is greater than that of the elderly."

- H7b: "The influence of RL on CS of older people is greater than that of young people."
- H7c: "The influence of RP on CS of young people is greater than that of the elderly."
- H7d: "The influence of AS on CS of the elderly is greater than that of the young."
- H7e: "The influence of EP on CS of young people is greater than that of the elderly."
- H7f: "The influence of PV on CS of young people is greater than that of the elderly."
- H8a: "The influence of TG on CS of women is greater than that of men."
- H8b: "The influence of RL on CS of men is greater than that of women."
- H8c: "The influence of RP on CS of women is greater than that of men."
- H8d: "The influence of AS on CS of women is greater than that of men."
- H8e: "The influence of EP on CS of women is greater than that of men."
- H8f: "The influence of PV on CS of women is greater than that of men."
- H9: ""The influence of PV on CS of of lower-income earners is greater than that of higher-income earners."

In this study, age is divided into 5 ranges for evaluation, including "Under 18", "18-22 years old", "23-35 years old", "36-50 years old" and "Over 50 years old"; The income is divided into 5 assessment ranges, including "No personal income", "Under 3 million", "3-8 million", "8-20 million" and "Over 20 million" (unit: VND /month).

3. SCIENTIFIC RESEARCH METHODS

3.1.Data collection

3.1.1. Secondary data collection

In this study, secondary data are collected and synthesized from previous studies; socioeconomic reports; development trends of food and beverage industry, theoretical models of satisfied customers, last-mile delivery service, e-commerce field; and prestigious domestic and foreign economic magazine documents from 2010-2020.

3.1.2. Primary data collection

In terms of sample size, according to the method of Tabachnick and Fidell (1996) for multivariate regression analysis, the sample size $n \geq 8m + 50$ where m is the number of independent variables. Based on the above formula, the model has 6 independent variables, so the minimum number of observations for the study is 98 samples. Cattell (1978) stated that the number of exploratory factor analysis samples was at least 3 to 6 times the total number of observed variables. This study includes 23 observed variables, so the minimum sample size for the study is 25*6, which is 150 samples. The study used both indirect survey data via Google forms and directly distributed 500 questionnaires to residents in Hanoi city. The number of votes collected was 479, after filtering and reviewing, the research team discovered 44 unqualified votes and officially collected 435 qualified responses.

Table 2: Survey size by the sampling method

Structure		Number of released survey questionnaires	Number of qualified survey questionnaires
Age	Under 18 years old	100	93
	18-22 years old	110	102
	23-35 years old	110	100
	36-50 years old	100	83
	Over 50 years old	80	57
Gender	Female	250	232
	Male	250	203
Personal income	No personal income	Unknown	92
	Under 3 million VND		105
	3-8 million VND		94
	8-20 million VND		97
	Over 20 million VND		47

(Source: Authors)

3.2. Data analysis methods

For the data collected using the questionnaire, the authors checked and corrected the invalid answers to ensure the logic of the data. Next, the authors process data on two software, Microsoft Excel 2016 and IBM SPSS Statistics 20.0 to find out the meaning of the data and identify issues related to customer satisfaction to the last-mile delivery in E-commerce in the F&B industry in Hanoi city.

3.3. Data analysis results

The authors perform linear regression analysis on a total of 377 valid responses that they have experience in using delivery services to receive food and beverages. The regression model studies the effects of 6 independent variables: "tangibles", "reliability", "responsiveness",

"assurance", "empathy" and "perceived value" on the dependent variable - "customer satisfaction".

Table3: Summary of the linear regression analysis results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0,926	0,171		5,414	0,000
Tangibles	0,038	0,040	0,044	0,960	0,338
Reliability	0,154	0,047	0,159	3,252	0,001
Responsiveness	0,047	0,046	0,052	1,027	0,305
Assurance	0,143	0,044	0,165	3,287	0,001
Empathy	0,120	0,043	0,124	2,835	0,005
Perceived value	0,299	0,037	0,370	8,033	0,000

(Source: Data Processed, 2021)

Thus, the regression equation on factors affecting customer satisfaction in using food and beverage last-mile delivery service in Hanoi is:

$$CS = 0,926 + 0,154*RL + 0,143*AS + 0,120*EP + 0,299*PV$$

According to the above equation, the unstandardized regression coefficient B can explain the increase of "reliability", "assurance", "empathy" and "perceived value" leading to "customer satisfaction" increase.

