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“Factors influencing customer satisfaction and loyalty to fitness studios in Athens northern suburbs.”

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Patras, Greece, May 2026

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## **Abstract**

The fitness industry has been the subject of studies in numerous occasions and for many different reasons. The current dissertation examines the key factors that affect customer satisfaction and loyalty within the context of fitness centers, and more particularly fitness studios which provide services of personal and group training in the Athens northern suburbs. The study aims to investigate how different dimensions of service quality shape the overall satisfaction and by extension the loyalty (behavioral intentions) of fitness studio members. The research was conducted using quantitative methods. Primary data were collected through a structured questionnaire distributed to active members of fitness studios in the area of interest. Members’ perceptions were measured with the use of a five point Likert-scale. The questions included both tangible and intangible elements of the service. Data from 129 participants were collected using a convenience sampling strategy. To analyse the data, we employed descriptive and inferential techniques, namely regression analysis and supplementary ANOVA one-way tests, in order to evaluate the relative influence of each factor on customer satisfaction. The results showed that satisfaction in fitness studios is primarily affected by experiential aspects of the service, instead of tangible factors. The most important factors that emerged from the research were recovery service and customer-to-customer interaction. At the same time, facets like variety of programs, services and amenities, perceived value and price, comfort and ease, and customer participation were shown to contribute positively to customer satisfaction. The study provides useful insights with managerial implications to owners and managers who aim to improve customer experience, increase customer engagement and maintain long-lasting relations with their clients in today’s competitive environment.

## **Keywords**

Service quality, fitness centers, customer satisfaction, customer loyalty

“Παράγοντες που επηρεάζουν την ικανοποίηση και την αφοσίωση των πελατών σε στούντιο γυμναστικής στα βόρεια προάστια της Αθήνας.”  
(in Greek)

“Δημήτριος Παντελαίων”  
(in Greek)

## Περίληψη

Ο κλάδος του fitness έχει γίνει αντικείμενο μελέτης για πολυάριθμες έρευνες και για διαφορετικούς λόγους. Η διπλωματική αυτή εργασία εξετάζει τους βασικούς παράγοντες που επηρεάζουν την ικανοποίηση και αφοσίωση των πελατών μέσα στο πλαίσιο των γυμναστηρίων, και πιο συγκεκριμένα στα στούντιο γυμναστικής που προσφέρουν υπηρεσίες ομαδικών και ατομικών προπονήσεων στα βόρεια προάστια της Αθήνας. Η μελέτη στοχεύει στο να εξετάσει πώς διαφορετικές διαστάσεις της ποιότητας της υπηρεσίας διαμορφώνουν τη γενικότερη ικανοποίηση και εν συνεχεία την αφοσίωση (συμπεριφορικές προθέσεις) των μελών των στούντιο γυμναστικής. Η διαδικασία της έρευνας έγινε με τη χρήση ποσοτικών μεθόδων. Συγκεκριμένα, η συλλογή πρωτογενών δεδομένων πραγματοποιήθηκε με δομημένο ερωτηματολόγιο. Το δείγμα περιλάμβανε ενεργά μέλη των στούντιο στην περιοχή ενδιαφέροντος. Οι αντιλήψεις των μελών μετρήθηκαν με πενταβάθμια κλίμακα Likert. Οι ερωτήσεις συμπεριλάμβαναν τόσο τις υλικές όσο και τις άυλες διαστάσεις της υπηρεσίας. Δεδομένα από 129 συμμετέχοντες συλλέχθηκαν με τη μέθοδο της δειγματοληψίας ευκολίας. Για να αναλύσουμε τα δεδομένα χρησιμοποιήθηκαν περιγραφικές και επαγωγικές τεχνικές, όπως ανάλυση παλινδρόμησης και συμπληρωματικής ανάλυσης ANOVA one-way, με σκοπό την αξιολόγηση της σχετικής επίδρασης του κάθε παράγοντα στην ικανοποίηση του πελάτη. Τα αποτελέσματα έδειξαν ότι η ικανοποίηση στα στούντιο γυμναστικής επηρεάζεται κυρίως από εμπειρικούς παράγοντες της υπηρεσίας παρά από υλικούς. Ιδιαίτερα σημαντικοί παράγοντες αποδείχθηκαν η ανάκτηση υπηρεσίας και η αλληλεπίδραση πελάτη με πελάτη. Παράλληλα,

παράγοντες όπως η ποικιλία προγραμμάτων, υπηρεσιών και παροχών, η αντιλαμβανόμενη αξία και τιμή, η άνεση και ευκολία, και η συμμετοχή του πελάτη επηρεάζουν θετικά την ικανοποίησή του. Επομένως, η μελέτη προσφέρει χρήσιμες πληροφορίες για διοικητικές πρακτικές στους ιδιοκτήτες ή μάνατζερ, που στοχεύουν να κάνουν καλύτερη την εμπειρία του πελάτη, να αυξήσουν την αφοσίωση των πελατών και να διατηρήσουν μακροχρόνιες σχέσεις στο σύγχρονο ανταγωνιστικό περιβάλλον.

