

An Application of the Disconfirmation Model for Assessing Service Quality of Retail Stores

M. Mujiya Ulkhaq

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
ulkhaq@live.undip.ac.id*

Niari P. Maypemi

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
niariajah@gmail.com*

Wismar R. Wijayanti

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
wismarrizkiwij@gmail.com*

Ade A. A. Putri

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
aisyahputriimuet99@gmail.com*

Silviannisa

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
silviannisa992@gmail.com*

Wahyuni Cahyarini

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
wahyunicahyarini@gmail.com*

Lutfia R. Rohmah

*Department of Industrial Engineering
Diponegoro University
Semarang, Indonesia
lutfiafatihaa8@gmail.com*

Abstract—Retail service currently is believed as an emerging business practice in industry which is designed to increase the well-being of customers. For gaining satisfaction of customer, retailers should improve their services to fulfill customer needs and demands. In this sense, service quality is considered as a critical factor for the success of the service providers since it is tightly related with customer satisfaction. This study tried to assess the service quality of retail stores using the disconfirmation model. It employs the difference between perceptions and expectations of customers. When the expectations are greater than the perceptions, the service quality is deemed low, vice versa. A case study was conducted in two of the most popular retail stores in Indonesia. This study is regarded to provide the owners of the retail businesses with valuable insights into the attributes that reflect the customers' perceptions as well as expectations.

Keywords—disconfirmation model, retail, service quality

I. INTRODUCTION

Retail, as the last stage in the delivery process of the products to the consumers (or end users) recently has turned out to be the most crucial factor for manufacturers to place their products. Retail shopping presents several benefits to the customers; for instance, customers can obtain products or information or social relations from shopping instead of employing internet shopping [1]. Additionally, customers can obtain advantages from interpersonal interactions to fulfill the fundamental human needs [2].

The growth of retail revenue worldwide from 2011 to 2016 as indicated by the compound annual growth (CAGR) rate reached at about 4.8% [3]. In South East Asia Region, the revenue is also growing rapidly. In 2015-2018, combined retail sales from several countries in the area reached 15.5% at CAGR. The growth offers various benefits, such as: it rises gross domestic product per capita; it pertains sustainable urbanization, and it allows a stable decline in unemployment rates [4]. In a narrower area, Indonesia's retail sector is projected to witness a CAGR of 13.8% by 2024 [5]. This large growth is inevitable since Indonesia has a big and middle-class population with sophisticated household purchasing power and progressively modern shopping behaviors [6].

As time goes by and as competition increases, customers were learning to find the best retail that can satisfy their desire. Consequently, retailers have to differentiate themselves by fulfilling what customers need better than their competitors. There is a general agreement that a basic retailing strategy for creating competitive advantage is delivering high service quality (e.g., [7]–[9]). The service quality is believed to be a vital aspect for the success of the retailers, owing to its close relationship with customer satisfaction [10]–[12]. Furthermore, superb service precedes customer retention and could lead to repeat customer purchase behavior [13], [14], which could increase market share and generate high incomes as well [15].

There are numerous scales for assessing the service quality, e.g., SERVQUAL [16] and SERVPERF [17] for “general” services, DINESERV [18] for fine-dining restaurants, LibQUAL+ [19] for research libraries, LODGSERV [20] for hotels or lodging industries, and various scales for electronic service quality, such as: E-SQUAL & E-RecS-QUAL [21], [22], PeSQ, [23] eTransQual [24], [25], and MS-QUAL [26], [27]. Basically, there are two types of assessment of service quality, i.e., performance model and disconfirmation model. The performance model is also called stand-alone performance measurement since it only employs the performance of the service provider, while the disconfirmation model views service quality as a discrepancy between perception and expectations of the customers (see Section 2 for more elaboration).

This research attempted to use the disconfirmation model to assess the service quality of retail stores despite of the massive debate between those two assessment models. The disconfirmation model is widely used since it is practically implemented within the SERVQUAL scale, one the most applied scales in the field of service quality, see for example: [28]–[30]. Although the SERVQUAL has been empirically tested in a number of studies involving “pure” service settings (e.g., banking, long-distance telephone service, and credit card service), it has not been successfully adapted to and validated in a retail store environment [31]; thus, this scale was not used in this research. Instead, twenty-four attributes derived from four dimensions adopted from [32] were applied to investigate the service quality of the retail stores.

In order to demonstrate the applicability of the method, a case study was conducted on two retail stores which are regarded as two most popular retails in Indonesia. They are called as “Retail A” and “Retail B”. Both are considered as the market leaders in Indonesia: sales of Retail A reached USD 4.89 billion in 2018, while, sales of “Retail B” amounted to USD 3.97 billion in the same year [33].

