

FACTORS OF THE SERVICE MARKETING MIX AND AFTER-SALES SERVICE QUALITY THAT AFFECT THE REPURCHASE OF INDUSTRIAL VACUUM CLEANER PRODUCTS

Amnart Boriphonmongkol^{1*}, Krisada Chienwattanasook¹

¹Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Pathum Thani, Thailand, 12110

Received: February 22, 2020

Accepted: March 23, 2020

ABSTRACT

This research aims to study the service marketing mix and after-sales service quality factors that affect repurchasing decisions of industrial vacuum cleaner products. Samples used in this study consisted of 307 customers who only used industrial vacuum cleaner products from a company that trades the industrial cleaning machines. The questionnaire was used as a research instrument. Multiple regression analysis was used for hypothesis testing. The results of the study indicated that service marketing mix factors (7Ps) in terms of physical evidence, people, process, and price affect the repurchasing decision of the industrial vacuum cleaner products. Also, the after-sales service quality factors in terms of empathy, assurance, and reliability affect the repurchasing decisions of industrial vacuum cleaner products at the statistical significance level of 0.05.

Keywords: Service marketing mix factors, After-sales service quality factors

Introduction

Today, businesses within the industrial sector have become one of the most important mechanisms that will drive Thailand towards the world stage. Consequently, there are many developments needed to be done to raise the standard and modernized the sector to be accepted in the international scene, such as the GMP and HACCP standards. Entrepreneurs and business owners have to realize and pay close attention to the standard quality and cleanliness, starting from the manufacturing process till delivering the products to consumers. Therefore, the cleaning system is highly vital to every step of the manufacturing process, especially the cleaning tools and equipment such as industrial vacuum cleaners. This is because, in the past, to get rid of dust or tidy

up industrial dirt, companies would only use the sweeping, which is unable to comply with international standards and also causing more diffusion of the dust. Thus, the industrial vacuum cleaner is the right cleaning tool that can solve this problem.

Moreover, the government policy has also continuously going forward with the infrastructure investments and the Eastern Economic Corridor (EEC) project; these projects are part of the Thailand 4.0 strategic plan. The plan has drawn many foreign investors to invest in the EEC area and expected to create 1 trillion THB income (the Ministry of Industrial, the Department of Eastern Economic Corridor Committee, 2019). The import value of machines for industrial use within the first half of 2019 was equal to 333,565.3 million

* corresponding author: e-mail: amnart_b@mail.rmutt.ac.th

THB, which also equivalent to 1.5% growth in comparison to the same period of the previous year. The industrial vacuum cleaner is categorized as part of that market. This has unavoidably resulted in greater competition in the market. By acquiring more market share while also retaining the existing customer base as well as being able to response to the expected needs of customers, these actions will lead to greater customer satisfaction and able to influence their repurchasing intention. Due to the highly competitive trend of industrial vacuum cleaner products, entrepreneurs have to diligently try to retain their existing customer base from switching to other competitors. According to the research from Harvard Business Review, acquiring a new customer costs about 5-25 times more than trying to retain an existing customer. Besides, by increasing only 5% more customer retention rate per year, entrepreneurs will be able to increase their profit up to 25-95% without wasting time and resources for acquiring new customers (Amy Gallo, 2014). Thus, this has become a new challenge for both existing and

new players to use multiple strategies to compete against each other for more market share. In response to the reasons mentioned above, this has led researchers to become interested in studying “Factors of the service marketing mix and after-sales service quality that affect the repurchase of industrial vacuum cleaner products”.

Research Objectives

1. To study the service marketing mix factors (7P's), which affect the repurchasing decision of industrial vacuum cleaner products.
2. To study the service quality of after-sales services that can affect the repurchasing decision of industrial vacuum cleaner products.

Research Hypothesis

1. The service marketing mix factors (7P's) influence the repurchasing decision of industrial vacuum cleaner products.
2. The 5 dimensions of after-sales service quality affect the repurchasing decision of industrial vacuum cleaner products.

