

## *Laying the optimal quality of services based on the rating of gymnasium (Case study of Poursharifi gym, Tabriz)*

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### **Abstract**

The aim of this study was to provide a suitable context for the optimal quality of services based on rating of gymnasium. This research is an applied and descriptive-analytical research that has been done in the field. The statistical sample included experts in the field of quality of gymnasium and sport places services, university professors in the field of sports places and facilities management, and experts and heads of delegations and gymnasium of Tabriz city. In another sample, 302 people were selected from the customers of high-ceiling Poursharifi gym based on Cochran's formula and cluster random sampling method. The Analytic Hierarchy Process (AHP) method, the mathematical method of the algorithm, the K-nearest neighbor (KNN) algorithm, were utilized for standard rating of gymnasium based on rating using SPSS, Excel, expert choice, and Matlab software. The results showed that based on the geometric average, the quality indicators of gymnasium services can be rated in 5 clusters. According to the results, the highest weight belonged to the equipment and gym standards and the lowest weight to Aesthetic features of the gym. Finally, according to the codes written, the studied gym is 1 star based on the customer scores and the comparison with expert standards.

**Keyword:** rating, quality of services, gymnasium.

### **Introduction**

Laying the optimal quality of services based on the rating of gyms can satisfy professionals, officials and managers who have full and accurate information about the demands and expectations of their customers and provide the right services. Since to date, no research has been done on optimizing the quality of services based on the rating of gyms and the managers of sports venues have no indicators to improve and determine the price and amount paid to customers regardless of the degree of quality of service; therefore, the present study tries to provide a basis by using the paradigm of quantitative research and mathematical modeling so that the quality of services in gyms will have specialized and professional indicators.

### **Research Methods**

This research is an applied and descriptive-analytical research that has been done in the field. The statistical sample includes sports service quality specialists, sports venue management professors and heads of delegations, and in the second part, there are customers of Poursharifi Hall who were selected based on Cochran's formula of 302 people by cluster random sampling method. The AHP methods, the mathematical

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methods of knn algorithm were used for the standard rating of the gym based on star rating and SPSS, Excel, expert choice and Matlab software were used.

### **Research Findings**

The results showed that based on the geometric mean, the quality indicators of sports-recreational hall services can be graded in 5 clusters and stars. According to the results, the highest weight was given to the standards of gym equipment and the lowest weight was given to the aesthetic features of the gym. Finally, according to the written codes, the studied gym is 1 star based on customers' scores and its comparison with experts' standards.

### **Conclusion**

One of the most important factors for the success of service organizations in today's competitive environment is the quality of services, which is considered in this article. In this research, an attempt has been made to express a criterion for ranking the quality of services. When there is a standard for ranking gyms, managers, officials and users can easily get what they want. Managers, regardless of the basis, will find out what their gym rank is. When the gym manager realizes that his organization is far behind the star and the higher rank, he will do his best to reach the higher rank and use the position he gets by being in that rank. On the other hand, he will bring many benefits to the customers and users of the sports organization; because the customer knows what quality and services he will receive in return for the payment.

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