

## SERVICE QUALITY IN FITNESS CENTRES - EXAMINING THE DIMENSIONS

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### Abstract

The fitness industry is expanding in most parts of the world. Nevertheless, the amount of research regarding this industry has thus far been relatively limited. In previous research, quality dimensions for fitness companies have been explored and a tentative framework has been proposed. The purpose for the present study is to examine the framework and quantify its components. A survey has been conducted. A questionnaire based on previous research was developed and delivered by telephone to 86 fitness centres of which 67 agreed to participate, giving a response rate of 78%. The items of the quality dimensions in the studied framework were analysed with Cronbach's Alpha and were found to be statistically reliable. The underlying structure of the enablers in the framework was examined with explorative factor analysis resulting in five underlying enablers. Moreover, the impact of the enablers on the profitability of the centres was measured. The results should be interesting for managers in this sector as well as for the advancement of service quality theory.

**Keywords:** Quality management, quality dimensions, fitness, service quality

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### 1. Introduction and purpose

As people tend to live more sedentary lives, the fitness sector becomes ever more important for the global health status. Consequently, an expansion in this sector has taken place in most parts of the world. Nevertheless, research into quality management in this sector has been rather limited although there are indications that service quality is less than perfect (Hurley, 2004). As service operations in the fitness sector are particularly complex (Chelladurai, Scott & Haywood-Farmer, 1987) and distinctive (Chang & Chelladurai, 2003), research into this field should contribute to the general development of service quality theory. Some previous studies into quality dimensions in the sector exist (Chelladurai, Scott & Haywood-Farmer, 1987; Tawse & Keogh, 1998; Papadimitriou & Karteroliotis, 2000; Chang & Chelladurai, 2003; Afthinos, Theodorakis & Nassis, 2005; Lagrosen & Lagrosen, 2007; Athanasopoulou, 2008) as well as their relationship to branding (Alexandris et al., 2008). However, the research is rather disparate and no consensus regarding the dimensions of quality in the area has been reached (Lam & Ocker, 2004). Consequently, further studies examining and testing previous research should be valuable for the development of the research field. For this reason, we chose to use a previous study (Lagrosen & Lagrosen, 2007) as a vantage point for this research. The previous study was purely qualitative and explorative. A number of quality dimensions for the health and fitness sector were identified. The purpose for this study is to examine the framework and quantify its components.

## 2. The original framework

Lagrosen and Lagrosen (2007) identified three primary quality dimensions:

- Physical change, including beauty and function
- Mental change, including harmony and self-realisation
- Pleasure, taking the form of social pleasure or physical pleasure

Furthermore, they defined a number of enablers that would be necessary for development of the quality dimensions. Two direct enablers were found: Relational competence and Technical competence. The authors propose that they, in turn, are dependent on a number of indirect enablers:

- Recruitment
- Climate
- Empowerment
- Service design
- Training
- Facilities and equipment
- Organisational consciousness
- Leadership
- Evaluation



In addition, the authors argue that image is a vital factor. Due to its elusive nature, we have decided not to include this concept in the present study.

## 3. Methodology

In order to measure the value on the dimensions, a questionnaire was developed. From a list of the national telephone directory, 86 fitness centres were identified. They were all contacted on the telephone and the questions were delivered by the interviewer. Of the contacted centres, 67 agreed to participate while 19 either refused or the interviewer was unable to reach the responsible person. This gives a response rate of 78%.

The questions were derived from Lagrosen & Lagrosen's framework. The items were measured on a ten-point (1-10) interval scale

#### 4. Quality dimensions

Due to their complexity the quality dimensions were measured using multi-item variables. In order to check the reliability of the variables Cronbach’s alpha analysis was carried out. The questions concerned to what extent they focus on the respective items. The results are presented in table 1.

Table 1: The descriptive statistics for the quality dimensions.