The model includes 3 moderator variables, which are age, gender and income, affecting the relationship between the independent and dependent variables based on the regression coefficient of the new variable. Since gender is not expressed in quantitative terms, along with that, age and income in this model are expressed in the form of ranges, or in other words, the moderator variables of this model have the same characteristics as the hierarchical qualitative variable. Therefore, the authors transfer these them to dummy variables to perform regression analysis. There are totally 9 regression equations involving 9 moderator effects on the relationship between the independent and dependent variables.

Table4: Summary of the moderator variables regression analysis results

Model			Unstandardized Coefficients b3	Sig.	Adjusted R Square
Age (A)					
Reliability	− A2 →	Customer satisfaction	0,065	0,678	0,248
	− A3 →		0,169	0,303	
	− A4 →		0,493	0,012	
	− A5 →		0,345	0,190	
Assurance	− A2 →	Customer satisfaction	-0,192	0,678	0,248
	− A3 →		-0,629	0,303	
	− A4 →		-1,803	0,012	
	− A5 →		-1,591	0,190	
Empathy	− A2 →	Customer satisfaction	-0,131	0,393	0,164
	− A3 →		0,025	0,780	
	− A4 →		0,009	0,968	
	− A5 →		-0,242	0,408	
Perceived value	− A2 →	Customer satisfaction	0,085	0,432	0.367
	− A3 →		0,209	0,074	
	− A4 →		0,329	0,021	
	− A5 →		-0,089	0,663	
Gender (G)					

Reliability	− G →	Customer satisfaction	-0,220	0,013	0,240
Assurance	− G →		-0,215	0,005	0,286
Empathy	− G →		-0,547	0,000	0,241
Perceived value	− G →		-0,441	0,000	0,433
Income					
Perceived value	− I2 →	Customer satisfaction	-0,300	0,003	0,567
	− I3 →		-0,346	0,000	
	− I4 →		-0,567	0,000	
	− I5 →		-1,145	0,000	

(Source: Data Processed, 2021)

The results obtained disprove some of the initial hypotheses, contributing to an additional evidence determining the effects of "reliability", "assurance", "empathy" and "perceived value" are not affected by age. It also affirms the importance of the customer's gender and income to their satisfaction. Besides, although the moderator effect of gender on the relationship between "reliability" and "customer satisfaction" is proven, it is contrary to the initial perception: the influence of women on this relationship is larger than that of men.

In summary, according to the research results, customer satisfaction in using food and beverage last-mile delivery services in Hanoi is unaffected by external images of the delivery service providers. In addition, responsiveness from the delivery service provider to the customer requests has no effect on customer satisfaction. So, through the hypothesis testing process, there are four independent variables: reliability, assurance, empathy, perceived value that impact customer satisfaction. Futhermore, moderator variables which are gender and income affect the above effects.

4. RESEARCH RESULTS

From the results of analyzing and surveying 435 customers using the service by SPSS 20 software, the authors have realized that there are 4 independent variables: "reliability", "assurance", "empathy",and "perceived value" which affected customer's satisfaction when using this service. By the results from Cronbach's Alpha coefficients, these are 4 factors that have good results, the coefficients are 0.876; 0.890; 0.855; and 0.849 respectively, which represents that the scale guarantees reliability. According to EFA (Exploratory factor analysis), the above four factors have KMO = 0.9354> 0.5, and the results of the Bartlett test is 5294.028 with sig = 0.000. The Factor Loading test also shows the good results, which are greater than 0.5. The Total

Variance Explained of 5-factor groups is 71.012% (greater than 50%), proving thatthe variables are all single factor loading. In the Descriptive Analytics, observed variables with values from 3.5-4 account for 12/23 variables. The variable with the highest rate of consent is TT3 with 4.042 and the variable with the lowest rate is TT5 with 3.344. The results of Correlation and dependence also showed that these coefficients are sig = 0.00; so the correlation result is statistically significant. Generally, the results of correlation coefficient (r) have r>0 value, the correlation of the independent variables is from 0.3 to 0.6, showing that these variables have a positive correlation at a medium level. According to the Regression Analysis, the final result shows that the sig value of the F-test is 0.000 (<0.05), the standardized Coefficients of the "perceived value" has the greatest impact on the customer satisfaction "with Beta = 0.370, followed by" assurance "with Beta = 0.165, followed by "reliability "with Beta = 0.159 and finally" sympathy "with Beta = 0.124. Two independent variables that are tangible and the response has sig values of the T-test 0.338 and 0.305, greater than 0.05, so these two variables are not significant for the dependent variable, so they are rejected from the model.

