Determinants of Customer Satisfaction Towards Consolidation Services of Logistics Enterprises in Hochiminh City

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Abstract:- Vietnam is currently in the process of deep integration into the world economy, requiring consolidators in Vietnam to develop and continually strive to provide the highest quality services, therefore, enhancing their competitiveness in the market. For the consolidation sector in Ho Chi Minh City, customer services and assessment are of prime importance and the basis for enterprises' planning to improve their services. This research is conducted to identify factors that have a real influence on customer satisfaction toward consolidation services of logistics enterprises in Ho Chi Minh City. Survey results show that customers using the consolidation service of logistics enterprises are satisfied but only at average level. A number of practical suggestions for logistics enterprises in Ho Chi Minh City are also presented in this paper.

Keywords:- Consolidation Service, Customer Satisfaction, Logistics.

I. INTRODUCTION

In the report "Vietnam Logistics 2017" of the Ministry of Industry and Trade, Ho Chi Minh City accounted for the largest proportion in the number of logistics enterprises (54%) out of about 3,000 enterprises. In which, according to estimates of the Department of Service Economy - Ministry of Planning and Investment, about 10% of Vietnamese forwarding companies are capable of providing consolidation services. Therefore, there are about 162 enterprises providing consolidation services in Ho Chi Minh City. However, because the nature of consolidation is that service provider that will directly load and unload, tally and warehouse, fumigate goods on behalf of goods owners. Therefore, the core issue is to ensure to bring satisfaction experience for customers, creating confidence in the efficiency that this service brings and ultimately creating customer loyalty.

Monopoly, merger for synergy of shipping lines, lack of priority for small customers and increasingly complex shipping demand are the driving forces for improving quality of consolidation service which businesses focus on. Until now, a number of consolidation intermediaries in Vietnam have been considered as monopolies in term of customers' numbers, leading the exploitation of new routes, global agency system and good relationships with shipping companies. However, in recent years, the market has become increasingly competitive with a series of consolidation businesses leading to pressures on customers, market devaluation, virtual agent system..., therefore, causing confusion for shipper and consolidators. In addition, foreign consolidators are offering transnational services, directly accessing domestic shippers, especially Chinese and Thai service companies, bringing to customers more attractive price and service, and making customers feel more satisfied. Pressures from foreign companies operating for many years with outstanding resources and reputation make many Vietnamese logistics companies which have just established a few years to go bankrupt or closed because they cannot keep old customers and do not attract new customers. In addition, when consolidation services become too popular and widespread, the cost of switching service providers becomes too low. Businesses competing with each other offer better services and bring better satisfaction for customers. Therefore, customers can easily switch service providers.

Ho Chi Minh City is the largest city in which there are many logistics enterprises in general and consolidation enterprises in particular. At the same time, Ho Chi Minh City is Vietnam's international exchange and trading center, attracting foreign investment and high-quality laborforce. Therefore, Ho Chi Minh City is chosen as the scope of this research.

II. RATIONALE

2.1. Customer satisfaction

Cadotte (1987) provides a traditional concept that defines customer satisfaction according to the model "Satisfaction/Dissatisfaction", showing that customer satisfaction is the result of interaction between expectations before and after buying.

Tse and Wilton (1988) define customer satisfaction as a process of psychological perception and evaluation that contributes to satisfaction, including three factors: customer expectations, actual quality and the difference between expectations and reality.

According to Fornell et al. (1992): customer satisfaction is the result of customer's perception of quality received through a transaction or a relationship - in which the value is commensurate with the quality of service perceived in relation to the price and the cost of keeping customers. Satisfaction or dissatisfaction after consumption is seen as a reaction of customers when they evaluate the

difference between expectations before consumption and the actual perception of products after consuming them. Customer satisfaction will be affected if the demand and supply are different, the satisfaction level will be low when the demand is complex but the supply is identical. Then in 1995, Fornel put forward a vision: customer satisfaction is an important factor in determining repeated sales, positive word of mouth and customer loyalty is created.

