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The impact of service quality on value belief of exercise health and customer satisfaction in fitness club

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Abstract

The purpose of the study was to explore the relationship between fitness club service quality, value belief of exercise health and consumer satisfaction, and the main service quality items to be improved. A questionnaire survey was conducted to collect consumers' opinions of fitness clubs. Through regression analysis to understand the relationship between service quality, value belief of exercise health and customer satisfaction, and then, the IPA model was used to explore the factors of service quality as a reference for future service quality improvements. The results show that service quality was an important antecedent variable that affects value belief of exercise health and customer satisfaction. In addition, the service quality of fitness club to be improved mainly includes five items. In case of limited resources, those items that require the most attention should be improved first, in order to maintain a stable service quality and provide a perfect fitness environment.

Keywords: Physical activity, sports, service management, quality improvement strategy, IPA

1. Introduction

In recent years, people's health awareness has been on the rise, and many people have gradually developed regular exercise habits to improve their physical health. In this regard, fitness clubs may provide a wide range of safe indoor sports courses, venues, and facilities, and many people are inclined to choose to exercise at fitness clubs.

Although disruptions remain for the global fitness industry, as the COVID-19 epidemic slows down, the fitness club industry is positioned for growth as fitness businesses recover and consumers return to gyms and studios (International Health, Racquet & Sports club Association, 2021; International Health, Racquet & Sports club Association, 2022) ^[1, 2]. However, the growing number of fitness clubs are witnessing intense competitions in terms of fitness merchandise, courses, facilities, services, personnel, prices, etc., thus, if fitness clubs want to build their competitive strengths, they need to consider how to grasp the rational and emotional needs of consumers, satisfy the value needs of consumers, and introduce proper services to make consumers satisfied (Papadimitriou & Karteroliotis, 2000; Polyakova & Mirza, 2016) ^[3, 4]. Generally speaking, unstable service quality will directly affect consumers' desire to consume, thus, enterprises should make great efforts to improve their service quality, in order to effectively improve customer satisfaction (Bandyopadhyay, 2018; Fida *et al.*, 2020) ^[5, 6].

Service quality and customer satisfaction are two important determinants of consumer decision making (Lee & Beeler, 2009; Cao, 2021) ^[7, 8]. Previously, service quality and satisfaction were included in the study of fitness club management. Jasinskas *et al.* (2013) ^[9] conducted a service quality assessment for fitness club consumers to explore the service quality of fitness clubs and propose relevant improvement suggestions. Moreira and Silva (2016) ^[10] found that service quality and customer satisfaction were key factors for fitness clubs to gain consumer recognition. Walker *et al.* (2017) ^[11] pointed out that the increasing number of members and fitness clubs leads to fierce competition in the market, and that the services quality provided by fitness clubs must not only meet standards of internal management, but be recognized by consumers.

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As fitness club merchandise has a variety of characteristics, fitness clubs should adopt multiple approaches to improve their service quality assessment. From the above results, we can see that fitness clubs should consider both service quality and customer satisfaction when improving their performance. The Health Belief Model (HBM) is a theoretical model of preventive health behavior based on the value expectancy theory. HBM refers to the firm beliefs and behaviors that people hold in order to maintain health, which have an important impact on health (Rosenstock, 1974) [12], thus, it is often used to promote healthy behavior, including physical fitness through exercise. When people realize the importance of exercise to their health, and develop the belief that exercise is beneficial to their health, the exercise behavior will continue (Mo *et al.*, 2016) [13], thus, believing in the health benefits of exercise will have an important impact on health. People go to fitness clubs to engage in their favorite exercise, which is a manifestation of the value belief that exercise in fitness clubs can be beneficial to individuals (García-Fernández, 2018; Olya *et al.*, 2022) [14, 15]. It is also the motivation for people to go to the fitness club to get healthy (Polyakova and Mirza, 2016) [4]. If people do not believe that going to a fitness club is good for their health, their value beliefs about exercise health will be impaired, and it is likely that the fitness clubs will lose consumers. Obviously, value belief of exercise health will affect consumers' willingness to continue to exercise in fitness clubs. However, exercise health belief factors, such as value belief of exercise health, have been neglected in the fitness club management literature. Martilla and James (1977) [16] developed Importance Performance Analysis (IPA). IPA adopts importance (I) as the vertical axis and performance (P) as the horizontal axis in the research of image perception. By virtue of IPA, resources can be fully invested in effective service quality improvement projects, which bring greater operational and management benefits for organizations. In this way, it can accurately identify the key service quality factors to be improved. To sum up, this study intends to explore the relationship among service quality, value belief of exercise health, and customer satisfaction, and adopted the IPA method to understand the important service quality factors of fitness clubs from consumers' point of view, in order to determine the main service quality factors that must be improved in fitness clubs, and make suggestions for each quality improvement, thus, providing reference for the relevant operators of fitness clubs to improve their management efficiency.