### **Λέξεις – Κλειδιά**

Ποιότητα υπηρεσίας, γυμναστήρια, ικανοποίηση πελατών, αφοσίωση πελατών

## Table of Contents

Abstract .....	v
Περίληψη.....	vi
Table of Contents .....	viii
List of Figures .....	ix
List of Tables.....	x
List of Abbreviations & Acronyms.....	xii
1. INTRODUCTION.....	1
2. LITERATURE REVIEW.....	4
2.1 The fitness industry .....	4
2.2 Service.....	8
2.3 Customer satisfaction .....	11
2.4 Customer loyalty .....	13
2.5 Factors .....	16
3. METHODOLOGY.....	27
3.1 Introduction .....	27
3.2 Research hypotheses .....	27
3.3 Research approach .....	28
3.4 Research design.....	29
3.5 Research method .....	29
3.6 Data collection .....	30
3.7 Sampling strategy and study context.....	30
3.8 Ethics.....	31
3.9 Reliability and validity .....	31
3.10 Data analysis .....	32
4. RESULTS .....	32
4.1 Introduction .....	32
4.2 Summary of the sample.....	32
4.3 Reliability analysis .....	33
4.4 Descriptive statistics summary.....	34
4.5 Histogram analysis .....	36
4.6 Regression analysis summary .....	39
4.7 One-way ANOVA summary.....	42
5. DISCUSSION .....	43
6. CONCLUSION .....	48
REFERENCES.....	55
APPENDIX.....	67
Appendix A: “Histograms ” .....	67
Appendix B: “ANOVA – Duration of subscription ” .....	70
Appendix C: “ANOVA – Training frequency” .....	74
Appendix D: “ANOVA – Age group” .....	78

## List of Figures

Figure 4. 1 Distribution of ease of booking. ....	37
Figure 4. 2 Distribution of customer participation. ....	38
Figure A. 1 Distribution of customer satisfaction levels, regarding quality of equipment and facilities. ....	67
Figure A. 2 Distribution of customer satisfaction levels, regarding quality of staff. ....	67
Figure A. 3 Distribution of customer satisfaction levels, regarding variety of programs, services and amenities. ....	67
Figure A. 4 Distribution of customer satisfaction levels, regarding ease of booking. ....	68
Figure A. 5 Distribution of customer satisfaction levels, regarding comfort and convenience. ....	68
Figure A. 6 Distribution of customer satisfaction levels, regarding price and value for money.....	68
Figure A. 7 Distribution of customer satisfaction levels, regarding customer to customer interaction.....	69
Figure A. 8 Distribution of customer satisfaction levels, regarding customer participation. ....	69
Figure A. 9 Distribution of customer satisfaction levels, regarding intrinsic value. ....	69
Figure A. 10 Distribution of customer satisfaction levels, regarding employee to customer interaction. ....	70
Figure A. 11 Distribution of customer satisfaction levels, regarding recovery service. ....	70

## List of Tables

Table 4. 1 Respondent’s profile. ....	33
Table 4. 2 Descriptive summary of hypotheses. ....	35
Table 4. 3 Overall satisfaction of customers. ....	35
Table 4. 4 Regression analysis. ....	39
Table 4. 5 Anova analysis. ....	39
Table 4. 6 Regression analysis. ....	40
Table B. 1 One-way ANOVA results for duration of subscription and quality of equipment and facilities. ....	70
Table B. 2 One-way ANOVA results for duration of subscription and quality of staff. ....	71
Table B. 3 One-way ANOVA results for duration of subscription and variety of programs, services and amenities. ....	71
Table B. 4 One-way ANOVA results for duration of subscription and ease of booking. ....	71
Table B. 5 One-way ANOVA results for duration of subscription and comfort and convenience. ....	72
Table B. 6 One-way ANOVA results for duration of subscription and price and value for money. ....	72
Table B. 7 One-way ANOVA results for duration of subscription and customer to customer interaction. ....	72
Table B. 8 One-way ANOVA results for duration of subscription and customer participation. ....	73
Table B. 9 One-way ANOVA results for duration of subscription and intrinsic value. ....	73
Table B. 10 One-way ANOVA results for duration of subscription and employee to customer interaction. ....	74
Table B. 11 One-way ANOVA results for duration of subscription and recovery of service. ....	74
Table C. 1 One-way ANOVA results for training frequency and quality of equipment and facilities. ....	75
Table C. 2 One-way ANOVA results for training frequency and quality of staff. ....	75
Table C. 3 One-way ANOVA results for training frequency and variety of programs, services and amenities. ....	75
Table C. 4 One-way ANOVA results for training frequency and ease of booking. ....	76
Table C. 5 One-way ANOVA results for training frequency and comfort and convenience. ....	76
Table C. 6 One-way ANOVA results for training frequency and price and value for money. ....	76
Table C. 7 One-way ANOVA results for training frequency and customer to customer interaction. ....	77
Table C. 8 One-way ANOVA results for training frequency and customer participation. ..	77
Table C. 9 One-way ANOVA results for training frequency and intrinsic value. ....	77
Table C. 10 One-way ANOVA results for training frequency and employee to customer interaction. ....	78

