

# The relationship between service quality and customer loyalty in specialty supermarkets: Empirical evidence in Vietnam

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**Abstract:** This study investigates the relationship between service quality of electronic supermarkets and customer loyalty by conducting questionnaire survey on 237 buyers in Tran Anh electronic supermarkets in Hanoi, Vietnam. This questionnaire was constructed with 28 retail service quality items covering 5 service quality dimensions namely *Physical Aspects*, *Reliability*, *Personal Interaction*, *Problem Solving* and *Policy*, and 2 *Customer Loyalty* items. Statistical analysis results indicate the significant relationship between *Customer Loyalty* and such dimensions of service quality as *Physical Aspects* and *Problem Solving*. From these findings, managerial as well as theoretical implications have been discussed.

**Keywords:** Service Quality, Retail Industry, Electronic Supermarket

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## 1. Introduction

Service quality is often regarded as a global judgment, or attitude, relating to the superiority of the service (Parasuraman, Zeithaml and Berry, 1988). It cannot be denied the significant impact of service quality on business performance, lower costs, customer satisfaction, customer loyalty and profitability. Therefore, service quality has been received a great deal of attention to practitioners, managers and researchers over the past few decades.

There are various definitions about service quality. In general, it can be considered as a perceived judgment whereby customers compare their prior expectations of a service with their perception of the service that they actually received. Service quality is an important strategic weapon in retail contexts, particularly in developing defensive marketing strategies. Intense competition in the retail sector makes service quality become an important determinant of customer loyalty and overall business performance in the sector.

The twenty first century has experienced the increasing important role of technology in our life. Following the same trend with the world, there are many electronic supermarkets opened to provide people with hi-end electronic appliances in

Vietnam. Among them, Tran Anh is one of the most famous retailers in electronics consumer products including computers and household electrical equipment. Tran Anh supermarkets chain has established by 2002 and consists of ten stores located in the main cities in northern part of Vietnam. By 2013, Tran Anh has 1000 staffs and sales volume is 100 US\$. In the last five years, Tran Anh has a greatest grow rate among local retailers in Vietnam. The differentiation between Tran Anh and other retailers are its focus on customer care and services. Onsite installation, guarantees, and aftersales service are strongly focused by Tran Anh and these are recognized as the key success factor for the company.

To investigate the relationship between service quality and customer loyalty in Vietnam retailer service, Tran Anh is selected as a case study since its trademarks and services are well-known in Vietnam. This study firstly provides information about factors to drive service quality of Tran Anh electronic supermarkets and then suggests providers on how to improve their service quality, which will enhance their customer's loyalty.

To assess the service quality of a retail store, in case of Tran Anh electronic supermarkets, we adopted the Retail Service Quality Scale framework (Dabholkar et al., 1996) measuring five components namely *Physical aspects*; *Reliability*;

Personal interaction; Problem solving and Policy. The rest of paper presents the literature, analytical framework, data collection and analysis, findings, and conclusions.

## 2. Literature Review

### 2.1. Service Quality

Juran (1999) explained the definition of customer led quality as “features of products which meet customers” needs and thereby provides customer satisfaction. Other researchers elaborate the service quality is a service not only to meet the specific requirements of customers, but also to satisfy their insight needs. Gronroos (1984) and Parasuraman *et al.* (1985) proposed that service quality is a function of the difference between customers’ expectation and their perception of the actual service received. Customers are satisfied when the perceived value meets or exceeds their expectations. In contrast, they are dissatisfied when they feel the perceived value below their expectations. This definition is accepted by a majority of scientists and business and widely used in research issue as well as in business. However, service quality is defined in many different ways depending on the object of study and research environment. Ueltshy & Krampf (2001) pointed that differences in culture affect measurement of quality in a service sector. Cultural factors are seemed to have greater influence on people’s evaluations of services than on their evaluations of physical goods due to involvement of

customer contact and interaction with employees while a service is delivered (Mattila, 1999). Hence, the study of service quality for retail sector in Vietnam is very necessary.