Research Framework

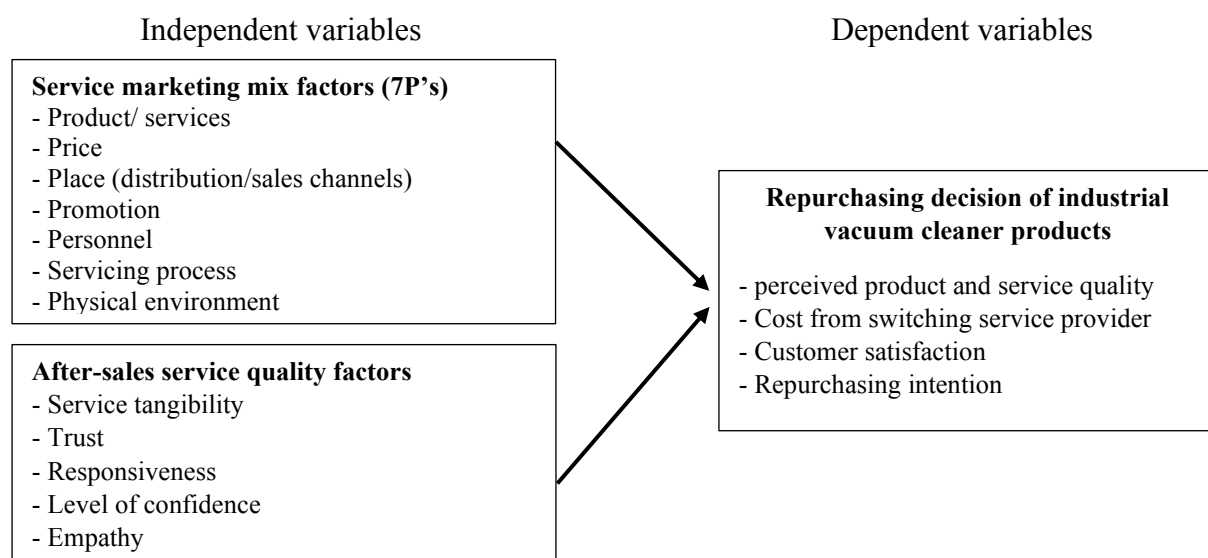


Figure 1 Research framework

Literature Review

Service marketing mix factors (7P's)

According to Kotler (as cited in Sererat, Laksitanon, Sererat, & Phatavanich, 2005), the service marketing mix refers to controllable service marketing variables which can be classified into 7 aspects that answer to customer satisfaction include the following:

1. Product refers to an item that entrepreneur offers to sell to customers, which can grab attention as well as create the satisfaction for customers from answering customers' actual needs and wants, this can be in both tangible and intangible formats.
2. Price refers to the product in the form of goods or services which require to pay a monetary term. Some of money is the value that customers perceived as a requirement to fully acquire or gain the benefits from using such product or services in comparison to the money that customer has to pay.
3. Place refers to the distribution channels of products or services that cover the target group's areas as much as possible by delivering the product or services to the market and given them to the hand of the customers in time with their needs.
4. Promotion refers to the marketing communication tools for creating motivation, reminding customers about the product and service information, which can lead to thoughts, feelings, wants, and satisfaction. Marketers expected that promotion would influence beliefs, feelings, and behaviors related to the purchasing decision of such product or services.
5. Personnel or employees refer to the staff who work within the organization to create the benefits for the overall organization, business owner, senior management, middle management, lower management, operational workers, and the temporary workers. All employees are part of the service marketing

mix strategy; this is because they are the initiators, planners, and operators that are the driving mechanism of the organization toward the planned strategic direction. This also includes the process of answering to the needs of customers who use the products and services. The ability to solve the problem for customers, interact, and build good relationships with them are also included.

6. Process refers to the service activities of the business starting from the beginning till the end of such duty. It is related to the methods and operational work of servicing from presenting the offer to customers to giving them the right and responsive services that can create customer satisfaction.

7. The physical environment refers to things that customers can experience from choosing to use the product or service of such entrepreneurs. It is about generating value, strengths, quality, and overall differences in the mind of customers.