Table C. 11: One-way ANOVA results for training frequency and recovery of service.....	78
Table D. 1 One-way ANOVA results for age group and quality of equipment and facilities. .....	78
Table D. 2 One-way ANOVA results for age group and quality of staff. ....	79
Table D. 3 One-way ANOVA results for age group and variety of programs, services and amenities.....	79
Table D. 4 One-way ANOVA results for age group and ease of booking. ....	80
Table D. 5 One-way ANOVA results for age group and comfort and convenience. ....	80
Table D. 6 One-way ANOVA results for age group and price and value for money. ....	81
Table D. 7 One-way ANOVA results for age group and customer to customer interaction. .....	81
Table D. 8 One-way ANOVA results for age group and customer participation.....	82
Table D. 9 One-way ANOVA results for age group and intrinsic value. ....	82
Table D. 10 One-way ANOVA results for age group and employee to customer interaction.....	83
Table D. 11 One-way ANOVA results for age group and recovery of service. ....	83

## **List of Abbreviations & Acronyms**

CS	customer satisfaction
ANS	Athens northern suburbs
AI	artificial intelligence

## 1. INTRODUCTION

This dissertation is a study on the key factors that influence customer satisfaction (CS) and loyalty in the fitness industry, with a specific focus on fitness studios located in the Athens' northern suburbs (ANS). Even though CS and customer retention have been widely and extensively studied in businesses, especially banking, hospitality, tourism and retail (Bhaskaran Pillai, 2018), fitness is a sector where relative research is rather limited. In addition, although it is fair to say that there are empirical research regarding CS and loyalty in the sports and fitness sector, most of them take into major consideration motivation as the primary factor to be examined (Afthinos et al. 2005, Mavropoulou 2013). Other studies have investigated the correlation between the ratio between service provided and the price paid by the customers and how it influences satisfaction and loyalty (i.e., low-cost sport, public fitness centers) (García-Fernández et al. 2018), while fewer studies have researched the experiential, emotional and personalized nature of the service. This is the case of the research made by Rene et al. (2023), who studied factors such as "building emotional connections" and "personalizing the customer experience". In the last few years (especially after the COVID-19 pandemic) there has been an exponential growth in the global fitness industry. After the lockdown, health clubs, indoor gyms, fitness studios and sport centers have switched their focus from surviving to continuously expanding, and this is happening across models (from low-budget fitness centers to private boutique studios) indicating that the entire fitness market is expanding. According to Steinkamp (2025) the subscription of new members is globally increasing by 6% every year, the average revenue is increasing by 8% and the creation of new facilities or expansion of existing ones by 4%. No specific research related to the Greek fitness market has been made. In such an increasing and competitive market, with a wide variety of different sports, fitness programs, indoor and outdoor activities and with a continuously growing expectations of customers for better services, studio owners and managers are challenged in pointing out the factors that can mostly affect their members' satisfaction and long-lasting relationship with them. Thus, addressing this issue can be beneficial not only for bettering the service offered and consequently the retention rate of the clientele but also for improving the overall success, sustainability and financial benefits of a fitness center.

This study aims to give both academic and managerial insights by analyzing how service quality and other factors influence satisfaction and behavioral intentions such as membership renewal and word-of-mouth marketing. According to Theodorakis et al. (2014), the "satisfaction model" suggested that the quality of service has a positive effect on satisfaction and value and that satisfaction plays an important role as a mediator between service quality and loyalty, as well as between perceived value and behavioral intention. That is why we will carry out primary quantitative research in order to investigate how different service facets influence customers' behavior and perceptions, and which contribute the most to CS and loyalty. The concluding goal is to provide useful insights to fitness studio owners and managers on how to reinforce their customers' overall experience and reach long-term benefits.