2. Methods

This study conducted a questionnaire survey to collect information on consumers' opinions of the service quality, value belief of exercise health and customer satisfaction of fitness clubs. The data of value belief of exercise health and customer satisfaction were used to understand the influence of service quality, value belief of exercise health, and customer satisfaction, and then, the IPA model was used to explore the factors of service quality as a reference for future service quality improvements.

2.1 Research hypotheses

Upon the previous finding, service quality will also have an impact on the consumer's belief in fitness club exercise health (Mullen & Whaley, 2010) [17], it could be postulated that the higher the service quality, the better value belief of exercise health. Hence, on this basis, this study proposes H1: Service

quality has positive impact on value belief of exercise health. Foroughi *et al.* (2019) [18] showed that the service quality experienced by the members of fitness clubs affects customer satisfaction, and that the pleasure they feel while exercising in fitness clubs also affects customer satisfaction and members' future consumption willingness. Xu *et al.* (2021) [19] showed that the service quality factors significantly affected customer satisfaction. According to the above empirical studies, this study expected that the service quality would enhance the customer satisfaction. Therefore, this study proposes H2: Service quality has positive impact on customer satisfaction. Based on the above H1 to H2, this study treats service quality as the independent variable, whereas value belief of exercise health and customer satisfaction are regarded as the dependent variables.

2.2 Variables and questionnaire design

This study mainly includes three variables: Service quality, value belief of exercise health, and customer satisfaction. The scale design of each variable was, as follows: Regarding the preparation of the service quality scale, based on the service quality measurement structure developed by Kim and Kim (1995) [20], Lam *et al.* (2005) [21], and Yildiz *et al.* (2016) [22], this study modified the scale into problems suitable for measuring the service quality of fitness clubs, including 25 items in the four dimensions of program, staff, equipment/facilities, and ambience. According to Becker and Maiman (1975) [23], Sechrist *et al.* (1987) [24], Wu *et al.* (2020) [25] the value belief of exercise health scale was developed into questions that meet the characteristics of fitness club consumers, including 17 items. In the design of the satisfaction measurement scale, this study referred to the concept of Fornell (1992) [26] and Bettencourt (1997) [27], meaning that customer satisfaction can be considered as a whole. There were three items in the measurement of customer satisfaction in this study.

After the preparation of the first draft of the scale, university scholars majoring in sports management and health education and fitness club manager were invited to assist in the examination of the questionnaire, and suggestions for modification were given, make the questionnaire have expert validity. Service quality, value belief of exercise health, and customer satisfaction measures were based on a Likert five scale, among them, service quality includes importance and performance measurement.

2.3 Data collection and scale reliability

In this study, participants who actually spend money in fitness clubs in Taiwan were selected as subjects. A questionnaire survey was conducted using convenience sampling methods to collect consumers' opinions of service quality, value belief of exercise health, and customer satisfaction with fitness clubs.

A total of 49 valid questionnaires were obtained in the questionnaire pre-test. The Cronbach's α for the service quality measure was .878. The Cronbach's α for the value belief of exercise health measure was .725. The Cronbach's α for the customer satisfaction measure was .725, indicating that the pre-test had good reliability.