The paper is structured as follows. In the following sections, the research design of this study is presented, altogether with the attributes and dimensions used in this study. The results of the case study as well as the discussion are reported in the third section. Finally, the conclusion and future research direction will be presented in the last section.

II. RESEARCH DESIGN

The objective of this study is to assess, compare, and analyze service quality of two retail stores in Indonesia. The service quality then was assessed using the disconfirmation model which is widely applied by numerous studies to assess service quality in several fields. It constitutes of two parts, i.e., perceptions and expectations. The service quality SQ is then measured as $SQ = P - E$, where P and E are the perceptions and expectations of the customers.

There are four dimensions (namely, physical aspect, reliability, personal interaction, and policies) and twenty-four attributes used to assess the service quality. The first dimension, i.e., physical aspect, refers to the appearance of the physical installations in the store as well as the ease and convenience of shopping derived from the interior design of the sales outlet. It is regarded to has broader meaning than the tangibles dimension of the SERVQUAL [34]. This dimension consists of four indicators, i.e., (i) Modernity of store facilities, equipment and fixtures (PA1), (ii) visual attractiveness of publicity leaflets and other materials related to the service, such as shopping bags, catalogues, etc. (PA2), (iii) cleanliness of the store and available support services (e.g. toilet facilities, safe-boxes, etc.), (PA3), and (iv) store layout and organization enable customers to find products they need easily (PA4).

The second dimension is reliability, which implies keeping promises dependably and accurately. It consist of seven indicators, such as: (i) clear indication of product of prices (R1), (ii) clear information about sales promotions and discounts (R2), (iii) short waiting time at cash register (R3), (iv) easy location of products on promotion or discount (R4), (v) employees showing great interest to resolve any difficulties or customer problems (R5), (vi) stock availability of products/brands desired by customer (R6), and (vii) guarantees of product quality and possibility of returns (R7).

The third dimension is personal interaction. It is believed that for customers, it is not only important what is sold (or technical quality) but also the process followed (or functional quality); thus, contact with the customers is vital (i.e., how the customer should be treated). In addition, this dimension is also related to employees’ knowledges and how they work at the store. One might realize that this dimension looks like a combination of responsiveness, assurance, and empathy dimensions of the SERVQUAL. It comprises five attributes: (i) all employees show courtesy towards the customers (PI1), (ii) all employees willing to help customers (PI2), (iii) employees show enough knowledge to assist and advise customers in the fresh sections (e.g., fish, fruits, etc.) (PI3),

(iv) employees have enough knowledge to assist customers in difficulties and questions (PI4), and (v) employees instilling confidence in customers when assisting or advising them (PI5).

The fourth dimension is policies. This dimension captures aspects of service quality directly influenced by the merchandise sold and by the strategies of prices and brand assortment followed by the retailers [34]. This dimension is not captured in the SERVQUAL. However, policies are found to be essential for obtaining competitive advantages in the market. Finally, this dimension has eight attributes: (i) offer of interesting sales promotions and discounts (P1), (ii) offer of free choice of alternatives for payment (e.g., in cash, via store card, credit card, etc.) (P2), (iii) offer of product prices which are lower than in similar establishments (P3), (iv) freshness and quality of products offered in the fresh sections (e.g., fish, fruit, etc.) (P4), (v) offer of products from well-known and leading brands in the market (P5), (vi) offer of a wide assortment of product brands and varieties (P6), (vii) offer of products from the retailers’ own brand with high quality (P7), and (viii) ease of access to the store and availability of parking space (P8).

A questionnaire-based survey was conducted to achieve the objective of the research. The questionnaire consists of four sections. The first section aims to collect demographic information of the respondents, such as age, gender, and address. The second section depicts the expectation statements according to 24 attributes previously discussed. The words such as “should”, “be expected”, and “have to” are attached in the expectation statement. The sample statement could be “all employees should be willing to help customers”. The third and fourth parts of the questionnaire consist of the perception statements of the customers towards the performance of “Retail A” and “Retail B”. The sample perception statement would be “the employees of Retail A (or B) are always willing to help customers.”

All attributes are measured on a 5-point Likert scale, ranging from 1 which is indicated strongly disagree to 5 for strongly agree. When customers’ expectations (E) are greater than their perceptions (P), the service quality is considered low. Conversely, when perceptions (P) exceed expectations (E) then the service quality is considerably high.