Service quality

Parasuraman, Zeithaml, and Berry (1985) has formulated the service quality evaluation tool called SERVQUAL, the evaluation of service quality by customers who have experienced the services of the service provider by comparing the expectation and the perception of received services. This tool can be used in various service industries in the form of a questionnaire that all 5 dimensions of quality have been stipulated as the indicators of service quality including the service tangibility, trust, responsiveness, confidence, and empathy dimension.

Repurchasing decision

Hellier, Geursen, Carr, and Rickard (2003) argued that repurchasing is the intention of the customer in deciding to purchase the product or services given by the same service provider again. Whereby the current situation and other possible situations of each customer were also

considered.

The perceived product and service quality is related to the overall evaluation of the customers in relevant to the standard of product and service distribution process.

The costs from switching service provider are the evaluation from customers related to the loss in both monetary terms and time from the effort that customer has to put in for changing to another service provider.

Customer satisfaction is the level of overall satisfaction, or the customer satisfaction resulted from the ability to provide the services that answer to expectation and needs of the customers in relevant to such services.

Repurchasing intention is a decision of each individual to repurchase from the same company again by considering both the current situation and other possible situations of the customer.

Chienwattanasook and Onputtha (2017) studied the service marketing mix (7Ps) and found that in terms of people such as service staff's knowledge and ability to provide information and answering questions, friendliness, welcoming gesture and courteous. Furthermore, in term of correctness and speedy service, service staff are polite, having good personality, and being responsible for following up and solving problems are very important variables in customer segmentation, especially for customers who consider the quality of the service before making a purchase.

Hwang, Kim, Kim, and Choung-Soo (2013) found that the effect of service quality and trust can make the customer use the service repeatedly. The service quality in terms of the staff's attentiveness, the discrimination-free services, and the service-mind of the staff, all of these can significantly lead to repurchases (Chienwattanasook & Thungwha, 2019). Buakheaw and Chienwattanasook (2019) also supported that the quality of the service received

in terms of customer responsiveness and knowing and understanding them can affect the decision to use the service repeatedly.

Research Methodology

This study is a quantitative research based on survey research method, while the data is collected using the questionnaire.

Population and sample group

The population in this study was the customers who use the industrial vacuum cleaners from company that sell the industrial cleaning equipment from Pathum thani province. In total, there were 1,070 customers. The sample size is calculated based on the Taro Yamane (1973), in which the total number of population size is known. Consequently, the calculated sample size is equal to 292 samples, with 15 back-up samples; thus, the total sample size was equivalent to 307 samples.

The research tool

The research tool used is a questionnaire constructed by the researchers from studying multiple concepts and theories as well as related researches. The research tool consisted of 5 parts include 1) respondent information 2) information on the service marketing mix factors 3) after-sales service quality factors 4) repurchasing decision. The index of item-objective congruence (IOC) was more than 0.6 in every aspect and the Cronbach's alpha coefficients were equal to 0.78, 0.87, 0.92, and 0.92, respectively.

Data analysis

Data Analysis of this research has used descriptive statistics to analyze the data related to the respondent information by using the frequency, percentage. For analyzing the data relevant to the service marketing mix factors (7P's), the after-sales service quality factors, and repurchasing decision, the statistics used were mean and standard deviation. The researchers used inferential statistics to test

the hypothesis: the service marketing mix factors (7P's) and after-sales service quality factors affect the repurchasing decision, the multiple regression analysis (MRA) were used.

Research Findings

From analyzing the respondent information from the sample customer group of this research with a total of 307 samples, the researchers found that the majority of the respondents were female equal to 61.9%, and 32.6% of them were procurement officers. Moreover, around 41.4% of them have over 10 years length of employment.

The results of the multiple regression analysis (see Table 1) among the service marketing factors (7P's) include product, price, place, promotion, personnel, process, and physical

environment. These factors have the power to predict or influence the dependent variables at 68.5% ($R^2 = 0.685$), while the rest of 31.5% came from the influence of other variables. In addition, the standard deviation of the prediction was equal to 0.302. In contrast, the multiple correlation coefficient was equal to 0.828, and the constant value of the predictive equation in the raw score format was equal to 0.560. Therefore, the hypothesis testing's results can be concluded that the service marketing mix factors (7P's) in terms of the physical evidence ($B = 0.242$), personnel ($B = 0.220$), process ($B = 0.156$), and price ($B = 0.145$) can affect the repurchasing decision of industrial vacuum cleaners at 0.05 statistical significance level. On the other hand, product, place, and promotion factor do not affect the repurchasing decision of industrial vacuum cleaners.