Subsequently, the survey was continued with convenience sampling and a total of 321 valid questionnaires were recovered. The Cronbach's α for the service quality measure was .857. The Cronbach's α for the value belief of exercise health measure was .763. The Cronbach's α for the satisfaction measure was .718, indicating that the service

quality, value belief of exercise health, and customer satisfaction scales had good reliability.

The basic data of the interviewees (192 males and 129 females) are shown in Table 1. Interviewees aged from 21 to 30 account for the largest proportion of 44.2%.

In terms of occupation, there were 39 soldiers, policemen, civil servants, and teachers, accounting for 12.1%.

A total of 32 interviewees were engaged in the service industry, accounting for 10%; 160 in industrial fields, accounting for 49.8%; 14 in business fields, accounting for 4.4%; 45 freelancers, accounting for 14%; and 31 students, accounting for 9.7%.

In terms of educational level, 239 of the interviewees had college and university degrees, accounting for 74.5%.

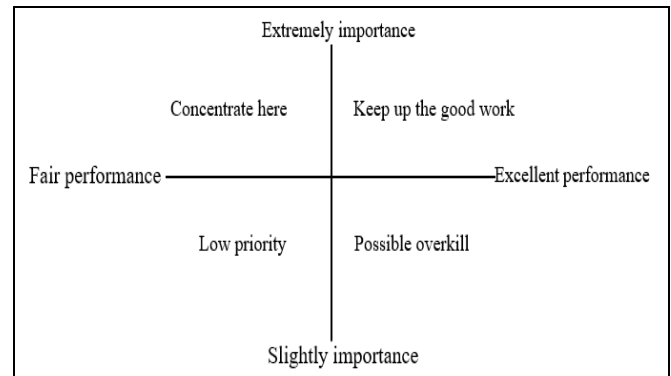


Fig 1: IPA grid

Table 1: Basic data of interviewees

Variable	Classification	Quantity (%)
Gender	Male	192 (59.8)
	Female	129 (40.2)
Age	20 years old or below	68 (21.2)
	21~30 years old	142 (44.2)
	31~40 years old	83 (25.9)
	41~60 years old	28 (8.7)
Occupation	Soldiers, policemen, civil servants, and teachers	39 (12.1)
	Service industry	32 (10)
	Industry	160 (49.8)
	Business	14 (4.4)
	Freelancer	45 (14)
	Student	31 (9.7)
Educational level	General and vocational high school (inclusive) or below	50 (15.5)
	College and University	239 (74.5)
	Graduate School	32 (10)

2.4 Data processing

In this study, regression analysis and IPA were used for data analysis. SPSS for Windows statistical software was used to analyze the effects of service quality, value belief of exercise health, and customer satisfaction on regression analysis. Martilla and James (1977) [16] developed IPA. The IPA grid (See Figure 1) adopts importance (I) as the vertical axis and performance (P) as the horizontal axis. Below is an explanation of the various quadrants in the IPA grid: The first quadrant is located in the upper right area, the items falling into this area should “keep up the good work”. The second quadrant is located in the upper left area, items falling into this area should “Concentrate here”. The third quadrant is located in the lower left area, items falling into this area have “Low priority”, the fourth quadrant is located in the lower right area, items falling into this area are believed to have “Possible overkill”. By virtue of IPA, resources can be fully invested in effective service quality improvement projects (León-Quismondo *et al.*, 2020; Kwon *et al.*, 2022) [28, 29], which bring greater operational and management benefits for organizations. In this way, it can accurately identify the key service quality factors to be improved (Rial *et al.*, 2008; Yildiz, 2011) [30, 31].

3. Results

3.1 Hypothesis validation results

The hypothetical results show that service quality has significant positive effect on value belief of exercise health ($\beta = .779, p < .001$), as shown in Table 2, hence, H1 is supported. The hypothetical results show that service quality has significant positive effect on customer satisfaction ($\beta = .415, p < .001$), as shown in Table 2, hence, H2 is supported.