Anton (1996) identifies customer satisfaction as a mental state in which the needs, desires and expectations of customers throughout the life cycle of products or services are met or surpassed the expectation, leading to future repeat shopping and loyalty.

In 1997, Philip Kotler et al. defined customer satisfaction as the feeling of a satisfied or frustrated person by comparing the quality of the product's experience to that person's expectations.

Olson and Dover (1997): Customer satisfaction is the initial beliefs about a product or service. When the information is missing, that initial belief in service will be completely dispersed. But in fact, customers have many sources of information that make them form another expectation such as the first contact with services, word of mouth, experts' opinions, community controlled by the company (such as advertising, personal sales, prices ...).

Each definition is explained through specialized research over the years. Based on the above definitions and based on the characteristics of the consolidation service, this study provides an appropriate understanding: "Customer satisfaction is the satisfaction of customers when they compare between the quality of service they receive and the expectation about that service".

2.2. Consolidation service
Consolidation is that one side (consolidators) assembles the odd shipments from many people (shippers) to gather enough to pack in one container. Consolidation is the collection of individual shipments from many people in the same place into raw shipments to send and deliver to multiple recipients in the same destination. Consolidated goods are small shipments that are not enough to pack in one container or large shipments but have many senders and many receivers (Hoang Van Chau, 2009).

The person who does business in consolidation is called consolidator. Consolidation brings benefits for all stakeholders: exporters, shippers, carriers and forwarders (Hoang Van Chau, 2009). Based on this argument and market reality in Ho Chi Minh City, the consolidators' customers are not always the same. "Exporters" are those directly named on import and export documents and also goods owners (Hoang Van Chau, 2009). Thus, in case the shipper is the owner from the manufacturing company, the import-export company will send the goods to a delivery company they find, then the shipper is the owner and the consolidator is freight forwarding company. However, "Shipper" has a wider meaning than the person who directly

sends goods to the consolidation service business. The above-mentioned shippers may be forwarding services companies, when receiving goods from exporters (goods owner) due to the lack of direct consolidation and container consolidation services, they outsource the service for a direct consolidation service provider.

Another point of note for consolidation is that in the case of sea, the voyage of a ship has a direct effect on goods. When the ship docks, the LCL container will be opened either to deliver to the customer or to be combined with other goods to make the next journey. The service parties are very attentive to this step because the goods are unloaded in a strange port, the number of times for goods withdrawal and it is completely not under the control of the consolidation parties. The problems with goods in this period (broken goods, broken packaging, distorted, lost products ...) are often difficult to avoid and the recovery is also somewhat delayed.

With the above-mentioned characteristics, consolidation can have functions to transport small and odd shipments that needed to be exported or imported and still ensure that container units are loaded onto transport vehicles (ships and planes). Therefore, consolidation ensures that goods are protected in containers during the same transportation process as when shipping FCL goods. In addition, consolidation also has the function of helping shippers save costs when sharing docking space in containers with many other shippers.

Compared to FCL containers, consolidation has some advantages. The shipper only pays some freight to the consolidators less than the freight charged to the real carrier and is provided with additional service from the warehouse to the warehouse, from the warehouse to the port, from the port to the warehouse through a consolidation party who is in charge of this stage, which carriers usually do not.

The carrier is not responsible for each small shipment, saving costs, documents, procedures, management ... The consolidator is entitled to the difference between the freight payable to the carrier (calculated by container position) and the amount of money collected from many goods owners (per unit weight or weight of goods).

In addition, consolidation forms a number of risks such as: risks for shippers when their goods are put together with many other items (packaged with odors, liquid and heavy goods…), risks of cargo packaging is dented, torn, internal goods are broken beyond the control of the goods owners due to tally, loading and unloading, warehousing and container handling processes being carried out by the service parties; risks of consolidators carrying out improper container packing.

Therefore, when using consolidation service, customers can be official customers (real shippers) or a forwarding company (nominal shippers). Ho Chi Minh City is considered as one of the largest economic centers of Vietnam, therefore, the number of businesses in the field of

import and export, logistics also accounts for a large proportion and transactions are also diverse. Therefore, the need to use consolidation services (for small shipments) becomes an inevitable issue. With the huge demand, the number of consolidation companies is also increasing. This inevitably creates a fiercely competitive environment, so it is necessary to study customer satisfaction with consolidation services to help businesses in the field to attract and retain customers.