### 2.2. Service Quality Models

It is quite difficult to measure service quality in compared to good’s quality. Because unlike physical products, service product has a fewer tangible cues (Parasuraman *et al.*, 1985) and also requires higher consumer involvement in the consumption process (Gronroos, 1984). Gronroos (1984) found that three dimensions including technical quality, functional quality and corporate image to assess service quality. Technical dimension refers to the outcome or what is delivered or what the customer gets from the service. Functional dimension relates to the manner in which the service is delivered or how it is delivered. The last dimension is built by mainly both technical and functional quality and to some factors like the traditional marketing activities. It is the earliest research on service quality model. However, SERVQUAL by Parasuraman *et al.*, (1985) has been known as the most widely-used service quality model. This model presented ten key service quality aspects namely reliability, responsiveness, competence, access, courtesy, communication, credibility, tangibles, understanding the customer and security. By 1988, Parasuraman (1988) refined these ten dimensions into only five dimensions such as Tangibles, Reliability, Responsiveness, Assurance and Empathy.

*Table 1. Service quality dimensions*

Dimensions	Definitions
Tangibles	Physical facilities, equipment, and appearance of personnel
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence.
Empathy	Caring, individualized attention the firm provides its customers.

Source: Parasuraman, Zeithaml & Berry, 1988, p.23

These five dimensions are assessed by a total of 44 items in which 22 items for measuring expectations of customers before using a service product; and the 22 items for measuring the perceptions of customers when a service is delivered. SERVQUAL – multiple-item scale has been applied in the study of different types of service industries; however there are some limitations and also criticisms on its confusion (Babakus and Mangold, 1989; Finn and Lamb 1991; Pitt, Oosthuizen and Morris, 1992; Spreng and Singh, 1993).

Later in another research, Cronin and Taylor (1992) developed SERVPERF scale to measure service quality. Unlike SERVQUAL scale, SERPVERF maintains only the perceptions of service quality through the use of 22 perception items. The advantage of SERVPERF scale has been demonstrated in various studies including those by Avkiran (1999), Lee *et al.*, (2000) and Brady *et al.*, (2002), Nguyen Huy Phong and Pham Ngoc Thuy (2007).

### 2.3. Retail Service Quality Model and Dimensions

Although SERVQUAL has been empirically tested in a

number of studies, it has not been validated in a retail industry. Finn and Lamb (1991) examined the usefulness of this scale in four different types of retail stores. Results do not support the proposition that the scale can be used to assess perceived service quality in retail setting. After that, Dabholkar *et al.*, (1996) developed Retail Service Quality Scale (RSQS) based on SERVPERF scale. This scale comprises of 28 items of which 17 items from SERVPERF and 11 items developed by qualitative research. It has five dimensions – physical aspects, reliability, personal interaction, problem solving, and policy.

The convenience of shopping such as store layout also is one of service quality dimensions in retailing which impacts on customers’ perceptions (Gutman and Alden 1985; Hummel and Savitt 1988; Mazursky and Jacoby 1985, Oliver 1981). Westbrook (1981) found that customers were sensitive to how retailers treat to problems and complaints. Mazursky and Jacoby (1985) also shows that the ease of returning and exchanging merchandise and the credit and charge account policies of the store are really important to retail customers. Baker, Grewal, and Parasuraman (1994) also mention that

store environment comprising of ambient attributes, design attributes and social attributes play important role in evaluating retail service quality of customers. Besides, other retail service quality dimensions such as convenient parking, quality of merchandise are presented in the empirical study of Oliver (1981).

**Table 2.** Retail service quality dimensions

Dimensions	Definitions
Physical aspects	Appearance and Convenience of retail store.
Reliability	Retailers keep their promises and do the right things
Personal interaction	Service employees are courteous/helpful and inspire confidence in customers
Problem solving	Retail store personnel are capable to handle returns and exchanges as well as customer' complaints.
Policy	Store policy on operation hours, merchandise quality, parking, credit cards.

Source: Dabholkar et al., 1996, p.6-7

Particularly, there are some studies concerning service

quality and customer satisfaction topics on Vietnamese retail industry such as Service quality, customer satisfaction and loyalty: A study of supermarkets in Hochiminh city by Nguyen (2006); Determinants of retail service quality – a study of supermarkets in Vietnam by Nguyen et al., (2007). Nguyen (2006) examined the relationships between the service quality of supermarkets and the customer satisfaction and loyalty by using a sample of 318 supermarket shoppers in Hochiminh city. The methodology of this study has been combined of RSQS and qualitative research of author. The results indicated that five dimensions comprising of the Quality of merchandise, Service personnel, Layout of retail store, Appearance and Safety were important factors that makes customers satisfied and loyal to a supermarket. Nguyen (2007) tested RSQS at 440 shoppers in various supermarkets in Hochiminh city. The findings showed that 4 factors namely Service Personnel, Physical Aspects, Policy and Reliability have influence on service quality in supermarkets.