The data for this dissertation were collected by means of surveys given out to fitness studio members in the ANS. The questionnaire consisted of closed-ended questions structured on a five-point Likert scale in order to measure central tendencies, means, dispersions and so on. The survey was designed in a way that respondents could represent efficiently and adequately their perceptions about the quality service, tangible assets, pricing, convenience and their subjective perceptions. At the same time, insights were gathered about the population's characteristics and behaviors towards fitness habits. The use of quantitative research allowed us to statistically test correlations between the variables in question and the members' overall satisfaction as well as the level of influence of each factor.

After their collection, the data were analyzed with the use of descriptive and inferential statistical tools. Initially, we checked for their reliability using Cronbach's alpha test. Then the data were examined by using the following statistical tools: descriptive statistics, histograms, regression analysis and the supplementary analysis of One-way ANOVA. Through this methodological setup we were able to empirically test the hypotheses in question and managed to identify the factors that most significantly affect CS and loyalty for the examined fitness studios. The results were then interpreted with regard to the existing literature (international and national) in order to compare and discuss any similarities or deviations from prior research.

The findings of this research give important empirical information about the drivers of customer satisfaction in the context of fitness studios. One of the most important and interesting conclusions of this dissertation is that CS is primarily influenced by experiential and process-related service factors rather than solely structural and tangible attributes. More specifically, recovery of service and customer-to-customer interaction arose as the most compelling predictors of CS, highlighting the importance of interpersonal dynamics and efficient management in case of service failure. On top of that, aspects of the fitness service like program variety, supplementary services, ease of booking, convenience, value for money and customer participation have also been found to have a statistically important positive effect on CS. The outcome of the research suggests that fitness studios' customers assess their experience in a holistic way and place strong emphasis on relationships, monetary value, comfort and service delivery. Subsequently, the study underlines the competitive advantage of small and medium-sized fitness studios that focus on the overall quality of the service provided, creating positive interactions and giving efficient and immediate responses to emerging issues.

Notwithstanding its contribution, this study is restricted to some limitations. The sample was conveniently located in the ANS. It included mostly women (about 90%) and people over a certain age were underrepresented because of their difficulties in completing the online survey. The research was conducted on small and medium-sized fitness studios which offered solely group and personal training services. A future extension of the research would be a geographical expansion of the study in order to examine other regions of Attica and/or Greece. Alternatively, it would be interesting to put in comparison different business types regarding fitness areas, namely low-cost gyms, public centers etc. In this regard we could withdraw information and compare the data about how service quality and satisfaction factors vary across businesses or locations. In addition, the use of mixed-method approaches like quantitative surveys combined with qualitative interviews, could potentially give us more detailed results about the mechanisms that increase customer satisfaction and loyalty. Lastly, there could be a more in-depth investigation regarding digital technologies in the fitness sector such as online classes, AI communication and coaching, testing their impact on shaping the customers' overall experience.

The chapters of the dissertation are organized as follows. In the next chapter (chapter two) we present the literature review and international as well as national experience concerning the fitness industry. We focus on the characteristics of fitness services, the theoretical backgrounds of customer satisfaction and customer loyalty as well as the key factors that may influence members' satisfaction in fitness settings according to existing literature. We conclude in the factors worth to be examined and those that may as well be excluded. In chapter three, we describe the research methodology including the hypotheses, approach, design, method, data collection, sampling strategy, ethics, reliability and validity, data analysis. In chapter four, we present the empirical results of the sample (i.e. descriptive analysis, regression analysis, etc.). Then in the fifth chapter we discuss the findings of our study in regard to the existing literature. Finally, in chapter six we summarize our conclusions, we discuss about the main managerial implications and future research recommendations and we formulate a brief reference on the study's limitations.

## **2. LITERATURE REVIEW**

### **2.1 The fitness industry**

Nowadays, the fitness industry has undergone a notable growth, due to technological, economic, health and socio-cultural factors. There is a constantly growing fitness trend that goes along with the increasing awareness of the importance of personal health and the need to reduce inactivity and its negative consequences (i.e., obesity, cardiovascular diseases, depression). According to the records of the World Health Organization (WHO) nearly 1/3 of the adults worldwide do not meet the recommended levels of exercise and physical activity, choosing a more sedentary lifestyle. Even more worrying is the fact that physical inactivity among adults has grown by 5% from 2010 to 2022 (World Health Organization, 2024), leading governments to promote physical activity in order to reduce health issues, alleviate the healthcare system and make people more productive (WHO, 2024). Technology has also played a role in promoting fitness through innovation and data-driven workouts: wearable devices (smartwatch, fitness bands, etc.) provide real-time information