III. RESULTS AND DISCUSSION

A case study was conducted to assess the service quality of two most popular retail stores in Indonesia, i.e., “Retail A” and “Retail B”, by utilizing the disconfirmation model according to the four dimensions, namely, physical aspect, reliability, personal interaction, and policies. The respondents were required to have experience in doing transaction at both retail stores. The potential participants were first approached and asked if they agreed to participate in the survey. There are 328 respondents who participated in this survey. However, thirteen respondents’ answers had to be eliminated because they did not meet the requirements to visit both retail stores, resulting in 315 completed data. The profile of the respondents is shown in Table I.

The reliability test with Cronbach’s alpha [35] was conducted to test the internal consistency. The results are shown in Table II. Note that all of the dimensions have the value of Cronbach’s alpha more than 0.7, indicating that the questionnaire being utilized is reliable [36].

TABLE I. PROFILE OF THE RESPONDENTS

Socio-demographic Variable	Percentage
Gender:	
Male	70.79%
Female	29.21%
Age:	
< 17 years old	0.95%
17 – 25 years old	92.38%
26 – 40 years old	4.45%
> 40 years old	2.22%
Domicile:	
Semarang	39.37%
Blitar	14.60%
Tangerang	7.62%
Jakarta	3.17%
Malang	7.62%
Yogyakarta	2.86%
Padang	1.90%
Kediri	2.54%
Others	20.32%

TABLE II. CRONBACH'S ALPHA RESULTS

Dimensions	Cronbach's Alpha	
	Retail A	Retail B
Physical Aspect	0.781	0.812
Reliability	0.891	0.895
Personal Interaction	0.913	0.926
Policies	0.897	0.906

TABLE III. CASE STUDY RESULTS

Dimensions/ Attributes	P		E	SQ	
	Retail A	Retail B		Retail A	Retail B
Physical Aspect:					
PA1	3.99	3.83	4.15	-0.17	-0.33
PA2	3.61	3.53	4.08	-0.47	-0.56
PA3	3.98	3.87	4.57	-0.59	-0.70
PA4	4.03	3.89	4.53	-0.50	-0.65
Reliability:					
R1	3.80	3.79	4.63	-0.83	-0.85
R2	3.81	3.71	4.56	-0.75	-0.85
R3	3.60	3.62	4.42	-0.81	-0.80
R4	3.83	3.78	4.54	-0.71	-0.76
R5	3.76	3.69	4.51	-0.75	-0.82
R6	3.69	3.62	4.33	-0.64	-0.71
R7	3.11	3.07	4.37	-1.27	-1.30
Personal Interaction:					
PI1	3.90	3.79	4.64	-0.75	-0.85
PI2	3.91	3.86	4.57	-0.65	-0.70
PI3	3.65	3.55	4.51	-0.86	-0.97
PI4	3.83	3.75	4.55	-0.72	-0.80
PI5	3.69	3.63	4.43	-0.73	-0.79
Policies:					
P1	3.82	3.76	4.44	-0.62	-0.69
P2	4.08	4.05	4.39	-0.31	-0.34
P3	3.41	3.33	4.22	-0.81	-0.89
P4	3.69	3.64	4.57	-0.88	-0.94
P5	3.69	3.63	4.18	-0.49	-0.55
P6	3.87	3.80	4.31	-0.45	-0.51
P7	3.70	3.64	4.32	-0.62	-0.68
P8	4.14	3.98	4.61	-0.047	-0.63

After conducting reliability test, the questionnaire was then processed to calculate the value of SQ for each indicator. (See the previous section about how to calculate the SQ.) The average values are then computed by summing

all the SQ values throughout all respondents and then dividing it by the number of respondents. The results for each attribute are shown in Table III. Unfortunately, all the SQ values are negative. It means that the respondents, i.e., the customers, are still not satisfied with the services they receive from both retail stores. For this reason, efforts to improve service quality are needed so that the customer satisfaction also will be improved. The following is an analysis for each dimension along with the recommended improvement suggestions.

The first dimension is physical aspect. This aspect relates to the customers' perception about the visual side of the retail store. The aggregated expectation score (in average) is 4.33, whereas the perception scores for "Retail A" and "Retail B" are 3.90 and 3.78 respectively. It resulted with the SQ scores of -0.43 and -0.56 for each retail store. Based on these findings, it can be inferred that the customers are not satisfied with how the "looks" of the stores. An attention must be paid especially for the second attributes of this dimension which talks about the visual attractiveness since it has the least score of 3.61 and 3.53 for "Retail A" and "Retail B" respectively. In such, both retails should improve their visual design of publicity leaflets and other materials related to the service. In addition, they also should pay attentions to their stores' cleanliness by ensuring their cleaning staff.