Quality dimension	Composition	Cronbach’s Alpha	Mean value	Std. dev.
Mental change	3 items (harmony, self-assurance, spirituality)	.67	7.34	1,61
Physical change	4 items (beauty, strength, endurance, pain-relief)	.76	6.23	1.95
Pleasure	2 items (fun, pleasantness)	.79	9.07	1.36

A Cronbach’s alpha value of 0.6 or more is normally considered sufficient (Hair et al., 1998; Malhotra & Birks, 1999). Since all the variables were well over that level, we can conclude that they are statistically reliable. Interestingly, the fitness centres on average focused mostly on pleasure and least on physical change.

#### 5. The enablers

Since the number of enablers in the model is large, we decided to measure them with single item variables. Nevertheless, the combined enabler ‘facilities and equipment’ was divided into two separate variables. In addition, the enabler ‘technical competence’ was divided into two variables: range of exercises and sophistication of exercises, in line with the descriptions of the enabler in Lagrosen & Lagrosen. The resulting descriptive statistics are presented in Table 2 below.

Table 2: The enablers

Enabler	Mean value	Std. dev
Relational competence	8.48	1.87
Sophistication of exercises	7.49	2.09
Range of exercises	5.84	2.83
Recruitment based on	7.42	1.89

personal factors		
Organisational climate	7.51	1.86
Empowerment of employees	6.48	2.77
Emphasis on service design	7.15	2.41
Competence development	6.87	2.93
Standard on equipment	8.07	2.36
Standard on facilities	7.64	2.08
Organisational consciousness	7.61	1.82
Leadership commitment	8.54	2.16
Continuous evaluations	7.98	1.91

The number of enablers was large and most of them scored relatively high which means that they are all relatively important. Nevertheless, a more concise model might provide better opportunities for structuring the activities. Consequently, one of the goals for the study was to examine whether the large number of enablers could be reduced to fewer underlying factors. For this purpose, exploratory factor analysis was carried out. This resulted in a reduction to five factors (see Table 3).

Table 3: Factor analysis of the enabler variables (Extraction method: principal component analysis, loadings after VARIMAX rotation with Kaiser normalisation, only loadings greater than 0.5)

Factor	Improvement focus	Inner and outer environment	Exercises	Employees	Recruitment
Relational competence		.655			
Sophistication of exercises			.730		
Range of exercises			.825		
Recruitment based on personal factors					.805
Organisational climate				.659	
Empowerment of employees				.845	
Emphasis on service design			.590		
Competence	.629				

development					
Standard on facilities		.673			
Organisational consciousness		.874			
Leadership commitment	.778				
Continuous evaluations	.686				
Eigenvalue	3.276	1.726	1.553	1.366	1.132
Percentage of variance explained	25.203	13.277	11.949	10.506	8.711

One enabler standard on equipment, loaded on multiple factors and was therefore excluded. The resulting factors were named after their components. Thus, we have found five underlying enablers. The factors should be labelled based on the underlying dimensions (Hair et al., 1998). On that basis, we decided to label them as following:

- *Improvement focus* concerns different measures that the companies take to improve their activities such as competence development and evaluations and they are driven by committed leaders.
- *Inner and outer environment* includes the standard of the facilities as well as the organisational consciousness and the relationships.
- *Exercises* involves the design and execution of the services offered with respect to range and sophistication.
- *Employees* consists of the variables organisational climate and empowerment which both have to do with the situation of the staff.
- *Recruitment* is a single variable regarding the emphasis on personal factors while recruiting.

### 6. Connections to profitability

For the next step, we wanted to examine whether the enablers were related to higher profitability. For this purpose, we included the statement ‘our company is more profitable than our competitors’ in the questionnaire. Again, the respondents were asked to rate this on a ten-level interval scale with the extremities ‘do not agree at all’ and ‘agree completely’. The correlation between this variable and the quality dimensions as well as the enablers was computed with Pearson correlation. The result is presented in Table 4.

Table 4: The correlation between the variables and profitability.