on physiological parameters, assisting individuals in tracking their daily/weekly fitness goals, monitoring the quality of their sleep and reminding them to stand up and to avoid prolonged sitting (Spathis et al., 2022). Economic drivers that match with corporate wellness are adding to the fitness-oriented trend. More and more companies are adoptin policies that promote fitness and provide incentives to employees who exercise, since physical activity has been linked to better work productivity and healthcare cost reduction (Global Wellness Institute, 2023). Furthermore, social pressure and behavioral trends lead more people to exercise. Physical activity is linked not only to health benefits but also behavioral traits or characteristics such as self-determination, autonomy, self-improvement, socializing and lifestyle status (StartUs Insights, 2024). The contemporary development of the fitness industry is a convergence of health, economic, social and technological factors. Wearables provide data-driven customized feedback and experiences, whilst economic and social trends boost fitness integration as part of a better wellbeing. These factors indicate that fitness will continue to grow.

Besides its growth, the fitness industry is also evolving, incorporating the many changes in the technological, economic and social background described above. New trends are introduced to the market while others become obsolete. One major change is the emergence of personal and small group training studios who have come to establish themselves and replace the “iron paradise” model of the older generation of bodybuilders in massive facilities with heavy equipment and mass attendance. That shift reflects a constantly increasing customer demand towards tailor-made training programs that upgrade the workout into an individualized holistic experience. In addition, in contrast to traditional gyms, small fitness centers create a sense of community among their members, thus drawing in new customers who seek a more interactive environment (Europe Fitness Market Outlook 2029, 2024). At the same time, according to the American College of Sports Medicine (ACSM) the most important trend is the integration of technology (wearables, mobile apps), which promote a personalized workout experience and support professionals in monitoring their customers while providing consistent feedback on their training program and performance (Newsome et al., 2024).

Focusing our attention on the fitness industry at a European level, we are examining one of the most developed markets in the world and with a market of considerable size, marked by continuous long-term growth and robust member engagement. Although the fitness sector in Europe was heavily impacted by the 2020 covid pandemic, recent records have spotlighted a remarkable comeback. According to Europe Active and Deloitte (2023), during the pandemic the active members of health clubs across Europe fell from 64.8 million (2019) to 54.8 million, a 15.4% decrease in total memberships. By 2022 that number increased to 63.1 million, an 11.5% raise in memberships. By 2023 it grew to 67.6 million (Europe Active and Deloitte, 2024) and by 2024 it reached 71.6 million, a growth of 6%. The total revenue from gym subscribers in 2023 was 31.8 billion euros, showing a 14% increase in revenues since the previous year; and for the 2024 fiscal year, 36 billion euros were recorded, a 13% increase (Hudson, 2025). Furthermore, the number of fitness clubs were counted at 65,000, a 1.4% increase since 2022 (Europe Active and Deloitte, 2024).

In accordance with the European fitness market which experienced a significant decline in membership and loss in revenues during the lockdown, followed by a remarkable recovery and growth in both aspects, it is interesting to examine how the Greek fitness industry reacted to factors that affected and shaped the economy, culture and social structure. The fitness industry in Greece is a sector that is continuously growing. As in many other industries, the fitness market has gone through significant changes, namely related to economic issues and health threats, which have shifted consumers' intentions and behaviors. During the economic crisis, the number of fitness centers in Greece was reduced from approximately 1,500 to 800 (Tsiotra, 2024). Despite the recession, the aftermath regarding the fitness industry was that while for the year 2016 the estimated private gyms operating was 1,250, that number increased to 2,500 in 2021 (a 100% increase within 5 years!). These companies have 486,996 registered members of whom 268,736 (55.2%) are active members. It is worth noting, for the purpose of this paper, that almost half of the fitness centers (48.8%) are personal and small group training studios and almost 1/3 of them (38.4%) are located in Athens (Tsitskari et al., 2021).

Our research is conducted in Attica, Greece and more specifically in its Northern Suburbs. Attica is the most populated area in Greece according to the 2021 Greek census

data, with 3.744 million people living in this area, about 1/3 of the total Greek population. In the northern suburbs of Athens (i.e., Kifisia, Marousi, etc.), a total of approximately 600,000 people live as reported by the 2021 census. There are no official data recorded about the businesses in the sport and fitness industry in the examined area. If we take into consideration the e-service business called Xrisos Odigos, which provides information about professionals and enterprises, there are 280 gyms, fitness and sports centers, public or private, operating in this area.