**Table 3.** Summary of Several Studies on Retail Service Quality Measurement

Authors	Research settings	Study sample (s)	Instrument	Factor structure or key findings
Dabholkar et al. (1996)	Southeastern USA	227 respondents of seven stores from two department store chains	Retail Service Quality Scale	A hierarchical structure for Retail Service Quality was proposed including of five basic dimensions: Physical Aspects, Reliability, Personal Interaction, Problem Solving and Policy. Among which, three dimensions have two subdimensions each.
Christo & Terblanche (1997)	South Africa	Hypermarkets shoppers	RSQS (Dabholkar et al., 1996)	The findings demonstrated that RSQS proposed by Dabholkar et al. (1996) has reasonable fit.
Boshoff and Terblanche (1997).	South Africa.		RSQS (Dabholkar et al., 1996)	The findings reported highly encouraging results for the RSQS applicability in the context of department stores, specialty stores and hypermarkets in South Africa.
Mehta et al. (2000)	Singapore	Customers of supermarkets and electronic goods retailers	RSQS (Dabholkar et al., 1996) and SERVPERF (Cronnin & Tabor, 1992)	RSQS was found to be fit in a supermarket environment. SERVPERF was better for a retailing context where the service element is prevalent. Five new dimensions were presented from combining of RSQS and SERVPERF.
Nguyen (2006)	Vietnam	318 supermarket shoppers in HCMC	RSQS and qualitative research of author	The results indicated that there are five retail service quality dimensions comprising of the Quality of merchandise, Service personnel, Layout of retail store, Appearance and Safety.
Subhashini Kaul (2007)	India	144 adult shoppers at large format apparel stores in the city of Bangalore	RSQS (Dabholkar et al., 1996)	The RSQS dimensions and subdimensions are not clearly identifiable. The dimension of 'Physical Appearance' is the only one that is relatively clear. All other dimensions are ill-defined. RSQS is inappropriate for application in Indian retail
Nguyen (2007)	Vietnam	440 shoppers in various supermarkets in HCMC	RSQS (Dabholkar et al., 1996)	The findings showed that 4 factors namely Service Personnel, Physical Aspects, Policy and Reliability have impact to service quality in supermarkets.
Anupam Das et al., (2008)	Kazakhstan	220 respondents collected from the Almaty city of Kazakhstan.	RSQS (Dabholkar et al., 1996)	The findings indicated that there was a good fit of the RSQS dimensions and the items

#### 2.4. Customer Loyalty

There are many different brands on the market nowadays. Therefore, maintaining customer loyalty is a very difficult and challenge for any businesses and organizations. However, when customers feel satisfied with products/services, they will have a tendency to be loyalty with businesses and organizations. Through that, companies will exist and develop more stably. Foss and Stone (2001) stated that customer loyalty relates to what customers think and do. Loyalty is best

defined a state of mind, a set of attitudes, beliefs and desires etc. Ndubisi (2005) and Pfeifer (2005) mentioned that the cost of serving a loyal customer is five or six times less than serving a new customer. In addition, Walsh *et al.* (2005) also assumed that it is better to look after the existing customers before acquiring new customers. Gee *et al.* (2008) listed the advantages of customer loyalty as following: (1) The service cost of a loyal customer is less than new customers; (2) They will pay higher costs for a set of products; and (3) For a company, a loyal customer will act as a word-of-mouth

marketing agent. Additionally, Auh and Johnson (2005) defined store loyalty as the possibility or tendency of repurchasing a specific product or service. It reflects that store loyalty is a direct result of customer satisfaction, and customer satisfaction plays a role as an essential catalyst for developing loyalty. In some studies of Cho and Lim (1999), and La (2009), they proposed 3 sorts of loyalty's approach including behavioral approach, attitudinal approach and integrated approach. Firstly, a behavioral-theory-based approach argues that only behavior speaks for brand loyalty, or loyalty is the behavior of avoiding the information search of other brands. Secondly, an attitudinal approach measures the store loyalty using the preference for and psychological commitment to a specific store, and intentions to re-use (Jeon *et al.*, 2009). Thirdly, there is an integrated approach which encompassing both behavioral views and attitudinal views on loyalty (Ji & Lee, 2009).

