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Research Article

Customer Satisfaction in Shopping on Social Media Platforms: The Impact of the Quality of Express Mail Service in Vietnam's Digital Economy

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ABSTRACT

In the face of the strong development of the digital economy and the trend of shopping on social media platforms, the study aims to find the relationship between the quality of express mail service and customer satisfaction in shopping on social media platforms in the context of the development of the digital economy in Vietnam. Through 395 survey samples, quantitative analyses were performed on SPSS 26 software, such as Cronbach's Alpha reliability test, exploratory factor analysis (EFA), correlation analysis, and multivariate linear regression. The results show that operational quality (tangibles, reliability, responsiveness), relationship quality (assurance, empathy), cost performance, price, corporate image, and delivery method positively affect customer satisfaction in shopping on social media platforms. Based on the research results, several implications are suggested to improve the quality of express mail service and meet the needs of customers and the current digital market.

Keywords: express mail service, satisfaction, individual customers, digital economy.

1. INTRODUCTION

In the context of the strong development of the digital economy, e-commerce, and social networking platforms are increasingly becoming popular shopping channels, especially for young customers. The digitalization process changes consumer behavior and rapidly shifts how logistics services are operated especially express services. Currently, enterprises compete in products and focus on improving the quality of logistics services to increase customer experience, a key factor in helping retain and build consumer loyalty in a fiercely competitive environment. Customer satisfaction has been seen as a strategic weapon, creating a sustainable competitive advantage, expanding market share, and improving business efficiency. According to Le (2007), a delighted customer is 6 times more likely to become loyal and continue to shop or recommend services than someone who is only "satisfied." Even a 5 percent increase in the percentage of loyal customers can help businesses increase their profits from 25 percent to 85 percent.

While many industries face difficulties due to global economic fluctuations, express mail service has emerged as a bright spot, serving as an essential intermediary in connecting the supply chain from enterprises to the end consumer, especially during the COVID-19 pandemic. According to Allied Market Research, Vietnam's express mail service market reached $0.71 billion in 2021 and is expected to increase to $4.88 billion by 2030. with a compound annual growth rate (CAGR) of 24.1 percent from 2022 to 2030. Therefore, express delivery enterprises strive to enhance service quality to meet customers' growing expectations.

However, ensuring service quality in express mail service is a significant challenge. Customers increasingly demand delivery speed, accuracy, order tracking, and service attitude. In a fiercely competitive environment and with the rise of the digital economy, enterprises cannot only rely on price but also have to convince customers with comprehensive service quality, especially when they have more and more alternatives with just one click. Hanoi is the country's largest economic, political, educational, and technological center, so the demand for express mail service is increasing, especially for shopping on social media platforms such as Facebook, TikTok, Zalo, etc. However, customer

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satisfaction with express mail service still varies from enterprise to enterprise and lacks scientific evaluation. Stemming from the above issues, studying the relationship between the quality of express mail service and customer satisfaction in shopping on social media platforms in the context of the development of the digital economy in Vietnam is necessary, and it has high practical significance. The research results are an essential basis for helping enterprises identify the determinants of satisfaction and the basis for policy-making to improve service quality following today's digital market characteristics.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Express mail service

"Express mail service is a high-quality delivery service, with the fastest and most accurate time; the implementation of this service is through the stages of collecting, transporting, and distributing letters, documents, or goods in the shortest time. Modern and compact organizational methods carry out the collection, exploitation, transportation, and means" (Nguyen, 2011).

According to Vietnam Post and Telecommunications Group (2023), express mail service (EMS) is a type of service that receives, sends, transports, and delivers letters, documents, items, and goods (referred to as postal delivery) according to the time target previously announced by Vietnam Post and Telecommunications Group.

Thus, express mail service is a type of freight service, but it includes a commitment or guarantee to the customer regarding the timing of the freight journey.