According to the above analysis, service quality is an important antecedent variable that affects value belief of exercise health and customer satisfaction. In order to better understand the impact of service quality on value belief of exercise health and customer satisfaction, this study analyzed the impacts of the four factors of service quality, namely, program, staff, equipment/facilities, and ambience, on value belief of exercise health and customer satisfaction.

As shown in the result of the multivariate regression analysis of service quality and value belief of exercise health (Table 3), the VIF values of all variables did not exceed 4, indicating no serious commonality problem among the independent variables. In addition, the greater the β value of the independent variables, the greater the impact on the dependent variables. The results show that the ambience of service quality has the greatest influence on value belief of exercise health ($\beta = .701, p < .001$), followed by equipment/facilities ($\beta = .233, p < .001$), staff ($\beta = .094, p < .001$), and program ($\beta = .056, p < .05$), respectively.

As shown in the result of the multivariate regression analysis of service quality and customer satisfaction (Table 4), the VIF value for all variables did not exceed 4, indicating that no serious commonality problem among the independent variables. The greater the β value of the independent variables, the greater the impact on the dependent variables. The results show that the ambience ($\beta = .233, p < .001$) of service quality has the greatest influence on customer satisfaction, followed by equipment/facilities ($\beta = .219, p < .001$) and program ($\beta = .125, p < .05$), respectively.

Table 2: The regression analysis results of service quality on value belief of exercise health and customer satisfaction

Variable	Value belief of exercise health			Customer satisfaction		
	B	T	P	B	T	P
Service quality	.779	22.183	.000***	.415	8.147	.000***
F	492.075			66.378		
R ²	.607			.172		
P	.000***			.000***		

Note: *** $p < .001$.

Table 3: The multiple regression analysis results of service quality on value belief of exercise health

Variable	Value belief of exercise health						
	R	R ²	ΔR ²	F	B	P	VIF
Ambience	.843	.710	.710	781.226	.701	.000***	1.282
Equipment/Facilities	.879	.772	.062	86.188	.233	.000***	1.389
Staff	.883	.779	.007	10.942	.094	.001***	1.240
Program	.885	.782	.003	4.274	.056	.040*	1.084

Note: * $p < .05$, *** $p < .001$.

Table 4: The multiple regression analysis results of service quality on customer satisfaction

Variable	Customer satisfaction						
	R	R ²	ΔR ²	F	β	p	VIF
Ambience	.356	.127	.127	46.288	.233	.000***	1.252
Equipment/Facilities	.416	.173	.046	17.957	.219	.000***	1.248
Program	.434	.188	.015	5.684	.125	.018*	1.082

Note: * $p < .05$, *** $p < .001$.

3.2 IPA analysis results

The IPA analysis results of service quality are listed in Table 5. Based on the t-testing of paired samples, it was found that item 4, item 5, item 8, item 9, item 10, item 11, item 12, item 16, item 18, item 24, and item 25 have higher importance degrees than performance degrees ($p < .05$). And then, an IPA strategy matrix was constructed, as shown in Figure 2. Of the five items in the concentrate here area in quadrant 2, five items are listed as the main items to be improved in fitness clubs ($p < .05$), of which item 4 and item 5 belong to the program dimension; item 11 and item 12 belong to the staff

dimension item 16 belong to the equipment/facilities dimension.

This study calculated the importance (I) minus value of performance (P) of items with statistically significant differences. Refer to Table 6 for details regarding the five main items to be improved, and the priority improvement order. The first priority improvement item is 4 ($I-P=0.23$) the second is item 5 ($I-P=0.20$) third is item 12 ($I-P=0.17$) the fourth is item 11 ($I-P=0.16$) the fifth is item 16 ($I-P=0.14$).