According to Panori et al. (2016), the ANS have a mean equivalized household income in euros of 15,201-17,500, which is one of the top three areas in Athens. In 2024, Papanikos described how affluent people are more demanding in term of fitness and are able to afford fitness-related services, leading to an increase in both the quantity (for example fitness centers) and the quality of services. As stated previously, in modern society, fitness is not only linked to health but also social benefits and status.

In contemporary research on fitness trends in Greece for 2023, small group training was ranked at the third position, while personal training was the most popular (Batrakoulis, 2022). As previously stated, almost half of the fitness centers are personal and small-group training studios. The reason personal and small-group training studios flourish nowadays lies in many different factors. Primarily, the COVID pandemic, and the restrictions or measures that followed, induced people to participate in less populated activities. People started seeking less crowded, more private structures, where fewer people were participating simultaneously or were even exercising on 1 to 1 (ABC Fitness, 2024). As people were "forced" into smaller fitness studios, their preferences also changed favoring a more personalized fitness experience. Fitness studios, in contrast to traditional gyms, can offer custom-made exercises that correspond to specific needs and individual goals. In the same direction of personalized experience, small training studios are building their brand and corporate image mostly relating it to the expertise of their manpower. Highly skilled trainers are at the core of their business, offering tailor-made training sessions and at the same time creating a sense of community (Perfect Gym, 2023). In addition, as Bitner (1995) emphasized, people tend to invest in services that act as a social facilitator and foster the sense of belonging, not just in facilities and equipment. The supporting idea is that smaller

organizations compete on quality and building relationships rather than on quantity and scale.

Even though small studios have managed to rise in response to the increasing demand in the fitness market, their longevity and key to success remain a question of service quality based on individual attention. Smaller fitness centers can typically offer greater attention to the individual, with small-scale class sizes, superior coaching, greater technique correction and tailor-made workout plans (Zeithaml, 1988). In addition, their smaller and more agile structure gives fitness studios the flexibility to adapt to a constantly changing environment as well as to detect and respond quickly and effectively to the needs of their members. One of their key assets is a more personalized, one-to-one approach to communication (Weitz, 2018). Along with the flexibility offered by a smaller customer base and plainer communication channels, they invest in technology to efficiently handle customer feedback, positive or negative, and focus on training their employees. Personal interaction is at the core of their business, reinforced by employee training in empathy, positive language along with other soft skills involved in emotional intelligence. They aim to create an environment where team members feel seen and heard leading to stronger internal communication and ensuring that every message (complaint or other) will reach faster and more efficiently to its end (manager/owner) (Bishop, 2023). The ultimate goal is to promote a communication pattern that can foster customer satisfaction, create value for the customer and boost business success (IMD, 2025). Even though personalized and relationship-based services come with a higher premium price (compared to bigger gyms with more members and lower subscription fees), customers are willing to pay the difference that corresponds to a high-valued, personalized experience.

## **2.2 Service**

In order to define and describe the fitness industry it is essential to trace its core: the support of human well-being. We are definitely in a service-oriented sector where services aim to promote physical and mental health through regular and targeted physical activity. All the characteristics of services, the so called IHIP, are: intangibility, heterogeneity, inseparability and perishability. Intangibility means that fitness services cannot be owned, touched or have

tangible substance and cannot be physically inspected before purchase (Lovelock and Wirtz, 2016). Heterogeneity is inherent in fitness services since human factors intervene in every class or training program through the trainers, the customers and the specific characteristics of each fitness center (Zeithaml et al., 2010). Inseparability indicates that service production and consumption are simultaneous (Grönroos, 2015) since every fitness session is delivered and consumed at the same moment. Perishability describes the inability of services to be stored (Lovelock and Wirtz, 2016); an unused slot in a gym class cannot be recovered. In addition to the above, the fitness industry has some characteristics specific to its services, namely customer participation, client-customer relationship orientation and value from experience (Damasio et al., 2016). Customer participation refers to the "co-production" and describes how customers' levels of motivation and effort influence the produced value and the service delivered (Grönroos, 2015). Relationship orientation describes the fitness industry's focus on maximizing satisfaction and aiming at long-term customer engagement (Payne and Frow, 2005). Experiential value stresses the importance of emotional - in addition to physical - benefits and positive experiences; customers seek experiences that are memorable and unique based on enjoyment, on the interaction with the trainer or other members and on the quality of the facility (Schmitt, 1999).