2.2. Service quality and measurement models

According to Zeithaml and Bitner (2000), service is the behavior, process, and way of performing specific work to create value and meet the needs and expectations of customers. A service is a special good with many different characteristics from tangible goods, such as invisibility, heterogeneity, inseparability, and indivisibility. Therefore, measuring perfectly or recognizing with the eye is not easy. Quality represents the superiority or affirmation of one product or service compared to another product or service that will meet all requirements and satisfy the wishes of customers (Ha & Vo, 2020).

Service quality is the process of evaluating the level of service provided to customers compared to their initial expectations. Therefore, good service quality means delivering services that consistently meet customer expectations (Lewis & Booms, 1983). According to Parasuraman et al. (1985, 1988), service quality is an attitude expressed through an overall assessment of the service delivery process. Simultaneously, service quality reflects the gap between the customer's expectations of the service and their perception after receiving it. Service quality is recognized through the customer's subjective evaluation of a particular service (Bitner et al., 1990). Each customer has different desires, perceptions, and evaluations of the quality of the same service. According to the views mentioned above, service quality involves providing appropriate services or creating advantages from the outset and gradually improving according to the increasing desires of customers (Yuksel & Yuksel, 2002). From the customer's perspective, Le et al. (2017) and Nguyen and Le (2021) argue that service quality reflects the gap between expectations and customer evaluations when using services. Therefore, bridging this gap will enhance the quality of service provided, meaning that customer reviews meet or exceed their expectations.

According to the current research context, service quality measurement is an issue that attracts much attention from scholars as well as the research of businesses, so there have been many verified typical models to measure service quality (Phan et al., 2013; Nguyen, 2015; Dang, 2017; Nguyen & Le, 2021). Service quality measurement models are commonly used and are the basis for selecting courier service quality factors in this study, namely:

The technical/functional quality model developed by Grönroos (1984) is a service quality model that is evaluated on the basis of a comparison between the value that customers expect before using the service and the value that customers receive when using the service. The model is constructed from three dimensions:

- Technical quality describes in detail the services provided and the quality that customers receive when purchasing and using the service;

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- Functional quality describes how the service is delivered and how the customer perceives the results of technical quality;
- Image is a crucial factor, primarily shaped by technical and functional quality, along with several other elements that directly and indirectly influence customers' perceptions, including communication, advertising, pricing strategy, public relations, and more.

The SERVQUAL model of Parasuraman et al. (1985, 1988) was developed to assess quality in the service sector, initially encompassing ten dimensions of service quality. However, through actual measurement verification, they refined it to five, including:

- Tangibles are represented by equipment, communication, and the manner in which employees express themselves;
- Reliability demonstrates the ability to deliver the committed service accurately;
- Responsiveness illustrates a willingness to assist customers and offer timely service;
- Assurance of professional knowledge and a service attitude that instills trust in customers;
- Empathy demonstrates care and concern for customers.

According to the SERVQUAL model, service quality is assessed based on actual results, specifically whether the service meets customer expectations when the service is not in use. In other words, service quality is determined by the difference in customer perception after using the service compared to the customer's initial desires when the service is not being utilized.

The SERVPERF model developed by Cronin and Taylor (1992) is a variant of the SERVQUAL model designed to address certain inadequacies that pose challenges in the service quality assessment process. In the SERVPERF model, service quality is determined by the level of customer perception or attitude after using the service. It simplifies the evaluation of service quality because customer expectations prior to using the service vary by individual, occasion, and context, making them difficult to quantify accurately. The SERVPERF model has garnered support from scholars such as Lee et al. (2001) and Brady et al. (2002). While the SERVQUAL model retains the same five dimensions, the dimensions in the SERVPERF model can be flexibly adapted to suit the field or context of the study.