Table 5: Service quality IPA analysis results statistics

Constituent	Item	Average		T	P
		(I)	(P)		
Program	1. Fitness courses are diverse.	3.95	3.96	-1.000	.318
	2. Fitness courses start time.	4.05	4.01	0.529	.597
	3. Fitness courses are appealing.	4.06	4.07	-0.061	.951
	4. Fitness courses are reasonably priced.	4.25	4.02	4.799	.000***
	5. Space plan for fitness courses.	4.19	3.99	3.520	.000***
	6. Fitness courses start and end on time.	4.09	4.06	0.419	.676
	7. Background music is suitable for fitness courses.	4.18	4.12	1.249	.212
Staff	8. Staff are friendly.	4.22	4.10	2.560	.011*
	9. Staff are knowledgeable.	4.22	4.10	2.306	.022*
	10. Staff have good professional skills.	4.26	4.06	4.150	.000***
	11. Staff are willing to offer help.	4.18	4.02	2.735	.007**
	12. Staff can quickly handle and respond to problems.	4.21	4.04	2.824	.005**
Equipment/ Facilities	13. Fitness equipment is new.	4.07	3.97	1.643	.101
	14. Fitness equipment is well designed.	4.07	4.00	0.932	.352
	15. Fitness equipment is regularly maintained.	4.19	4.12	1.399	.163
	16. There is sufficient operating space for fitness equipment.	4.15	4.01	2.387	.018*
	17. The operating instructions of the fitness equipment are clear and complete.	4.17	4.08	1.934	.054
	18. Fitness equipment is safe.	4.21	4.10	2.112	.035*
	19. Fitness equipment is diverse.	3.96	3.94	0.714	.476
	20. Plans for placement of fitness equipment.	4.15	4.05	0.927	.355
Ambience	21. Overall clean environment of fitness clubs.	4.15	4.08	1.503	.134
	22. Fitness clubs have sufficient lighting.	4.10	4.09	0.255	.799
	23. Clear signs in fitness clubs.	4.16	4.07	1.642	.102
	24. Overall complete plan for fitness clubs.	4.22	4.12	2.140	.033*
	25. Changing rooms and toilets are safe and comfortable.	4.30	4.18	2.444	.015*
		4.15	4.05		

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

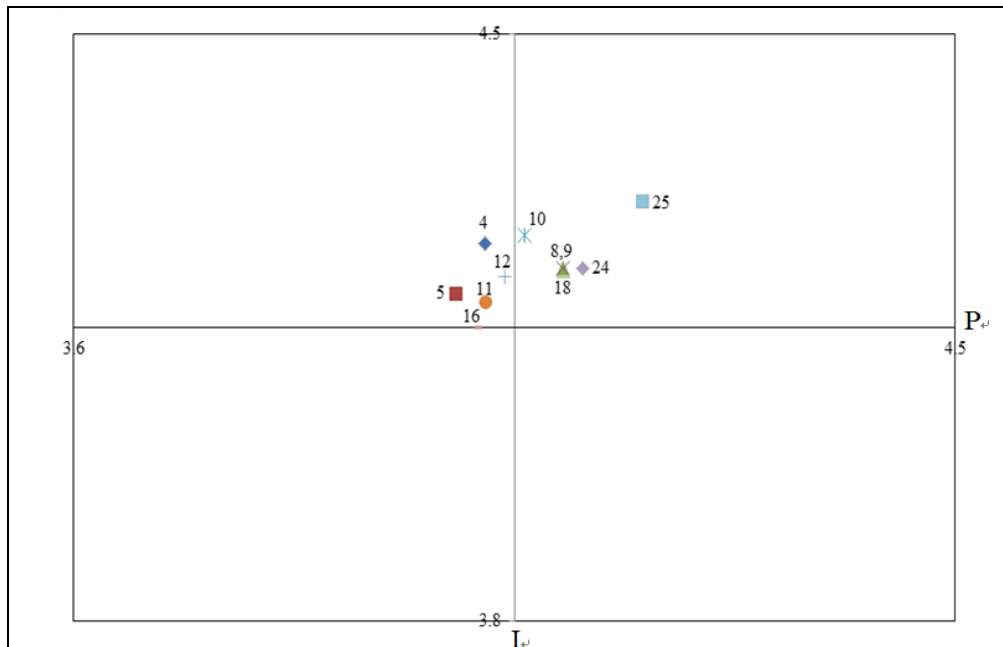


Fig 2: Service quality IPA grid.