By the above indicators, the results can be explained:

- In terms of reliability: in the process of providing last-mile delivery services, if the provider raises some problems that lose customers' trust (such as not updating order's status, not updating delivery progress, ...), they will tend to be confused and limit the use of this service in the future. So reliability always has a great influence on customer's satisfaction.

- In terms of assurance: The process of ordering and delivering by the online platforms is still risky. When these risks happen, it will create negative emotions for customers and thereby causing dissatisfaction. Therefore, when using the service by e-commerce platforms, customers always need an "assurance" for them to feel safe. This is the compelling reason why assurance is extremely important and has a positive impact on customer satisfaction.

- In terms of "empathy": In the process of supplying products to customers, a mistake may be unavoidable. In these situations, delivery personnel disclaim their responsibility and forces the customer to remedy the risk on his own. This leads to customers' dissatisfaction in the process of using the service. So the results of the 5 testing methods show that this factor has a great impact on customer's satisfaction.

- In terms of "perceived value": When a service that customers use meets the quality and expectations, customers tend to consider the service is completely worth their money, and then they will gain feelings of satisfaction. This is similar to food delivery service by last-mile delivery, when the customer notices that the price is completely consistent with the product quality and the attitude of the delivery personnel, he will appreciate this service and consider it worth the cost that they have to pay. Therefore, there must be compatibility between the perceived value and service quality to create customer satisfaction.

Due to the characteristics of the product, the independent variables "tangibles" and "responsibility" don't have any meaning and are excluded from the model, which can be explained that: In the delivery process, the quantity and the image of the product are not determined by the delivery person, it is more dependent on the food and beverage supplier. Besides, the feedbacks mainly come from times and attitude in delivering. These factors such as clothing in delivery (belong to tangibles) are not the top concerns of consumers in 'delivery'. In addition, moderating variablessuch asgender and personal income had an impact on the

relationship between the independent variables and the dependent variable, while the age moderator variable doesn't show this effect. In fact, factors such as gender, income affect consumer perception and assessment in the process of using services. However, the results of the age variable show that this factor does not tend to affect the relationship above, which can be explained that most enterprises in this industry currently focus on young and mid-range customers who can update their modern technology level. Therefore, many other age groups may not be interested in this growing service. This also poses a problem for businesses that need to reach more customers to expand their market.

In addition, the results of in-depth interviews with 23 people (including customers, delivery person, representatives of F&B business) also brought some close and practical perspectives. There are 5 most prominent points as follows: First, in fact, customers dopay attention to the "responsibility" of the delivery business when problems arise, and this also affects their satisfaction. Second, the navigation systems of delivery applications are sometimes inaccurate, making it difficult for the delivery party. Third, for the delivery businesses, although the number of their F&B partners is quite large, it is not enough to serve the abundant demand in the market, especially in the remote suburbs. Fourth, the delivery attitude of the shipper has a great influence on the customer's perception. Many customers said that they feel more satisfied when the delivery driver is friendly, polite, and professional. Fifth, the process of updatingorder information for food and beverage stores also has a great impact on customer perceptions as it can affect the waiting times or the convenience of customers when changes arise.

From the facts presented above, the authors have also proposed a few practical solutions for last-mile delivery service providers. First of all, businesses should increase their delivery resources, expand the affiliate network, or improve the route optimization software to help customers receive goods more quickly and conveniently. Focusing on training their delivery staffs as well asimproving customer service is also believed to make customers feel much more satisfied with business. In addition, options such as advertising activities, promotions or providing more add-ons will be a solution to create brand awareness for the delivery enterprise and create habits for new customers to get used to this service.