Thai and Grewal (2005) developed the ROPMIS model by synthesizing many service quality models applied in developed countries to be consistent with the context of an emerging economy like Vietnam. The ROPMIS model directly refers to assessing the quality of logistics services in shipping activities in particular and other fields in general (Dang, 2018; Nguyen et al., 2021). Nevertheless, the limitation of the ROPMIS model is that it does not mention evaluation based on customer perception or expected value. The ROPMIS model is constructed from six dimensions:

- Resources encompass physical resources, financial resources, environmental conditions, equipment, locations, and infrastructure;
- The core product or service outcome is perceived by the customer, such as completing the service on time or the price of the service provided;
- Processes reveal the employee-customer relationship, including customers' awareness of employee behavior during requests and complaints solving, employees' knowledge of desired products or services, and their ability to use modern technology for efficient customer service;
- Management selects and deploys resources effectively to meet customer needs through employee skills and professionalism. It involves a customer feedback system that informs the new quality cycle and fosters continuous improvement based on past cases;
- Image and reputation concerning general perception and trust from customers for service providers;
- Social responsibility pertains to ethical issues and the activities of service providers who responsibly engage with the community and society.

2.3. Customer satisfaction

Zeithaml et al. (1996) emphasized that customer satisfaction is self-awareness or consent from customers after using a product, goods, or service that meets their expectations. Customer satisfaction is expressed through the emotional states of joy, happiness, and contentment when experiencing a product, goods, or service. Kotler (1997) defines

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customer satisfaction as a comparison between the perception of initial expectations and the perception of the results after using a product, good, or service. Customer satisfaction is a variable of attitude, and this positive attitude only appears after the customer uses a product or service that satisfies their expectations (Oliver, 1993; Kotler & Armstrong, 2012). Studies by Zeithaml and Bitner (2000), Jain and Gupta (2004), Dang (2018), Nguyen and Le (2021) propose that customer satisfaction is an emotion from the customer's consideration process between the actual value provided and the value they have always expected before using a product or service. Customer satisfaction is the overall response of customers after an experience with a product or service that is equal to or greater than what they want (Stank et al., 2003; Nguyen et al., 2022). Additionally, Gilbert et al. (2013) point out that customer satisfaction can be evaluated generally through a unidirectional scale with an observation variable or a multidirectional scale to assess the satisfaction associated with each service component in detail.

2.4. The relationship between service quality and customer satisfaction

The study by Nguyen and Le (2021) found that between the two perspectives on service quality and customer satisfaction, there are many similarities, and service providers often use these two perspectives interchangeably; good service quality equates to satisfaction, and vice versa. However, the studies by Parasuraman et al. (1988) and Cronin and Taylor (1992) indicate that service quality and customer satisfaction are independent and distinct perspectives. Service quality focuses solely on each aspect that the service provides, while customer satisfaction considers the overall experience after using the service (Wilson et al., 2008). According to Zeithaml and Bitner (2000), service quality is a key cause of customer satisfaction, and price can be considered a dimension of service quality that directly impacts customer satisfaction (Wang et al., 2018). Studies in various fields also confirm that service quality directly impacts customer satisfaction. In other words, customer satisfaction depends on the factors of service quality; the better the service quality, the more customer satisfaction will increase (Curry & Sinclair, 2002; Lai et al., 2009; Santouridis & Trivellas, 2010; Le et al., 2017; Nguyen & Le, 2021; Bayad, 2021). Thus, service quality is the origin of customer satisfaction; it has a causal relationship with pre-existing service quality, which will be skillful according to customer satisfaction. Therefore, providers must improve service quality to enhance customer experience and satisfaction.

This study adopts the SERVPERF model by Cronin and Taylor (1992) to develop a research model. Simultaneously, the author integrates practical observations and synthesizes studies related to the quality of transportation services in general to identify the factors in the proposed research model as follows:

Table 1: Dimensions of express mail service

Dimensions	Source
Operational quality (tangibles, reliability, responsiveness)	Cronin and Taylor (1992), Stank et al. (2003), Lykogiannis (2014), Le et al. (2017), Nguyen and Le (2021), Le et al. (2023)
Relationship quality (assurance, empathy)	Cronin and Taylor (1992), Stank et al. (2003), Lykogiannis (2014), Le et al. (2017), Nguyen and Le (2021), Le et al. (2023)
Cost performance	Stank et al. (2003), Le et al. (2023)
Price	Zeithaml and Bitner (2000), Mollering (2005), Hanif et al. (2010)
Corporate image	Thai and Grewal (2005), Le et al. (2017)
Delivery method	Lykogiannis (2014), Di and Liang (2020), Vo et al. (2021)