Table 6: The priority improvement sequence

Sequence	Item	IP	Constituent
1	Fitness courses are reasonably priced.	0.23	Program
2	Space plan for fitness courses.	0.20	Program
3	Staff can quickly handle and respond to problems.	0.17	Staff
4	Staff are willing to offer help.	0.16	Staff
5	There is sufficient operating space for fitness equipment.	0.14	Equipment/Facilities

4. Discussion

4.1 The influence of service quality on value belief of exercise health and customer satisfaction

This study suggested H1: Service quality has positive impact on value belief of exercise health. The motivation to take part in exercise is seen as an improvement in physical condition and mental state and as a desire for mastery in exercise practice (Sánchez-Torres *et al.*, 2023)^[32], continuous exercise in the fitness club is a manifestation of the value belief of exercise health. This study proves that service quality has direct impact on value belief of exercise health; therefore, if a fitness club can provide consumers with perfect service quality, consumers' belief of going to the fitness club will be enhanced, which responds to the findings of Plante, *et al.* (2013)^[33].

Service quality has positive effect on customer satisfaction. Thus, this study proposed H2: Service quality has positive effect on customer satisfaction. The result is consistent with those of Clemes *et al.* (2011)^[34] and Theodorakis *et al.* (2014)^[35], showing that good service quality improves customer satisfaction. This means that an increase in the customer satisfaction of the service may make users more willing to pay more for the service provided.

According to the results of the above analysis, it was found that service quality has positive impact on value belief of exercise health and customer satisfaction, indicating that service quality is an important antecedent variable affecting value belief of exercise health and customer satisfaction. In particular, the ambience dimension in service quality shows the highest impact on value belief of exercise health and customer satisfaction. In addition to providing fitness equipment and courses, fitness clubs should consider exterior views and image, interior planning, and decoration, in order to attract customers into the clubs and enable them to feel

comfortable, thereby, enhancing their value belief of exercise health in the clubs and improving their satisfaction. Fitness clubs should pay more attention and maintenance to these aspects.

4.2 Analysis of key factors to be improved in service quality

A total of five items in quadrant 2 of “concentrate here” were analyzed by IPA ($p < .05$). In order to improve the service quality of fitness clubs, the first improvement is item 4 “Fitness courses are reasonably priced” belongs to the program dimension; the second is item 5 “Space plan for fitness courses” belongs to the program dimensions; the third is item 12 “Staff can quickly handle and respond to problems” belongs to the staff dimension; the fourth is item 11 “Staff are willing to offer help” belongs to the staff dimension; the fifth is item 16 “There is sufficient operating space for fitness equipment” belongs to the equipment/facilities dimension.

This phenomenon reflects the fact that the reasonably priced and space plan for fitness courses of fitness clubs is still in need of improvement. In service quality items, “Fitness classes are reasonably priced” and “Space plan for fitness courses” are also important topics in the study of course service quality (Jasinskas *et al.*, 2013; Walker *et al.*, 2017)^[9, 11]. For fitness clubs, the courses they offer are their core income source, and the quality of their services should be emphasized to actively improve course quality.

The staff of fitness clubs mainly include administrative staff (Reception and attached facilities) and fitness instructors (Instructors and coaches), and these first-line staff in direct contact with consumers are the image representatives of fitness clubs. During their frequent interactions with consumers, the professional skills and professional knowledge of staff are presented, which can effectively establish a

professional image (Smith *et al.*, 2014) [36]. Moreover, friendly and helpful staff in the service process is favored by consumers (Glaveli *et al.*, 2021) [37]. When a consumer has questions, “Staff can quickly handle and respond to problems” is what the consumer expects (Lam *et al.*, 2005) [21]. In other words, friendly, helpful, quickly handle and respond of customer service revealed to be fundamental for the success of fitness clubs, at the level of instructors but also the reception staff.