2.3. Satisfaction of customer using consolidation service

Customer satisfaction toward consolidation service is the satisfaction of customers' needs, desires and expectations during the period of using consolidation service, leading to repeated shopping in the future. When customers are satisfied with the service, they will use the service in the future and sometimes they are intermediaries to bring new customers to the company. Satisfaction also accompanies the peace of mind and customer confidence for company employees, services and company facilities. Satisfaction needs to be built from the first transactions with customers and needs to be maintained over time as having customers is difficult, keeping customers is more difficult. Moreover, the market is constantly changing with modern facilities, the optimal service is even more optimal, requiring businesses to catch up. The demand of customers is therefore more diverse and their satisfaction threshold is raised to a higher level. Therefore, consistent service and quality maintenance is a challenge not only for any business.

Vietnam is a developing country, so shopping behaviors are dominated by price factors. Therefore, together with the findings of Thai Van Vinh and Devinder Grewal in ROPMIS model in 2007, the authors selected groups of determinants: resources, prices, processes and management as observation variables.

III. METHODOLOGY

The overall survey of this study is all employees in charge of consolidation, including export and import goods by sea and air, meeting three characteristics: responsible for LCL shipment, there are benefits from shipping and shipping in Ho Chi Minh City. The sampling frame is referenced from a list of some consolidation companies in Ho Chi Minh City, including Melody Logistics and Marble Worldwide. In addition, the sampling frame is also taken from the enterprise yellow pages and a number of logistics business statistics, import and export enterprises.

This study is based on the reference of ROPMIS model, with additional price factors, so the study focused on analyzing the issues: 12 observation variables in evaluating resources on the availability of equipment and facilities, the company's ability to track goods and infrastructure; 04 observation variables to evaluate the service price of the company; 09 observation variables to evaluate the company's process in terms of: employee attitudes towards customer service, employee's ability to respond quickly, knowledge of employees; 03 observation variables to evaluate management factors in the company. The study

used Likert scale 5, with options from (1) "Completely disagree" to (5) "Absolutely agree". The objective of this study is to determine in the selected factors, which factors have a strong impact on customer satisfaction, so Likert scale with incremental answer options is consistent. The questionnaire consists of 2 main parts. In part one, the respondents will be asked about the feelings for 28 variables of 4 components and one component for general comments about satisfaction. Part two collects personal information of the respondents including age, gender, working department, business, number of years working in the industry, FCL/LCL percentage of enterprises and customers who are using the consolidation service. Besides, the Interval scale is also used to measure the age, number of years of operation of the unit, the ratio of FCL/LCL goods, the number of consolidation services that the customer company used and number of years working in the industry of the survey subjects.

In the study, the authors used fsQCA to assess the impact of 4 factors affecting customer satisfaction: resources, prices, processes and management. At the same time, the authors also used the same fsQCA to assess the impact of each variable observed on the corresponding element containing the observation variable. Group of customers includes: goods owners and forwarding services. After separating from the results of the survey, the authors analyzed the relationship between factors for customer satisfaction with consolidation customer service with Truth Table tool in fsQCA. The procedure for using this tool is as follows:

Step 1: Representative variables created with the scale by Likert from 1 to 5 will be converted into corresponding values from 0.0 to 1.0 with Calibrate tool, in which the blocking point is set at membership level with fuzzy point equal to 5, blocking point has no membership level with fuzzy point equal to 1 and crossover point has fuzzy point equal to 3. The aim is to convert value to fit fsQCA software.

Step 2: The authors used the Truth Table tool to get the Fuzzy Truth Table Algorithm in order to run the analysis. In particular, the coefficients are equal to 0.9 and the necessary frequency threshold index is 1. In which, the output variable is customer satisfaction for consolidation service, the input variable is 4 elements of enterprise resources, service prices, business processes and enterprise management.

Step 3: After processing the data, fsQCA will give results.