Table 1 The illustration of hypothesis testing results in terms of service marketing mix factors that affect the repurchasing decision of industrial vacuum cleaner products

Variables	Repurchasing decision				t	Sig.
	Unstandardized coefficients		Standardized coefficients			
	B	Std. error	Beta			
Constant value	0.560	0.152		3.671	0.000*	
Product/ service	0.073	0.059	0.071	1.238	0.217	
Price	0.145	0.046	0.164	3.111	0.002*	
Place (distribution channels)	0.059	0.053	0.065	1.126	0.261	
Promotion	-0.029	0.039	-0.038	-0.739	0.461	
Personnel	0.220	0.065	0.236	3.392	0.001*	
Process	0.156	0.072	0.170	2.156	0.032*	
Physical evidence	0.242	0.066	0.256	3.664	0.000*	
R = 0.828, $R^2 = 0.685$, Adjusted $R^2 = 0.678$, $SE_{Est} = 0.302$, $F = 93.100$, $p = .000*$						

* At the statistical significance level of 0.05

Table 2 The illustration of hypothesis testing results in terms of after-sales service quality factors in all 5 dimensions that can influence the repurchasing decision of industrial vacuum cleaners

Variables	Repurchasing decision				Sig.
	Unstandardized coefficients		Standardized coefficients	t	
	B	Std. error	Beta		
Constant value	0.752	0.109		6.870	0.000*
Service tangibility	0.033	0.052	0.037	0.640	0.513
Trust	0.181	0.064	0.199	2.844	0.005*
Responsiveness	0.099	0.054	0.114	1.820	0.070
Level of confidence	0.186	0.059	0.209	3.135	0.002*
Empathy	0.319	0.058	0.372	5.504	0.000*

R = 0.883, R² = 0.779, Adjusted R² = 0.776, SE_{Est} = 0.252, F = 212.704, p = 0.000*

* At the statistical significance level of 0.05

The result of the multiple regression analysis among the after-sales service quality factors in all 5 dimensions includes service tangibility, trust, responsiveness, level of confidence, and empathy dimension. All of these dimensions have the prediction power or can influence the dependent variables at 77.9% (R² = 0.779), and the rest of 22.1% resulted from other variables. Moreover, the standard deviation of the prediction was equal to 0.252, while the multiple correlation coefficient was 0.883, and the constant value in the raw score format was equal to 0.752. Therefore, the hypothesis testing result can be concluded that the after-sales service quality factors in terms of empathy (B = 0.319), level of confidence (B = 0.186), and trust (B = 0.181) can influence the repurchasing decision of the industrial vacuum cleaners at 0.05 statistical significance level. In contrast, the service tangibility and responsiveness dimension have no influence on the repurchasing decision of industrial vacuum cleaners.

Discussion

From the findings, the research found that the service marketing mix factors (7P's) in terms of the physical evidence has the most influence on the repurchasing decision of industrial vacuum cleaner products, then followed by personnel, process and price factor, respectively, at 0.05 statistical significance level. In other words, customers often value the services that have high standards and excellent responsiveness as well as customer friendly. Besides, the personnel should also be polite, humble, and have excellent human relations skills. More importantly, the products should be delivered on time with clearly stated price. These conditions can lead to the repurchasing decision of the customers on such product. In terms of product, place, and promotion, these factors have no influence on the repurchasing decision of industrial vacuum cleaners. When carefully considered, the researchers found that in terms of price and physical environment factors, the results were in accordance with the finding of Kerdla and Phuakpraphun, they