5.CONCLUSIONS AND RECOMMENDATIONS

5.1.Conclusions

Customer satisfaction in the last-mile delivery of the food and beverage industry has been influenced by many factors such as the shippers, the food and beverage shop owners, and even the subjective factors from clients. Based on the results from research as well as selective references of national and foreign researches, the authors concluded that there are 4 factors having an impact on customer satisfaction, which are "reliability", "assurance", "empathy"and "perceived value". At the same time, these relationships are adjusted by gender and income, while no influence of age was found. This result is the basis for many enterprises operating in the food and beverage industry or providing last-mile delivery services to have more solutions based on the market analysis data to improve customer satisfaction. It is also believed to help businesses reduce risks and improve efficiency in the operation process.

5.2.Recommendations

Through the research results tested by SPSS 20 software, combined with the in-depth interview method with many customers, the authors give some suggestions below for the delivery businesses, the F&B stores, as well as the customers.

5.2.1.   Recommendations for last-mile delivery services providers

Cooperating with many food and beverage businesses to have a wider supply network that helps customers from many remote locations reach the service:

In Hanoi city, there are also a few areas where very few F&B stores affiliated with delivery parties. Therefore, if customers in these areas want to use last-mile delivery to deliver to get products, they will encounter some problems relating to time and cost. So the solution which can be proposed is that the delivery enterprise can cooperate with more F&B shopson the ordering applications so that the business can reach more customers and help them save their waiting time and shipping cost.

At the same time, the authors also found out that when collaborating with the delivery service provider, the stores' revenue increased, but the profit decreased. The reason comes from the circumstance that the incentives the stores must pay to the delivery businesses are too high. Therefore, delivery party may consider reducing the discount rate to ensure more F&B businesses join the online food delivery network, which promotes this market becoming more and more extended.

Imposing the reward and penalty levels to the delivery staff:

Service providers can offer reasonable bonuses and penalties to stimulate the delivery person's working spirit. Thanks to this, the delivery person will have a positive attitude and be more proactive in helping customers when the problems arise. In detail, businesses can impose penalties for delivery person if they are frequentlycomplained by customers, as well as offer a reasonable bonus based on their impressive rating scoresby tracking the management software.

Offering a lot of price options for customers:

Based on the results of in-depth interviews with F&B store owners, the authors received complaints that numerous customers are dissatisfied with the quality of the products, but the main reason comes from the delivery person's order matching problem. Therefore, the authors have given some suggestions to the delivery enterprises that they can provide the customer some delivery options based on the shipping fee and the situation that the customer is experiencing. Besides fixing prices and delivery times, businesses can also provide customers with some other options such as providing faster delivery with higher fees or slower delivery with cheaper prices. Depending on customer's needs and specific circumstances, they will have a suitable choice. This can also improve customer satisfaction even though they have to wait longer.

5.2.2.   Recommendations for food and beverage businesses

With some chain stores that do not have their own delivery department, it is completely reasonable to link with applications to expand markets and easily reach customers. But in some periods such as peak hours, holidays, or weekends, when the store may have many orders and lack delivery staff, they should have a backup plan - using the app's finder service, for example.

If the business can solve this problem, the waiting time ofthe customer may be shortened, at the same time, the deterioration of food quality will be improved.

Regarding the operation of receiving orders, the store's staff can directly contact the delivery person to confirm the order and prepare the products as soon as receiving confirmation from the shipper.

Enterprises providing food and beverages need to consider carefully about the selection of delivery party because it can't be denied that transporting products to customers plays an important role in the selling assessment. If mistakes happen in a long time, the stores will be affected. At the same time, they also need to consider the discount rate for the delivery party to avoid the situation of increasing revenue but decreasing profits, which greatly impacts the ability of the business to maintain operations.

5.2.3. Recommendations for customers

Provide complete and accurate information:

Information provision is the important responsibility of the customer in last-mile delivery. Customers should provide enough information to the delivery party and F&B business, and make sure the information is correct before beginning order. In addition to the basic information, the customer can provide other essential information to the shipper to make the delivery process faster, for example, information that makes it easier for shippers to identify a delivery address in case the location is difficult to access.

Limit changes in demand after completing an order:

Customer's changes in order after placing an order, such as a change of address, time of receipt, or personal request, may affect the delivery process or the profits of the parties in this process. Therefore, customers should limit the change of their orders after completing their orders, in order to make last-mile delivery more convenient and faster, as well as ensure the profits of the parties in this process.

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