The second dimension is reliability which assesses how good both retail stores to provide service in accordance with what it has been promised to the customers immediately, accurately, and satisfactorily. The aggregated expectation score (in average) is 4.48 and the perception scores for both retail stores are 3.66 and 3.61 for "Retail A" and "Retail B" respectively. This results in SQ scores of -0.82 and -0.87 for "Retail A" and "Retail B" respectively. Both of these scores are the smallest score in all dimension. Among all dimensions, this dimension gives the smallest score of SQ. It shows that both retail stores handle this aspect the worst compared to the other dimensions. Therefore, both retail stores are advised to improve on this aspect by giving more guarantees on products quality and assurance on the possibility of returning purchased items. In addition, the retailers are suggested to manage their stock availabilities by improving distribution and storage usage effectively.

The next dimension is personal interactive. The aggregated expectation score (in average) for this dimension is 4.54; yet again, the reality that customers feel is not as what they expect. Some examples to be mentioned here are: the employees show not enough knowledge to assist and advise customers in the fresh sections; the employees do not have enough knowledge to assist customers in difficulties and questions; and the employees do not have much confidence assisting or advising the customers. Therefore, the customers only give a low value in the perception scores for personal interaction for both retails, resulting the negative scores in SQ. The following are some recommendations to improve the service quality.

- The service providers should provide training for the employees about how to deal with problems quickly and precisely.
- They should give rewards and punishments so that the employees would remain enthusiastic in carrying out their jobs.

- The employees should listen to and deal with the customers who have a question.

The last dimension is policies that can be defined as the strategies of prices and brand assortment used by the retail store. Customer expectation for this dimension are very high, which the average value is 4.38. It indicates that the customers expect the retail stores to have easy access and low price. However, what is felt by the customers turns out to be not in line with their expectations. Many customers still complain for several reasons, for instance, the quality of the product does not fulfill the customers expectation and the price of the product is too high. Therefore, the customers give the average value for the perception is 3.80 for "Retail A" and 3.73 for "Retail B". The obtained SQ scores are all negative. The followings are efforts that can be performed by the retail stores to improve the performance especially according to policies dimension.

- The retailers should make a bigger parking space for the customers.
- The retailers should offer more interesting discount and promotions.
- The payment method should be more various so that the customers can have various options when doing transaction in the retail stores.
- The retailers should lower their price tag so that the customers will go to stores instead of other similar establishments.

IV. CONCLUSION AND FUTURE RESEARCH DIRECTION

This study has shown how to assess, evaluate, and compare the service quality of retail stores, as a basis for customers in choosing the "best retail" according to their desires. A case study was conducted at "Retail A" and "Retail B", two most famous retail stores in Indonesia. The disconfirmation model attached with twenty-four attributes derived from four dimensions were employed in this research. In this model, the service quality is considered high if the perceptions of the customers exceed the expectations.

Data were collected from 315 respondents who have experiences in doing transactions at both retail stores. The results show that "Retail A" surpasses "Retail B" with the average score of SQ -0.64 compared to -0.73. Although "Retail A" outperforms "Retail B", it does not mean that the first has an excellent service compared to the later. In fact, both stores should improve their service quality since all attributes have the negative scores, indicating the low service quality performance. Specifically, the stores should focus on personal interaction dimensions due to its high score in the expectation part among others, i.e., 4.54 from the scale of 5.00. The findings are regarded to provide retailers with a valuable knowledge regarding to dimensions that reflect customer perceptions when they are involved in a transaction.

There are two approaches that are suggested as a further research. The first is to combine the model with the importance-performance analysis (IPA) model by [37]. The inclusion of IPA is based on the fact that service providers are constrained by their limited resources. Therefore, it has to be well determined how those limited resources are best utilized to achieve customer satisfaction. The IPA model can

be used to set priorities of the service attributes based on the importance and the performance. This model is still popular to be applied nowadays due to its simplicity as well as easy to use and be interpreted; see [38]–[40] for the applications of this model. Second suggestion is to use customer zone of tolerance-based service quality (CZSQ) and CZSQ-based IPA (CZIPA) [41] to assess the service quality based on the competitive zone of tolerance by benchmarking against its competitors. Even though these methods originally were developed in the area of hospitality, it can be further implemented to assess the service quality of retail stores with some modifications; see [42], [43] that were applying the methods to the different service areas.

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