IV. RESULTS

After the survey, the authors collected 169 samples which were satisfactory. Two samples were excluded because of two reasons: one sample is missing information regarding some questions and in the remaining sample, the respondent only selects one interval in the Likert scale for all variables. Classification by gender: there were 113 surveyed women, accounting for 66.86%, the remaining 56 were male, accounting for 33.13%. In fact, the majority of respondents are business employees and customer service staff working in the logistics industry so women will account for the majority. Gender is also an important factor

affecting customer behavior (Palan, 2001). Male customers are more likely to be hot, competitive and more independent, while female customers are more sociable, collective and altruistic (Roxas and Stoneback, 2004). In terms of satisfaction assessment, female gender is more likely to improve relationships with service providers than men gender (Mattila et al., 2003). In the survey results, the majority of female customers will give more objective and positive results.

Classification of age: survey scale has 5 levels from small to large. The lowest level is the respondents under 25 years old, the highest is respondents aged 40 and older. Among the samples collected, the respondents aged 25 to 30 years accounted for the highest proportion with 75 people (accounting for 44.37%). Next to the target group from 31 to 35 years old, accounting for 27.22%. Those who are under the age of 25 years old account for 23.66%, and finally, the respondents aged 36 to 40 years old only accounted for 4.7%. None of the samples were over 40 years old. The majority are graduated students from 2 to 3 years working in this industry. With the survey rate being mostly young employees of the ages from 25 to 30, the survey results are more objective, consistent with the current situation that young human resources are occupying the majority percent of the logistics industry, most work in the position of sales staff, customer service staff and documents staff.

Table 1. Statistical description of respondents in terms of gender and age

Age	Gender		Total
	Male	Female	
Under 25 years old	10	30	40
From 25 to 30 years old	25	50	75
From 31 to 35 years old	17	29	46
From 36 to 40 years old	4	4	8
Over 40 years old	0	0	0
Total	56	113	169

Source: Compiled from fsQCA's result

Correspondingly, the number of years working in the industry of the respondents also has the same rate as the age. There are 31 respondents working less than 1 year, accounting for 18.4%. There are 89 respondents working from 1-5 years, accounting for 52.7%. There are 43 respondents working from 5-10 years, accounting for 25.4% and only 6 respondents working in this industry over 10 years (accounting for 3.5%). Proportion of age, number of years working in the industry also affects customer satisfaction. Most employees in the industry work between 1 and 5 years old, corresponding to their young age, so the survey results are not affected by psychology as much as respondents are at high age.

4.1. Evaluate 4 factors affecting customer satisfaction from customers who are good owners

To assess the factors affecting the satisfaction of the customer group, Truth Table algorithm is used with the output variable is Satisfaction, while the input variables are 4 evaluation factors of the scale. The inputs are initially calculated by taking the average from the fsQCA software, each factor is averaged from the observation variables of that element. The output variable is calculated using the average take-up tool from the fsQCA software from 4 observation variables of general satisfaction. After that, all the variables are converted to fuzzy set data with Calibrate function to match fsQCA software processing.

Analysis results after running Truth Table with a cut-off frequency of 1 and consistent threshold of 0.9 show that with 4 factors: Enterprise resources, Service prices, Business processes, Management of the enterprise, there are two combined solutions that can explain the impact of these factors on the general satisfaction of good owners. The Resource element of an enterprise is present in both solutions, which proves to be the most important and indispensable factor. Consolidation businesses should especially focus on this factor if they want to improve the satisfaction of customers who are goods owners. Solution 2 has an explanatory rate of only 0.200216, less than 0.4 so this solution is not feasible in practice so it is not considered.