Source: Summary by the author

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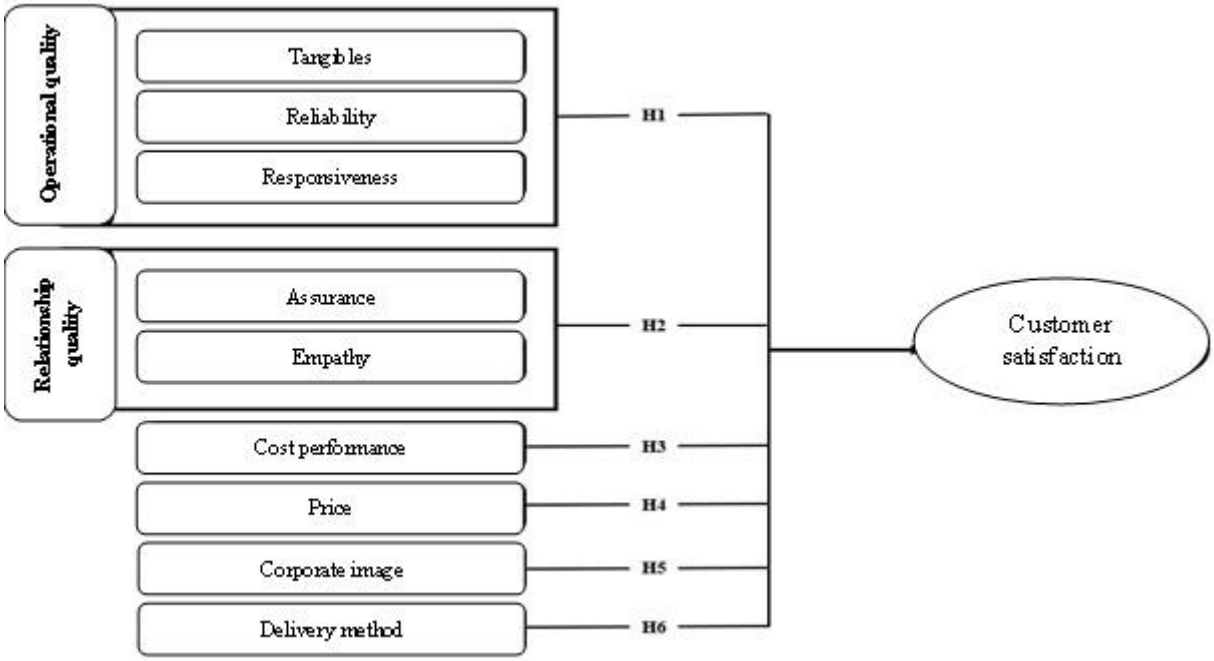

Figure 1: Research model

Source: Recommended by the author

Table 2: Proposed research hypotheses

Hypothesis	Describe	Expected
H1a	Tangibles will be positively associated with customer satisfaction	+
H1b	Reliability will be positively associated with customer satisfaction	+
H1c	Responsiveness will be positively associated with customer satisfaction	+
H2a	Assurance will be positively associated with customer satisfaction	+
H2b	Empathy will be positively associated with customer satisfaction	+
H3	Cost performance will be positively associated with customer satisfaction	+
H4	Price will be positively associated with customer satisfaction	+
H5	Corporate image will be positively associated with customer satisfaction	+
H6	Delivery method will be positively associated with customer satisfaction	+