In addition, Fitness clubs provide new, versatile, and functional equipment for consumers to use to meet their fitness needs. Fitness clubs shall maintain the provided equipment to ensure safety (Polyakova & Ramchandani, 2023) [38]. Meanwhile, regarding the use plan of fitness equipment, fitness clubs should carry out person control and space design so consumers have sufficient operation space (Smith *et al.*, 2014; García-Fernández *et al.*, 2020) [36, 39].

The high-quality service of fitness clubs should be based on meeting the needs of every customer. Especially, it should be reflected in the high-quality service provided by the fitness club. Fitness clubs should not only warmly and kindly receive every customer who comes to the fitness club, but also immediately respond and assist customers in providing the necessary services. Customers are the lifeblood of the operation and development of fitness clubs, deeply recognized by customers. Only by maintaining customers’ continuous fitness here can fitness clubs continue to develop and grow, and fitness club performance is thriving.

4.3 Service quality improvement strategy

The IPA analysis results of service quality were listed “Fitness courses are reasonably priced”, “Space plan for fitness courses”, “Staff can quickly handle and respond to problems”, “Staff are willing to offer help” and “There is sufficient operating space for fitness equipment” five main items to be improved. In this study, four improvement schemes such as personnel stationed service, strengthen personnel pre service and on-the-job education and training, enhance the transparency of curriculum quality and price contract and professional design, construction and adjustment are formulated. In order to better understand the quality improvement projects and corresponding improvement schemes, it is presented with the concept of house of quality (Figure 3).

Personnel stationed service is the improvement scheme of “Staff can quickly handle and respond to problems” and “There is sufficient operating space for fitness equipment”. Strengthen personnel pre service and on-the-job education and training is the improvement scheme of “Space plan for fitness courses”, “Staff can quickly handle and respond to problems” and “Staff are willing to offer help”. Enhance the transparency of curriculum quality and price contract is the improvement scheme of “Fitness courses are reasonably priced” and “Space plan for fitness courses”. Professional design, construction and adjustment is the improvement scheme of “There is sufficient operating space for fitness equipment”.

Improvement schemes		Personnel stationed service	Strengthen personnel pre service and on-the-job education and training	Enhance the transparency of curriculum quality and price contract	Professional design, construction and adjustment
Quality items to be improved	Sequence				
Fitness courses are reasonably priced.	1			⊙	
Space plan for fitness courses.	2		⊙	⊙	
Staff can quickly handle and respond to problems.	3	⊙	⊙		
Staff are willing to offer help.	4		⊙		
There is sufficient operating space for fitness equipment.	5	⊙			⊙

Fig 3: House of quality

5. Conclusions

Service quality positively affects value belief of exercise health. Service quality has positive impact on customer satisfaction. As service quality is an important antecedent variable that affects value belief of exercise health and customer satisfaction, fitness club operators should strive to provide consumers with professional, high quality, and

appropriate service quality, and use service quality to show their unique service guarantee to attract and retain consumers, thereby, enhancing consumers’ value belief of exercise health and customer satisfaction.

In order to improve the service quality of fitness club, the first improvement is “Fitness courses are reasonably priced”; the second is “Space plan for fitness courses”; the third is “Staff

can quickly handle and respond to problems”; the fourth is “Staff are willing to offer help”; the fifth is “There is sufficient operating space for fitness equipment”. To sum up, the service quality of fitness club has five main items to be improved. In case of limited resources, those items that require the most attention should be improved first, in order to maintain stable service quality.

However, the survey was conducted in Taiwan, the extended discussion of this research result has its limitations. Suggestion, future studies are needed to test the conceptual framework of this study in other countries or regions. Additionally, the study does not explain specific age group or gender differences. Future research may consider an investigation to specific population.

Finally, in order to improve research on the management of fitness clubs, it is recommended that future researchers conduct in-depth analysis of strategies for improving the service quality of fitness clubs.

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