Besides the research of customer loyalty's definitions, a number of customer loyalty and customer satisfaction indicators have been developed and applied in different countries. In 1989, the result of the study of customer satisfaction is the detection of loyalty or their complaints for products/services. Fornell *et al* (1992) proposed a system of measuring customer satisfaction in the world at the national level (SCSB – Swedish Customer Satisfaction Barometer). Then, Fornell (1996) published ACSI (American Customer Satisfaction Index) in U.S. Until now, CSI models has been applied in 10 countries such as Sweden in 1989, Germany in 1992, ACSI in 1994, Norway, Switzerland, South Korea, New Zealand and Taiwan, China, Malaysia. Besides, ECSI (European Customer Satisfaction Index) has been deployed simultaneously in 11 European countries (AliTurkyilmaz, 2007).

### 3. Analytical Framework

RSQS scales are widely used to measure service quality in retail industry in different countries, a scale designed to measure five distinct dimensions: Physical aspects, Reliability, Personal Interaction, Problem solving and Policy. Among which, Physical aspects has 2 subdimensions such as Appearance and Convenience. And Reliability also has 2 subdimensions as Promises and Doing it right.

When measuring retail service quality in Vietnam retailer we adopted RSQS framework with some minor modifications to Vietnamese situation, especially to Vietnamese customer behaviors.

Five service quality dimensions are evaluated in this study are summarized as follows:

**Physical aspects:** the appearance of supermarket/staffs, physical facilities, visual materials for customers and the convenience at supermarket.

**Reliability:** Supermarket keeps their promises and do the right things at the first time.

**Personal Interaction:** Supermarket staffs are courteous/helpful and built confidence in customers about knowledge

and skills of supermarkets staffs.

**Problem solving:** Supermarket's willingness to handle returns and exchanges as well as complaints of customers.

**Policy:** supermarket's policy including high quality merchandise, parking facilities, convenient operating hours and acceptance of major credit cards.

In this study, customer loyalty is evaluated whether customers are willing continue to shop at this supermarkets and introduce this supermarkets to other people.

The analytical framework of this study is summarized in Figure 1.

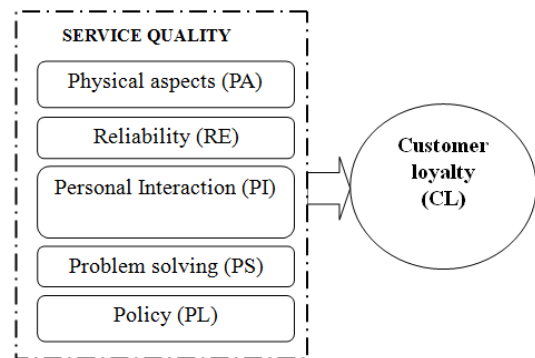


Figure 1. Research model

Five hypotheses of this research model are:

- H1: Physical aspects component of retail service quality has positive impact on customer loyalty
- H2: Reliability component of service quality has positive impact on customer loyalty
- H3: Personal interaction component of service quality has positive impact on customer loyalty
- H4: Problem solving component of service quality has positive impact on customer loyalty
- H5: Policy component of service quality has positive impact on customer loyalty

### 4. Research Method

The original RSQS scales were modified to be more contexts specific and culturally sensitive. This study is followed by the step recommended by Churchill (1979) who modified the scale by reviewing the literature to find the most suitable one. Items used in the new scale were identified based on the literature review, depth interviews and focus discussion. The first trial survey questionnaire consists of 45 items including 28 question items suggested by Dabholkar *et al.* (1996) and additional 17 question items that were specifically designed for Vietnamese retailers. Pilot test was conducted to assess the applicability, validity and reliability of these measurement scales. We conducted interviews with experts, retailer managers and sale persons. In addition, the trial surveys were conducted with respondents of 100 BBA students and random selected 135 retailer customers in Hanoi. The results of the pilot test allowed us to be able to finalize the survey questionnaire with 28 question items presented in Table 4. Those final question items were used in official onsite

survey at Tran Anh stores in Hanoi during October and December 2013. There were 250 questionnaires distributed of which 237 were used in the data analysis. The survey respondents were the buyers who recently bought Tran Anh's products in 2013.