studied about “the Service Marketing Mix Affecting the Intention of Customer in returning for Repurchase at Nakhon Thai shop in Nakhon Pathom Province”. The service marketing mix in general refers to Product, Price, Place, Promotion, Process and Physical evidence, which were related to intention for repeat purchases. The result is in the same direction of Kemcharean and Chienwattanasook (2017), who studied the service marketing mix in relevant to the loyalty level of Telco customers. Their study found that the service marketing mix factors-7Ps in terms of the physical environment were the most correlated factor with the loyalty level of Telco customers, then followed by the process, promotion, and price factor, respectively. Furthermore, the after-sales service quality factors in terms of empathy dimension has the most influence on the repurchasing decision of industrial vacuum cleaners, followed by the confidence level and trust dimensions, respectively, at 0.05 statistical significance level. The result indicated that customers often value a service given with full attention and great service mind as well as the product warranty and high-quality services. Besides, customers value the overall effectiveness and expertise of the organization, which can affect the repurchasing decision of the products. On the other hand, the service tangibility and responsiveness dimension do not affect the repurchasing decision of the industrial vacuum cleaners. When carefully considered, the result has corresponded with the finding of Chauprothum, Boonraksa and Klinaubon, (2013) who studied satisfaction with the quality of customer service, they found that the satisfaction level is highly correlated with the level customer service quality. Some of the important dimensions of service quality include empathy, confidence, reliability and the degree of responsiveness to the customers as well as the physical

environment of the service. These service quality dimensions can greatly increase satisfaction level of the customers and eventually resulted in higher number of repurchase. For instance, the company that has advanced tools in providing services or provided 24-hour urgent customer service can receive greater level of both service satisfaction and repurchases. Similarly, Jonhom, Nami, and Shoosanuk (2015), who studied the influence of after-sales service quality concerning the trust, satisfaction, and customer loyalty factor in the medical equipment import business. The study found that when the customer perceived that the after-sales service quality in terms of attentiveness has increased, it can lead to higher customer satisfaction.

Research Recommendations

The research found that service marketing mix factors (7P's) and after-sales service factors can influence the repurchasing decision of industrial vacuum cleaners. Therefore, the researchers would like to propose the following research recommendations:

1. Entrepreneurs should try to understand the nature of their business and their customer needs for better planning on the development of different systems of the business, which need to be most appropriate and reflect the needs of customers as much as possible.
2. From the testing of service marketing mix factors (7P's), some of these factors influence customers' repurchasing behaviors of the industrial vacuum cleaner products. The result can also be used to set up a marketing strategy and policy. To answer the needs of customers, as the physical environment factor was the most influential factor, entrepreneurs should increase the effectiveness of service standard and response time. The improvement could be done by consistently and continuously train and develop the personnel. The second most

influential factor was the personnel. Thus, the company needs to create an organizational culture that makes employees value politeness, humbleness, good human relations, and friendliness toward the customers, including a great service mind. In terms of process, the company needs to value on-time product delivery and try to improve the effectiveness of the delivery. The delivery workers should be able to explain and give suggestions that are easy to understand for customers on product usage, maintenance, and first step solution when experiencing the problems. For the price factor, the pricing should be set at an appropriate level that is also fair and clear to the customers. Moreover, in terms of product, place, and promotion factor, these factors do not influence the repurchasing decision. Therefore, entrepreneurs should try to develop their potential to be higher such as expand the product range, increase distribution channels, or set up more promotional campaigns during each special occasion or seasonal occasion.

3. The result from testing the after-sales service quality in terms of empathy dimension, the research found that it has the most influence on the repurchasing decision of industrial vacuum cleaner products. Then, followed by the level of confidence and trust dimension, respectively. Therefore, entrepreneurs should increase more after-sales service, giving personalized attention and services such as trying to remember each customer or providing some other extra services that must also be honest and fair for the customers. In contrast, the service tangibility and responsiveness dimension do not influence the repurchasing decision of industrial vacuum cleaners. Consequently, the company should adjust and improve its services, especially in terms of readiness to be most responsive and error-free, as well as able to give customers the needed aid immediately when the problem

arises. If all employees have already done their best, then employers should consider increasing the number of employees to be able to handle and provide the services that answer to the needs of customers. This can lead to the repurchasing decision of the customer and also help retain the existing customer base from switching to the competitors, which can reduce related costs and expenses for the entrepreneurs. In addition, it can affect the growth of market share among different entrepreneurs as well.