While fitness services may diversify in their delivery and structure, the interactions among managers, staff, trainers, customers and the environment of the institution directly form the perceived experience and the creation of value for customers, thus affecting their overall assessment of quality service. In reaction to the continuously growing demand for greater service standards, the fitness centers' owners are rapidly shifting their focus towards services characterized by superior quality and personalized experience for customers. As a consequence, one of the most crucial methods for a fitness center to distinguish itself is by improving its overall quality of service, which goes far beyond providing tangible assets (equipment, machinery and facilities). These elements, while crucial, are nowadays supplemented by intangible ones which altogether shape the customer experience.

As opposed to physical products, fitness services are completely heterogeneous, unpredictable and inconsistent. While products are expected to have the same outcome or action and for that they are considered consistent, services in fitness contexts cannot be

standardized and predicted. For instance, group training sessions can diverge in several aspects, such as the selection of exercises, the intensity and intervals, the equipment used, the group dynamics and diversified goals, the engagement and motivation of the participants. All the above can and will lead to a variety of perceived experiences and outcomes. In the bargain, fitness services are produced and consumed at the same time, which means that they are provided and experienced concurrently and cannot be stored for future use (Moeller, 2010). As a consequence, fitness centers usually have only one opportunity to make a great first impression and sway a demanding new customer of the excellence of the service offered (Chelladurai & Chang, 2000).

Managers and owners ought to be very careful and aim to find a balance between what the customers demand in order to be satisfied and how the fitness center can make use of its intangible and tangible assets to satisfy them. This may be of crucial importance since imbalances can result in operational incompetence and a depreciation of service quality. Therefore, strategic planning, methodical preparation and meticulous management are essential to make certain that the fitness center operates smoothly while investing in increasing customer satisfaction (Fernando, 2025).

The aforementioned attributes of fitness services imply that customers are not passive in the service process but rather active in co-producing their perceptions, emotions and interactions. As a consequence, understanding the elements that influence the customer experience is of major importance for explaining how fitness centers can enhance satisfaction and loyalty. As expected, members assess the overall service mainly through their perception of service quality and their experiences they get through their interactions with the trainers, the staff, the environment of the facility and the process of the service delivered. These empirical and appraising judgments have a direct influence on customers' levels of satisfaction. Customer satisfaction acts as a mediating mechanism for the creation of value for customers and forms a key predecessor of the person's loyalty and engagement.

Within this context, examining the factors that affect CS in fitness centers can provide with valuable insights as mentioned before, which include information about the effectiveness and the quality of the service delivered, as well as the quality of tangible assets. By comprehending these perceptions, we can gain valuable information about what constitutes the determinants of CS and predict future intentions. In that way, areas of improvement can emerge leading to partial or radical changes. This kind of evaluation allows managers and owners to further understand the factors that drive members' engagement for their fitness center, identify those that actually have an influence and define customer choices as well as focus their attention on the needs of every demographic group.

This dissertation seeks to examine the aspects of CS within the context of the fitness industry in the ANS by exploring the key factors that shape customers' experience and point out strategies that can add to the overall service quality. This "exploration" intends to play a part in the comprehensive understanding of customer behavior in the Greek fitness market and provide empirical suggestions to enhance member-centered practices that can enhance customer satisfaction and loyalty.

### **2.3 Customer satisfaction**

Customer satisfaction is frequently discussed in management literature as a main construct, widely defined by many experts as the enjoyment or disappointment experienced by the customer when comparing prior expectations to perceived performance regarding a specific product/service. According to Oliver (2014), CS is defined as a pleasant response to a benefit, good, service or incentive, while dissatisfaction comes when the response fails (Oliver, 1980). This delight-refutation pattern has been widely accepted in order to explain how buyers/customers create their judgments regarding their satisfaction after their experience with the product/service. Kotler and Armstrong (2012) described customer satisfaction as the level to which the delivered quality of the service meets or exceeds the expectations of the customer.

Fitness centers offer principally services; in this context, members mainly evaluate the quality and value of the services they are provided with, based on their expectations and

what they actually experience. This assessment is influenced by many factors, namely intangible assets like personnel expertise, staff professionalism, variety of programs offered by the center, response to customers' requests and many more. Moreover, personal investment of monetary and non-monetary aspects (time, convenience, effort) also affects their overall satisfaction levels (Chelladurai & Chang, 2000). When tangible and intangible assets offered by the fitness facility reach or surpass members' expectations then contentment is reached.

CS is of essential and critical importance for businesses in view of the fact that it directly affects customer retention and loyalty, which in turn influence the profitability of the business. Customers who are satisfied are more likely to repurchase the service or product and develop long-term relationships with organizations. In addition, higher retention rates reduce the costs of firms associated with attracting new clients (Fornell, 1992). Furthermore, customer satisfaction or dissatisfaction has been linked with word-of-mouth practices; customers that had a bad experience tend to negatively influence other people (mostly members of family and friends), thus creating issues for the organization who tries to acquire new customers (Aslam, 2011). In consequence, controlling CS is fundamental for sustaining business success.