Table 2. Results of assessment of 4 factors affecting customer satisfaction of goods owners

Factor	Solution 1	Solution 2
Resources	●	●
Service price	●	
Process	●	
Management	○	
Raw coverage	0.894226	0.200216
Unique coverage	0.707501	0.013492
Consistency	0.959467	1.000000
Solution coverage	0.907717	
Solution consistency	0.960046	

Source: Compiled from fsQCA's result

Among the first 4 elements, Solution 1 includes 3 with the absence of the management element of the enterprise, so this factor is considered to have no impact on the satisfaction of customers who are goods owners. At that time, with 3 factors of enterprise resources, service prices and process of enterprises, solution 1 has an interpretation rate of 0.894 satisfying conditions greater than 0.4. This index shows 89.422% customer satisfaction, remaining 10.5574% due to other factors not yet included in the model. This index means that, if combining all 3 factors above, the level of customer satisfaction increased quite high, in particular if the good assessment for the combination of these 3 elements increases to 1 unit, the satisfaction level will increase by 0.894 unit. In addition, it is worth noting that the consistency coefficient of Solution 1 is 0.959 greater than 0.9 (accepted level of suitability to explain satisfaction). This figure shows that 95.947% of goods owners agree with the combination of the three factors.

Thus, Enterprise resources, Service prices and Processes of enterprises are indispensable factors in constituting the satisfaction of goods owners. The factor "Management of enterprises" has no significant impact. Since then, consolidation service providers need to improve both their equipment and material resources, while focusing on adjusting service prices at a suitable and utmost level, focus on the attitude of the company employees.

4.2. Evaluate 4 factors affecting customer satisfaction from customers who are freight forwarders

After running the analysis with a cutoff frequency of 1 and a consistent threshold of 0.980, there is one solution. Out of the first 4 elements, this solution has the appearance of 3 factors: Service Price, Business Process, and Enterprise Management.

Table 3. Results of assessment of 4 factors affecting customer satisfaction of freight forwarders

Factors	Solution
Resources	
Service price	●
Process	●
Management	●
Raw coverage	0.936586
Unique coverage	0.936586
Consistency	1.000000
Solution coverage	0.936586
Solution consistency	1.000000

Source: Compiled from fsQCA's result

The combination of these three factors gives a high coefficient of explanation, reaching 0.937. The coefficient explained in this case both satisfies conditions greater than 0.4 and explains 93.659% for customer satisfaction, leaving 6.341% due to other observation variables not yet taken. Therefore, this solution has practical significance and good feasibility. If the enterprise combines all three factors together, it will have a significant impact on 93.659% of customer satisfaction. In addition, it is possible to see that the coefficients are equal to 1 which indicates the very high degree of relevance of solution 1 given by Truth Table algorithm for the satisfaction (Ragin, 2008). Almost 100% of respondents agreed with the combination of this solution.

After checking the inspection criteria as above, it is not possible to make conclusions about the impact of each factor as well as assess the importance and less importance of each factor, but it can make sure that the combination of three factors (Service price, Business process, Enterprise management) has a strong influence on output variables.

V. CONCLUSION

First, the result shows that the average value of customer satisfaction reached 3.29/5 points. With this result, customers can be said to be satisfied to some extents but not high enough in terms of 4 aspects: enterprise resources, service prices, process, management of service provider.

Second, regarding the group of goods owners, the factors that really affect their satisfaction include enterprise resources, service prices and process. The management element of the enterprise almost has no impact on satisfaction. Regarding the resources of enterprises, customers who are goods owners are most affected by the group of infrastructure elements and the status of equipment and facilities, followed by the importance of the ability to track goods and ultimately be affected least by the availability of equipment and facilities. Customers who are goods owners will greatly appreciate this among service providers because they directly deliver their goods to the service provider and are very interested in the safety of the goods in international trading with foreign partners. In terms of service prices, this group of customers achieves satisfaction if the enterprise satisfies the reasonable price, payment method and reasonable payment time at the same time. Regarding process, the consolidation businesses also require to do well in all three aspects, such as the attitude of

employees, the ability to quickly respond and good knowledge to be able to have a positive impact on

satisfaction of goods owners.