Source: Recommended by the author

3. METHODOLOGY

3.1. Measurement scales

The study employs a questionnaire to collect research data, which consists of two parts: personal information and scales. The authors have adopted the scales from both domestic and international studies, as shown in Table 1. Concurrently, the author conducted a group discussion with managers and owners of express mail enterprises in Vietnam, such as VietNam Post, Viettel Post, Express Delivery Services Corporation, Giao Hang Tiet Kiem Joint Stock Company, J&T Express, and DHL Express, and interviewed experts in the field of logistics to gather their insights on the content of the factors, as well as the comparison between theory and practice regarding the relationship between factors in the proposed research model to develop a formal scale. Particular attention is given to the content, selection,

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supplementation, or elimination of observation variables to tailor the scale to the context, subjects, and research objectives. The Delphi method was employed, and after numerous rounds of discussion, the results indicated that the elements in the proposed research model are suitable for meeting the current practical requirements of express delivery businesses in an emerging economy like Vietnam. Furthermore, the formal scale has been articulated in words, adding several observation variables to enhance respondents' comprehension and streamline the process. The formal scale is assessed using a Likert scale of approximately five levels, ranging from Level 1 (Strongly Disagree) to Level 5 (Strongly Agree).

3.2. Sample and data collection

The survey is designed using Google Forms and is sent online to individual customers who regularly shop on social networking platforms using courier services. The required sample size was determined according to the optimal sample size ratio (10:1) when analyzing the EFA discovery factor recommended by Hair et al. (2010). The formal scale comprises nine independent factors and one dependent factor with 43 observed variables, indicating that the number of samples needed is 430. The study selected a convenient non-probability sampling method for surveying a short time frame (from February to March 2025) to achieve data saturation; the survey papers without value were processed. The results yielded 395 valid responses, resulting in a response rate of 91.86 percent. Table 3 presents a summary of the characteristics of the study sample.

Table 3: Demography of respondents

Characteristics		N	Ratio (%)
Gender	Male	216	54.68
	Female	179	45.32
Age	18 - 25	103	26.08
	26 - 35	118	29.87
	36 - 45	97	24.56
	> 45	77	19.49
Education	Under the University	126	31.90
	University	189	47.85
	Postgraduate	80	20.25
Profession	Business	91	23.04
	Civil servants/employees	124	31.39
	Freelance	137	34.68
	Students	43	10.89
Time	< 1 year	110	27.85
	1 – 2 years	203	51.39
	> 2 years	82	20.76
Purpose	Send goods to customers	71	17.97
	Send goods to the workplace	107	27.09
	Send goods to acquaintances and friends	124	31.39
	Receiving goods from sellers	93	23.54

Source: Data from authors' survey

3.3. Data analysis

The study used SPSS 26 software to analyze the collected data to test the hypothesis and proposed research model through Cronbach's Alpha coefficient, exploratory factor analysis (EFA), correlation analysis, and linear regression analysis.

The overall equation for the model and the proposed research hypothesis are as follows:

$$CS = \beta_0 + \beta_1*Tan + \beta_2*Rel + \beta_3*Res + \beta_4*Ass + \beta_5*Emp + \beta_6*CP + \beta_7*CI + \beta_8*Ima + \beta_9*DM + \varepsilon$$

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In which:

CS (dependent variable): Customer satisfaction

Independent variables: Tangibles (Tan), Reliability (Rel), Responsiveness (Res), Assurance (Ass), Empathy (Emp), Cost performance (CP), Price (Pri), Corporate image (CI), Delivery method (DM)

β_k: Regression coefficients (k = 0. 1, 2,...,9)

ε: Error

4. RESULTS

A descriptive analysis of the factors showed that the mean ranged from 3.76 to 4.23, indicating that individual customers had a positive rating for the quality of express mail services when shopping on social media platforms. Cost performance had the highest mean value (4.23), indicating that customers perceive the service to be reasonably priced. Furthermore, corporate image (4.17) and tangibles (4.12) were also well-received. In contrast, price (3.76) and empathy (3.81) have low means, indicating a need for improvement in pricing policy and customer understanding. The standard deviation ranges from 0.62 to 0.79, reflecting the level of consensus in customer reviews.