The questionnaire was divided into 3 parts. The first part was designed to assess the customer perception on service quality in Tran Anh supermarkets. The second part evaluates the degree of customer loyalty to Tran Anh supermarkets. The last part consisted questions relating to survey respondent demography. The measurement of service quality and customer loyalty was based on a 5-point Likert rating scale (1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree).

## 5. Findings and Discussions

Collected data were analyzed using SPSS version 20. Firstly, a factor analysis was conducted to each of the 5 constructs to

assess its construct validity. A principal component analysis was performed on the scale using a Varimax rotation that shows the factor loadings for the scale. After performing the principal component analysis with Varimax rotation, items were identified for reduction or removal. From the rotated Component Matrix table, any items that had a factor loading of less than 0.5 were removed. The KMO value for this study of 0.807 (higher than 0.6) confirms the adequacy of the sample. The result of the factor analysis reveals that the 28 item scale is divided into 5 dimensions which have an Eigen value of greater than 1. The Eigen value of 1 or greater is usually retained (Field, 2009).

As in the Table 4, the aggregate total for these five dimensions is 53.314%, which means that these five dimensions account for 53.314% of the total variation. Then, the rotated component matrix shows the grouping of the items under each factor. Table 5 shows the factor loading for each item on the questionnaire that is all above 0.5.

*Table 4. Factor analysis*

<b>KMO and Bartlett's Test</b>			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.807
	Approx. Chi-Square		2167.730
Bartlett's Test of Sphericity	df		378
	Sig.		.000

<b>Component</b>	<b>Initial Eigenvalues</b>			<b>Extraction Sums of Squared Loadings</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
Physical aspects	8.073	28.833	28.833	8.073	28.833	28.833
Reliability	2.191	7.825	36.659	2.191	7.825	36.659
Personal interaction	1.740	6.216	42.875	1.740	6.216	42.875
Problem solving	1.478	5.280	48.154	1.478	5.280	48.154
Policy	1.445	5.160	53.314	1.445	5.160	53.314

*Table 5. Rotated component analysis*

<b>Item</b>	<b>Component</b>				
	<b>Physical Aspects</b>	<b>Reliability</b>	<b>Personal Interaction</b>	<b>Problem Solving</b>	<b>Policy</b>
1. The physical facilities at this supermarket are visually appealing.	0.526				
2. This supermarket has modern-looking equipment.	0.692				
3. Materials associated with this supermarkets' service (such as shopping bags, catalogs, or statements) are visually appealing.	0.714				
4. The supermarket has clean public areas (toilet, resting seats...)	0.576				
5. The supermarket layout makes it easy for customers to find what they need.	0.663				
6. Tran Anh supermarket's staff uniform is neat and polite	0.712				
7. The supermarket layout makes it easy for customers to move around in the supermarket.	0.555				
8. Fire protection system is put in easy-to-see place and has instruction information.	0.569				
9. When Tran Anh supermarket promises to do something, it will do so (e.g.: delivery, repair, exchange, return, refund...)		0.790			
10. Products are always available for customer' needs		0.852			
11. Tran Anh supermarket insists on error-free sales transactions		0.649			
12. Employees in this supermarket have the technical knowledge to answer customer's questions			0.575		
13. The behavior of employees in this supermarket builds confidence in customers.			0.752		
14. When installing the product at your home, employees always give advises carefully how to use the product as well as about the warranty program.			0.745		
15. Employees in this supermarket are consistently courteous with customers			0.673		
16. Employees in this supermarket treat customers courteously on the telephone			0.741		