4. Entrepreneurs can plan their marketing strategies by having their employees directly promote the products with special prices and other promotional campaigns such as giving trade discounts when the purchasing amount met with the required quantity.

5. According to this research findings, most of the customers value the services that give out full attention and great service mind together with product warranty and high-quality services. The overall effectiveness and expertise of the organization are also included. As a result, the entrepreneurs should plan their strategy by having the after-sales services lead their marketing for the sales team. Consequently, the sales team will be able to sell the products and services more easily. This could be considered as having the after-sales services lead the sales effort and enable them to generate sales volume according to the set target. This kind of strategy is beneficial for the business since it can increase the sales volume both directly and indirectly.

6. The research findings can also be applied as a guideline for entrepreneurs in other service businesses or anyone who is interested in our research. The findings or the relevant variables can be used for further study and research in the future.

Future Research

1. Should study the customer groups of the company that have made their repurchases in other types of products beyond the industrial vacuum cleaners and can compare the findings whether there are any differences and how.
2. Should study other variables such as the value of the trademark, satisfaction level, and customer loyalty, whereby the data could be used to set the guideline and marketing strategies of the company further.

References

- Buakaew, N., & Chienwattanasook, K. (2019). Behaviors of consumers perception of quality perception of efficiency affects service purchase between Kerry express and Thai post. *Journal of MCU Nakhondhat*, 6(4), 1782-1796.
- Chauprothum, J., Boonraksa, T., Klinaubon, C. (2556). Satisfaction with the quality of customer service, electric motor J & N motor service Co., Ltd. *Journal of Humanities and Social Sciences Thonburi*, 7(14), 36.
- Chienwattanasook, K., & Onputtha, S. (2017). Discrimination analysis of customers considering price and quality in purchasing decision using service marketing mix (7P'S) factors. *Journal of Marketing and Management*, 4(2), 70-87.
- Chienwattanasook, K., & Thungwha, S. (2019). Service quality affecting decision to repurchase logistic services. *Kasem Bundit Journal*, 20(2), 92-106.
- Gallo, A. (2014). *The value of keeping the right customers*. Retrieved from <https://hbr.org/2014/10/the-value-of-keeping-the-right-customers>
- Hellier, P. K., Geursen, G. M., Carr, R., & Rickard, J. A. (2003). Customer repurchase intention: A general structural equation model. *European Journal of Marketing*, 37(11), 1762-1800.
- Hwang, Y., Kim, K., Kim, K., & Choung-Soo, C. (2013). The effect to trust, satisfaction, repurchase intention by logistic service quality in online shopping. *Productivity Review*, 27(1), 479-507.
- Jonhom, N., Nami, M., & Shoosanuk, A. (2015). The influence of aftersales service quality on trust, satisfaction and customer loyalty of medical's equipment business. *Veridian E-Journal, Slipakorn University*, 9(1), 1577-1580.
- Kemcharean, S., & Chienwattanasook, K. (2016). Service marketing mix factors related to the loyalty of mobile phone customers. *Journal of Business Management, Burapha University*, 6(1), 127-132.
- Kerdla, B., & Phuakpraphun, S. (2560). Service marketing mix affecting, with the intention of returning for repeat purchasing customer to shop in Nakhon Thai, Nakhon Pathom province. *Journal of Pacific Institute of Management Science*, 3(1), 130.
- Ministry of Industry, Eastern Economic Corridor Office of Thailand. (2017). *The Thai government opens the stage: Roadshow potential in the EEC area invites 56 countries to respond and invest*. Retrieved from <https://www.eeco.or.th/information/news/eastern-economic-corridor-eec-taking-managed-by-ministry-of-industry>
- Parasuraman, A., Zeithaml, V., & Berry, L. (1985). A conceptual model of service quality and it's implications for future research. *Journal of Marketing*, 49(4), 41-50.

- Sererat, S., Laksitanon, P., Sererat, S., & Phatavanich, O. (2005). *Service marketing mix*. Bangkok: Thammasarn Company Limited.
- Yamane, T. (1973). *Statistics: An introductory analysis* (3rd ed.). New York: Harper and Row.