Table 4: Descriptive statistics

Scales	Sign	Min	Max	Mean	SD
Tangibles	Tan	1.00	5.00	4.12	0.63
Reliability	Rel	1.00	5.00	3.88	0.78
Responsiveness	Res	1.00	5.00	3.95	0.70
Assurance	Ass	1.00	5.00	4.04	0.69
Empathy	Emp	1.00	5.00	3.81	0.75
Cost performance	CP	1.00	5.00	4.23	0.71
Price	Pri	1.00	5.00	3.76	0.66
Corporate image	Ima	1.00	5.00	4.17	0.76
Delivery method	DM	1.00	5.00	3.89	0.79
Customer satisfaction	CS	1.00	5.00	4.01	0.62

Source: Data from authors' survey

The analysis results showed that after excluding the two observation variables, Rel3 and CP1, which had a Corrected Item-Total Correlation of less than 0.3, the Cronbach's Alpha coefficient of the scales is greater than 0.7. Moreover, the Corrected Item-Total Correlation of the observed variables is greater than 0.4, indicating that the scale meets the value requirements for both discriminant validity and reliability for inclusion in exploratory factor analysis (Hair et al., 2010) (see Table 5).

Table 5: Cronbach's Alpha and EFA

Scales	No.	Cronbach's Alpha	Corrected Item-Total Correlation	Factor loadings
Tangibles	Tan1	0.812	0.456	0.826
	Tan3		0.509	0.803
	Tan2		0.412	0.798
	Tan5		0.584	0.784
	Tan4		0.436	0.772
Reliability	Rel1	0.805	0.432	0.808
	Rel4		0.457	0.793
	Rel2		0.511	0.781
	Rel5		0.509	0.764

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Scales	No.	Cronbach's Alpha	Corrected Item-Total Correlation	Factor loadings
Responsiveness	Res1	0.836	0.538	0.803
	Res2		0.510	0.795
	Res4		0.493	0.778
	Res3		0.472	0.766
Assurance	Ass1	0.791	0.610	0.798
	Ass3		0.594	0.772
	Ass5		0.578	0.754
	Ass2		0.569	0.731
	Ass4		0.538	0.729
Empathy	Emp1	0.782	0.454	0.784
	Emp3		0.463	0.771
	Emp4		0.526	0.767
	Emp2		0.448	0.758
Cost performance	CP2	0.814	0.659	0.799
	CP5		0.513	0.785
	CP3		0.466	0.776
	CP4		0.526	0.748
Price	Pri1	0.824	0.536	0.811
	Pri3		0.527	0.807
	Pri2		0.518	0.797
Corporate image	Ima4	0.827	0.487	0.775
	Ima1		0.512	0.760
	Ima3		0.462	0.742
	Ima2		0.595	0.738
Delivery method	DM2	0.788	0.497	0.776
	DM1		0.482	0.759
	DM3		0.451	0.744
	DM4		0.426	0.723
KMO = 0.782				
Bartlett's Test		Approx. Chi-Square		9786.231
		df		459
		Sig.		0.000
% of Variance = 78.395%				
Customer satisfaction	CS1	0.819	0.572	0.818
	CS2		0.619	0.806
	CS3		0.607	0.792
	CS4		0.596	0.783
KMO = 0.793				
Bartlett's Test		Approx. Chi-Square		318.661
		df		4
		Sig.		0.000
% of Variance = 80.241%				

Source: Data from authors' survey

Performing an exploratory factor analysis (EFA) using the PCA extraction method and the Varimax rotation for the results, the KMO coefficient for independent factors reached 0.782, with the Sig value of Bartlett's Test at 0.000. With an Eigenvalue greater than 1, nine factors were extracted, accounting for a total variance of 78.395 percent,

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greater than 50 percent, indicating that these nine independent factors explained 78.395 percent of the variability in the study data. At the same time, the factor load coefficients of the observed variables are greater than 0.5, so the analysis data meets the requirements recommended by Hair et al. (2010). For the dependent factor, the analysis results show that the KMO coefficients reached 0.793, satisfying the conditions of being greater than 0.5 and less than 1. The Sig. coefficient of Bartlett's test is less than 0.05. With an Eigenvalue greater than 1, only one factor is extracted with a total variance of 80.241 percent and a load coefficient of four observed variables greater than 0.5. Thus, the data meets the requirements and is eligible for further analyses (Hair et al., 2010) (see Table 5).