Item	Component				
	Physical Aspects	Reliability	Personal Interaction	Problem Solving	Policy
17. Employees' attitude when installing products at your home is very polite			0.541		
18. Tran Anh supermarket willingly handles returns and exchanges products which have problems during the warranty period.				0.738	
19. When a customer has a problem, Tran Anh supermarket always shows a sincere interest in solving it.				0.872	
20. Employees are dedicated in solving customer's complaints				0.751	
21. Employees of the supermarket are always interested in customers' individual needs.					0.675
22. The supermarket provides plenty of convenient parking and free parking for customers					0.575
23. Many attractive promotions are usually offered in the supermarket					0.630
24. This supermarket has operating hours convenient to all their customers					0.688
25. Supermarket accepts most major credit cards					0.564
26. The supermarket offers free service for transport and installing product at customer's home with any distance.					0.651
27. The sale forms of supermarket are quite diverse such as direct sales, online, over the phone...					0.676
28. Supermarket's employees, who come to your home to install items, always carry full other complement products in order to best serve the needs of customers (eg, cables, wires, bracket ...)					0.642

A reliability analysis was also carried out for the modified scale. The result showed that the Cronbach's Alpha value of the scale was high (ranging between 0.650 and 0.790) and Cronbach's Alpha value of each item-total correlation was greater than 0.3. The high reliability of the scale is an indication that the scale is suitable for measuring retail service quality in Tran Anh electronic supermarkets in Hanoi, Vietnam.

**Table 6.** Reliability analysis

Corrected Item-Total Correlation		Cronbach's Alpha if Item Deleted	No of Items
Physical Aspects (PA): Cronbach's Alpha = 0.775			8
PA 1	0.371	0.771	
PA 2	0.565	0.738	
PA 3	0.577	0.736	
PA 4	0.431	0.758	
PA 5	0.511	0.745	
PA 6	0.405	0.763	
PA 7	0.566	0.735	
PA 8	0.418	0.761	
Reliability (R): Cronbach's Alpha = 0.650			3
R 1	0.475	0.533	
R 2	0.575	0.386	
R 3	0.345	0.695	
Personal Interaction (IP): Cronbach's Alpha = 0.758			6
IP 1	0.429	0.743	
IP 2	0.538	0.722	
IP 3	0.559	0.718	
IP 4	0.361	0.754	
IP 5	0.332	0.758	
IP 6	0.473	0.734	
Problem Solving (PS): Cronbach's Alpha = 0.692			3
PS 1	0.438	0.595	
PS 2	0.540	0.519	
PS 3	0.521	0.535	
Policy (P): Cronbach's Alpha = 0.790			8
P1	0.404	0.822	
P2	0.338	0.827	
P3	0.478	0.817	
P4	0.550	0.811	

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	No of Items
P5	0.536	0.813	
P6	0.391	0.824	
P7	0.516	0.814	
P8	0.447	0.819	
Customer Loyalty (CL): Cronbach's Alpha =0.729			2
CL1	0.575		
CL2	0.575		

Correlation coefficients between the dependent variable and independent variable range from 0.231 to 0.694 that indicate positive linear association between retail service quality dimensions and customer loyalty. The correlation analysis shows the dimensions are significant at the 5% level, in which Sig. values are lower than 0.05.

Then, a stepwise multiple regression analysis was performed to test the relationship between the dependent variable (*Customer Loyalty*) on the independent variables (*Physical Aspects, Reliability, Personal Interaction, Problem Solving, and Policy*). The results are shown in Table 8 and are as follows:

Table 7. Correlation analysis

		Physical Aspects	Reliability	Personal Interaction	Problem Solving	Policy	Customer Loyalty
Physical Aspects	Pearson Correlation	1	0.594**	0.539**	0.490**	0.495**	0.518**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000
Reliability	Pearson Correlation	0.594**	1	0.592**	0.541**	0.529**	0.432**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000
Personal Interaction	Pearson Correlation	0.539**	0.592**	1	0.694**	0.680**	0.435**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000
Problem Solving	Pearson Correlation	0.490**	0.541**	0.694**	1	0.616**	0.479**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000
Policy	Pearson Correlation	0.495**	0.529**	0.680**	0.616**	1	0.431**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000
Customer Loyalty	Pearson Correlation	0.518**	0.432**	0.435**	0.479**	0.431**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	

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

Table 8. Regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate			
1	0.587 <sup>a</sup>	0.345	0.330	0.60834			
Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0.597	0.290		2.055	0.041		
Physical Aspects	0.396	0.088	0.321	4.497	0.000	0.573	1.747
Reliability	0.075	0.080	0.069	0.935	0.351	0.531	1.882
Personal Interaction	-0.003	0.101	-0.003	-0.031	0.975	0.390	2.563
Problem Solving	0.234	0.079	0.233	2.947	0.004	0.468	2.137
Policy	0.119	0.102	0.090	1.163	0.246	0.493	2.029

The R square (coefficient of determination) value is 0.345 which means that retail service quality dimensions can explain 34.5% of the variance in the *Customer Loyalty* to Tran Anh electronic supermarkets in Hanoi. VIF values score from 1.747 to 2.563 indicating that multicollinearity among independent variables is not a problem.