Variable	Correlation with profitability	Significance
Mental change	.331*	.012
Physical change	.239	.074
Pleasure	.139	.304
Improvement focus	.142	.292
Inner and outer environment	.195	.146
Exercises	.302*	.023
Employees	.129	.339
Recruitment	.178	.186

\*= significance level .05

The relationship to profitability was rather limited. Only two variables were significantly related. This could be interpreted as companies focusing on the quality dimension ‘mental change’ and companies having higher range, sophistication and design of exercises are more profitable.

### 7. Managerial implications

This study has confirmed the reliability of the quality dimensions defined by Lagrosen and Lagrosen (2007). This implies that companies would benefit from considering these dimensions when constructing their services and consciously choosing which should be in main focus. In this connection, it is interesting to note that those companies that focus mostly on mental change were found to be more profitable.

Moreover, the study has produced a reduced and simplified set of enablers. For managers, this structure could be used as a basis for organising their activities. Also in this case, we found a relationship with profitability concerning the dimension ‘Exercises’ which contain items including range and sophistication of exercises as well as service design. Consequently, this factor may deserve particular attention.

### Conclusions

The purpose of the study was to examine the framework of Lagrosen and Lagrosen (2007). This has been accomplished with a quantitative study involving 67 fitness centres. The study has verified the reliability of the quality dimensions of the model. Furthermore, the structure of the enablers has been simplified with the aid of exploratory factor analysis. The results have implications for research in that a framework for quality management in the fitness sector has been constructed. Some connections to profitability were also found.

A limitation of the study is that profitability was only measured by the managers’ own estimate and not from actual accounting figures.



This study was made on Swedish fitness centres. For further research, it should be interesting to carry out similar studies in other countries. In addition, resembling studies into other related industries should be valuable for a more complete understanding of quality in the health sector.



## References

- i. Afthinos, Y., Theodorakis, N. D. & Nassis, P., 2005. Customers' Expectations of Service in Greek Fitness Centers - Gender, Age Type of Sport Center, and Motivation Differences. *Managing Service Quality*, 15(3), pp. 245-258.
- ii. Alexandris, S., Douka, S., Papadopoulos, P. & Kaltsatou, A., 2008. Testing the Role of Service Quality on the Development of Brand Associations and Brand Loyalty. *Managing Service Quality*, 18(3), pp. 239-254.
- iii. Athanasopoulou, P., 2008. Antecedents and Consequences of Relationship Quality in Athletic Service. *Managing Service Quality*, 18(5), pp. 479-495.
- iv. Chang, K. & Chelladurai, P., 2003. System-Based Quality Dimensions in Fitness Services: Development of the Scale of Quality. *The Service Industries Journal*, 23(5), pp. 65-83.
- v. Chelladurai, P., Scott, F. L. & Haywood-Farmer, J., 1987. Dimensions of Fitness Services: Development of a Model. *Journal of Sport Management*, 1, pp. 159-172.
- vi. Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E., 1998. *Multivariate Data Analysis*, 5 edn, Upper Saddle River: Prentice Hall Inc.
- vii. Hurley, T., 2004. Managing Customer Retention in the Health and Fitness Industry: A Case of Neglect. *Irish Marketing Review*, 17(1/2), pp. 23-29.
- viii. Lagrosen, S. & Lagrosen, Y., 2007. Exploring Quality in the Health and Fitness Industry. *Managing Service Quality*, 17(1), pp. 41-53.
- ix. Lam, E.T. & Ocker, L. B., 2004. Scale Development and Validation in the Area of Sport Management: From Face Validity to Factor Structure. In *NASSM*, Atlanta.
- x. Malhotra, N. K. & Birks, D. F., 1999. *Marketing Research - An Applied Approach*, 3 edn, Harlow: Pearson Education Ltd.
- xi. Papadimitriou, D. A. & Karteroliotis, K., 2000. The Service Quality Expectations in Private Sport and Fitness Centers: A Reexamination of the Factor Structure. *Sport Marketing Quarterly*, 9(3), pp. 157-164.
- xii. Tawse, E. L. & Keogh, W., 1998. Quality in the Leisure Industry: An Investigation. *Total Quality Management*, 9(4/5), pp. 219-223.