Table 6: Correlation analysis

	CS	Tan	Rel	Res	Ass	Emp	CP	Pri	Ima	DM
CS	1									
Tan	0.732**	1								
Rel	0.682**	0.255*	1							
Res	0.787*	0.203**	0.291**	1						
Ass	0.639**	0.216**	0.184*	0.185**	1					
Emp	0.715**	0.234**	0.271**	0.263*	0.280*	1				
CP	0.608**	0.197**	0.253**	0.270**	0.237*	0.177**	1			
Pri	0.716*	0.215*	0.228**	0.188*	0.169*	0.249**	0.242*	1		
Ima	0.671**	0.189*	0.169**	0.297**	0.180*	0.251*	0.263**	0.238*	1	
DM	0.684**	0.201*	0.259**	0.181**	0.233*	0.196*	0.287**	0.193**	0.255**	1
** significant at p < 0.05; ** significant at p < 0.01*										

Source: Data from authors' survey

The analysis results in Table 6 show a strong correlation between independent factors and customer satisfaction when the Sig coefficient is less than 0.05 and the correlation coefficient exceeds 0.4. Additionally, among the independent factors, no multicollinearity phenomenon. Hence, they meet the inclusion criteria in the regression analysis model (Hair et al., 2010).

Table 7: Model Summary[b]

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Durbin-Watson
1	0.823[a]	0.819	0.797	0.357	1.805
a. Predictors: (Constant), Tan, Rel, Res, Ass, Emp, CP, Pri, Ima, DM b. Dependent Variable: CS					

Source: Data from authors' survey

The results in Table 7 indicate that R = 0.823 reflects a relatively close relationship among the elements in the model. The R^2 coefficient = 0.819 demonstrates that the model's suitability reaches 81.9 percent. Additionally, the adjusted R^2 value of 0.797 provides a more accurate reflection of the model's overall suitability, indicating that the nine factors in the model explain 79.7 percent of the variation in the dependent factor, while factors outside the model and random error explain 20.3 percent. The Durbin-Watson value of 1.805 shows a result that does not violate the first-order chain autocorrelation assumption.

Furthermore, the ANOVA analysis and F test results also show that the statistical value calculated from R^2 has a Sig value = 0.000. Therefore, the linear regression model is suitable for the data set.

Table 8: Multiple linear regression analysis results

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Constant	0.295	0.024		5,724	0.000		

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Model		Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	Tan	0.340	0.019	0.358	5,104	0.000	0.875	1.839
	Rel	0.256	0.022	0.263	4,697	0.001	0.793	1.752
	Res	0.313	0.011	0.339	4,315	0.003	0.821	1.761
	Ass	0.387	0.020	0.392	5,268	0.000	0.679	1.808
	Emp	0.215	0.025	0.227	6,436	0.001	0.742	1.725
	CP	0.274	0.018	0.280	4,122	0.000	0.608	1.796
	Pri	0.227	0.016	0.244	5,038	0.002	0.735	1.870
	Ima	0.295	0.027	0.306	6,877	0.000	0.761	1.842
	DM	0.369	0.023	0.371	5,925	0.000	0.688	1.759
a. Dependent variable: CS								