The outcome of Hypothesis 1 was that *Physical Aspects* has a positive relationship with *Customer Loyalty*. The multiple regression analysis showed *Physical Aspects* to be significant at the 5% level with Sig. value of 0.000 (lower than the 0.05). Similarly, the outcome of Hypothesis 4 was that the *Problem Solving* dimension has a positive relationship with *Customer Loyalty*, based on the results of the multiple regression analysis which showed *Problem Solving* to be significant at

the 5% level, with Sig. value of 0.004 which is lower than the 0.05 confident level. The result also indicates that *Physical Aspects* has the strongest impact on *Customer Loyalty* (beta = 0.321). Besides, *Problem Solving* also has a significant impact on *Customer Loyalty* with beta coefficient equal 0.233. On the other hand, the hypotheses on the positive impact of *Reliability, Personal Interaction* and *Policy* on the *Customer Loyalty* of retail service quality in Tran Anh electronic supermarkets in Hanoi were not supported by the empirical data in this study.

The results of this study evoke some discussions. Firstly, the original RSQS scale applied to Vietnam has been refined to number of items in each dimension. Specifically, in the original RSQS scale, there are 28 items divided into 5

dimensions: *Physical Aspects* (6 items), *Reliability* (5 items), *Personal Interaction* (9 items), *Problem Solving* (3 items) and *Policy* (5 items). Studying in Vietnamese context, the modified scale also consists of 28 items divided into 5 dimensions but these items are distributed in a different way: *Physical Aspects* (8 items), *Reliability* (3 items), *Personal Interaction* (6 items), *Problem Solving* (3 items) and *Policy* (8 items). Secondly, the findings of this study indicate that two factors *Physical Aspects* and *Problem Solving* significant positively impact on the *Customer Loyalty* of Tran Anh electronic supermarkets in Hanoi, Vietnam. The results also show that *Physical Aspects* and *Problem Solving* have the impact on *Customer Loyalty*, while the role of *Reliability*, *Personal Interaction* and *Policy* do not confirmed by the data.

## 6. Conclusions

The contribution of service quality to the customer satisfaction, and in turn, to the company's performance has long been recognized. The results of this study give important empirical evidence to evaluate the retail service quality when being applied in case of electronic supermarkets in Vietnam. The original five dimensions of RSQS are suitable for many contexts but retailers and researchers should pay attention and need to refine the measurement scale to be more appropriate for Vietnamese customers.

This study suggests several managerial implications for electronic supermarkets and their managers in Vietnam. Firstly, it has identified the appropriate measurement scale of retail service quality in Vietnamese electronic supermarkets and demonstrated the significant influence of retail service quality dimensions on customer loyalty. Secondly, *Physical Aspects* and *Problem Solving* are two key factors that express the strongest impact on *Customer Loyalty* in electronic supermarkets in Vietnam. This finding implied that managers of electronic supermarkets should focus on the appearance and the convenience of their supermarkets such as decoration, advertising materials, public zone, and staff uniform and goods layout. Besides, managers should also pay attention to the process of handling customer complaints and training their staff's attitude and behavior while handling customer problems.

It is important to reflect on the limitation of this research. Methodologically, this study utilizes data gathered from self-reported questionnaire, and thus individual bias in reporting may exist. Although we address the issue of common method bias using multiple respondents, the study heavily relies on the use of perceptual data. The other limitations of this study are the relatively small sample size and the utilization of subjective measures of service quality. Because of time and resource constraints, we could only collect 237 valid feedbacks from customers.

Thus, future research should add more other factors such as visiting frequency, product information, price, and so on to better explain the variance in customer loyalty at Tran Anh in particular, and at the whole retail system in general. Last but not least, this study has not mentioned yet to the influence of

demographic factors on customer loyalty. Therefore, further studies should take these contextual factors into account in analysis of data.

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