Table 4. Summary of impact level

	Level	Goods owners	Freight forwarders
Enterprise resource	First	Infrastructure, situation of equipment	No impact
	Second	Ability to track goods	
	Third	Availability of equipment	
Price	First	Reasonable price Reasonable payment methods Reasonable time for payment	Reasonable payment methods
	Second		Reasonable time for payment
	Third		Customers are often got discounts or refund from consolidators
	Fourth		Reasonable price
Enterprise process	First	Attitude of staff Ability to quick response Knowledge of staff	Knowledge of staff
	Second		Attitude of staff
	Third		Ability to quick response
Enterprise management	First	No impact	When incidents occur, consolidators often give reasonable compansation for customers

Source: Compiled from fsQCA's result

Third, regarding freight forwarders, factors that really affect their satisfaction include service prices, processes and enterprise management. For customer groups that are service companies, resources factor has almost no significant effect on their satisfaction. In fact, equipment and working facilities of logistics enterprises are still very limited, due to the condition of outsourcing trucks, stock depots, forklifts, etc., so they must use together with many service providers. In case of old, damaged and low-performance equipment, an enterprise cannot actively innovate, improve equipment or facilities according to its own will, but also depends on many other parties. Therefore, service companies tend not to have high demand for this factor. Regarding service price factor, this group of customers is most affected by a reasonable form of payment, second is a reasonable payment time, and third is a regular discount and finally reasonable service price. Regarding the process of the enterprise, the most important factor is the knowledge of the employees, the second is the attitude of the employees and finally the ability to respond quickly of the employees. Regarding the management of enterprises, this group of customers is most interested in the ability to adequately compensate when incidents occur. However, since this study is only considered within Ho Chi Minh City but not interested in services and goods abroad (port of discharge in export and loading port in import). Therefore, it still has some limitation in evaluation.

Service prices are the first factor to reach customers. They are paid much attention by customers and customers usually prioritize the service with the lowest price they find. In fact, businesses should not reduce service charges below the market price. In order for customers to feel that their service price is a competitive price, consolidation enterprises and intermediary forwarders should improve service quality and have additional services such as free document courier for customer.

The consolidation characteristics are the same, so the business process of enterprises follows a common pattern. There are few businesses doing different from this common process and customers also become accustomed to such work practices. Both customers are highly concerned with the attitudes and attitudes of employees such as talking quietly, politely, happily, friendly, enthusiastically handling problems and always notifying customers immediately when there are changes in relevant new decisions.

The analysis results show that goods owners are not interested in the internal management of service providers. However, customers who are forwarding service companies are interested in such things. Therefore, customers who are freight forwarders, especially pay much attention to the level of compensation from suppliers when there is an incident occurs. Therefore, the direct consolidation enterprises should have policies to partially support unexpected costs for customers.

REFERENCES

[1]. Anton, J. (1996). Customer relationship management: Making hard decisions with soft numbers. *Journal of Leisure Research 29*(3), 355-358.

[2]. Cadotte, E. R., Woodruff, R. B., & Jenkins, R. L. (1987). Expectations and Norms in Models of Consumer Satisfaction. *Journal of Marketing Research*(24), 305-314.

[3]. Hoàng Văn Châu (chủ biên), 2009, *Giáo trình Logistics và Vận tải quốc tế*, NXB Thông tin và Truyền thông.

[4]. Fornell, C. (1992). National customer satisfaction barometer: the Swedish experience. *Journal of Marketing, 56*, 6-21.

[5]. Kotler, P., & Armstrong, G. (1997). *Marketing: An Introduction.* Prentice Hal.

[6]. Mattila, M., Karjaluoto, H., & Pento, T. (2003). Internet banking adoption among mature customers: early majority or laggards? *Journal of Services Marketing, 7*(5), 514-528.

[7]. Olson, J., & Dover, P. A. (1979). Disconfirmation of Consumer Expectation Through Product Trial. *Journal of Applied Psychology, 64*(2), 179-189.

[8]. Palan, K. M. (2001). Gender Identity in Consumer Behavior Research: A Literature Review and Research Agenda. *Academy of Marketing Science Review, 2001*(1).

[9]. Roxas, M. L., & Stoneback, J. Y. (2004). The importance of gender across cultures in ethical decision-making. *Journal of Business Ethics, 50*(2), 149–165.

[10]. Tse, D., & Wilton, P. (1988). Models of Consumer Satisfaction Formation: An Extension. *Journal of Marketing Research*(25), 204-212.