Source: Data from authors' survey

Testing the research hypotheses shows that the factors have a significance level of Sig. less than 0.05, indicating a statistically significant model. The VIF (variance inflation factor) is less than 2, confirming that no multicollinearity phenomenon occurs. Furthermore, the scatterplot illustrates random residuals scattered around the line passing through 0, oscillating significantly with an amplitude of +/- 1, proving that the linearity assumption is maintained. The histogram displays the standard distribution curve overlaid on the frequency graph, demonstrating a mean value close to 0 (Mean = -1.15E-16) and a standard deviation of 0.975, indicating the distribution of approximate standard residuals. The P-P plot also indicates that the observation points do not deviate significantly from the expected line, concluding that the assumption of a normally distributed residual is not violated. Therefore, the linear regression model described above is appropriate. The regression model is defined as a normalized equation as follows:

$$CS = 0.392*Ass + 0.371*DM + 0.358*Tan + 0.339*Res + 0.306*Ima + 0.280*CP + 0.263*Rel + 0.244*Pri + 0.227*Emp + \varepsilon$$

Thus, the hypotheses are supported; independent factors positively affect customer satisfaction, with assurance having the most substantial impact, followed by delivery method, tangibles, responsiveness, corporate image, cost performance, reliability, price, and empathy. The study's limitation is that it uses a legacy model with a small sample size, and other influencing factors outside the model still need to be considered. These limitations will suggest further research opportunities for the authors.

5. IMPLICATIONS

First, enterprises need to implement comprehensive training programs on service skills, complaint resolution, and incident handling processes. Establish a public policy on compensation for late deliveries, damaged goods, or lost items to provide peace of mind and assurance for customers. Additionally, it is essential to create cross-platform feedback channels (hotline, online chat, social networks) for receiving and processing feedback promptly.

Second, enterprises must focus on standardizing the delivery process to ensure flexibility and accuracy. Integrate a GPS navigation system that allows customers to track their orders' location in real-time, enable customers to select their preferred delivery time frame, and establish a backup delivery team to manage delayed orders. Additionally, enterprises should assess the quality of delivery staff with each order to facilitate continuous improvement.

Third, enterprises need to invest synchronously in brand image, upgrade warehouses and means of transportation, and equip staff with professional and clean uniforms with clear name tags and brand logos. Trading points should be scientifically arranged, with easy-to-understand signage and a friendly space to create a sense of trust and professionalism.

Fourth, enterprises ought to enhance their responsiveness to customer requests. It is advisable to establish customer care centers that operate around the clock, reduce order processing times, implement AI chatbots to address simple

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inquiries, and alleviate the workload on agents. Concurrently, the number of personnel should be increased during peak hours, such as weekends and promotional seasons.

Fifth, it is essential to cultivate a cordial and dependable corporate image by promoting consistent communication concerning quality commitments, service policies, and brand values. Enterprises may consider sponsoring social events, collaborating with key opinion leaders (KOLs) within the e-commerce sector, and actively engaging with customer feedback on social media platforms.

Sixth, enterprises must optimize their supply chains by utilizing demand forecasting technology, implementing intelligent shipping routing, and collaborating with reputable third parties to decrease fixed costs. The design of tailored packaging services, appropriate for each customer segment (including individuals, small online shops, and large enterprises), contributes to time and cost savings for these clients.

Seventh, it is imperative to publicly and transparently disclose information regarding delivery timelines, on-time delivery rates, and commitments to rectify errors. On a daily basis, a comprehensive internal inspection report on the rate of errors and delays must be prepared to facilitate prompt adjustments. Additionally, a clearly defined reward and penalty policy should be established for employees to uphold discipline and accuracy within the delivery process.

Eighth, it is essential to publish a transparent price list and to prevent the occurrence of “hidden” surcharges that may give customers a sense of being deceived. Concurrently, it is advisable to implement flexible packaging options (offering lower prices for prolonged delivery times and elevated prices for expedited delivery) to provide customers with a variety of choices. Additionally, establishing a system of points and discounts for regular customers would serve to enhance engagement.

Finally, it is imperative to focus on cultivating employees' listening skills, fostering empathy toward customers, and promoting proactive support rather than passive responses. It is essential to encourage staff members to identify and appropriately address exceptional situations, such as clients who necessitate urgent delivery due to personal circumstances (e.g., health issues, significant events, etc.), to generate a favorable impression and elevate the emotional value of the service experience.

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