CS can be measured through structured methods which represent clients' evaluations regarding their experience with a product or service. Some of the most commonly used are the following:

- Customer satisfaction surveys with a typical Likert-type scale in order to evaluate the overall satisfaction or even satisfaction with specific aspects of the service (Joshi et al. 2015). It is probably the most commonly used method.
- The net promoter score (NPS), a metric based on the clients' desire to suggest the service they received to other people.
- The customer feedback form which most commonly includes open-ended and/or specific questions regarding clients' experience after the service.

- The customer "one to one" interview via in-person, phone, email etc. to deeper understand clients' preferences and needs.
- Social media monitoring through platforms like Facebook, Instagram, TikTok and more, helping organizations to better comprehend customers' opinions regarding a service they experienced (Rane et al. 2023).

As mentioned above, customer satisfaction surveys are widely used. The reason is the number of advantages tied to this method, offering direct, measurable feedback regarding customer satisfaction. Regularly measuring satisfaction is an indicator for customers that their opinion is valued. Their feedback highlights areas of improvement and, on top of that, survey results can be used to forecast customers' behavioral intentions (Nicholas, 2025). All the above can serve as a useful tool for managers in order to make decisions that will enable their businesses to perform better or/and help form a change in their strategy over time. Consequently, customer satisfaction surveys are considered an essential and practical method for gathering insights and improving service quality, with beneficial implications for customer loyalty and competitive advantage in the market.

For our research, a customer satisfaction survey will be employed as it will provide with useful insights about members' opinions, perceptions and expectations. The feedback provided, will take into consideration many different dimensions of the provided quality of service, as well as the overall satisfaction level. Based on that, we will further comprehend the customers' experience with the service, identify strengths and weaknesses and have a deeper understanding of the factors that lead to member satisfaction or dissatisfaction (Nicholas, n.d.).

## **2.4 Customer loyalty**

Customer loyalty is an important notion for business management. As described by Oliver (2014) loyalty is a deep-rooted commitment of a customer to repurchase a preferred product or service persistently in the future, in spite of influences or marketing efforts from competing business to cause a shift in customer buying behavior. Customer loyalty includes

both behavioral facets such as re-patronage of a brand, and attitudinal facets like commitment and attachment to a brand (Chaudhuri & Holbrook, 2001). In addition, customer loyalty is linked with increased profitability and reduced cost, especially for marketing, since devoted customers are more likely to suggest the brand to others as well as persevere in their choice of brand (HubSpot, 2025).

According to the above, reinforcing customer loyalty is crucial for business survival and success. One of today's challenges of businesses is to maintain a high retention rate. Customer loyalty is not a single-factor concept; it comes up as a combination of facets which are connected to one another, including quality of service, the customer experience, the customer relationship management (CRM), the customers' trust in the organization and customer satisfaction (Rane et al., 2023). These facets are interacting in order to influence the perceptions, behavioral intentions and opinions of customers toward a firm. Quality of service refers to the degree on which a firm gets above customers' expectations. In a fitness center environment this is translated as a higher service quality creating positive experiences for members. Customer experience pertains to the sum of a customer's interaction with the business, before, during and after the service. It also contains the emotional dimension, meaning that a more pleasant experience will result in a greater emotional connection with the brand (McKinsey & Company, 2022). The CRM describes all the strategies, procedures and technological tools that a firm uses to manage its relationships with clients. A successful CRM can enhance the perceptive value of customers and increase profitability (Kavlakoglu et al., n.d.). Customer trust relates to the belief that the business is reliable, honest and capable of delivering what is promised, leading to reduced uncertainty and fostering an increase in customer engagement (Nguyen et al., 2013).

Various aspects of the service are combined into and form a unified system of customers' evaluation. Put it in another way, CS expresses the customers' overall evaluation of their interaction with the service provided and for this reason it can therefore be interpreted as the collective outcome of these factors. Barbosa et al. (2022) proceeded to an extensive review of 17 articles by which they concluded that customers' perception of the service

quality leads to customer satisfaction and therefore to future behavioral intentions (customer loyalty).

Service quality factors → Customer satisfaction → Customer loyalty

**Figure 2. 1**

In consequence, CS plays a central role, as it reflects the overall assessment of the customers when interacting with the service. As highlighted before, CS is the result of the interaction between a number of factors and can be regarded as the accumulated after-effect of these facets in place of a single construct. Therefore, CS plays a central double role: it functions both as the total outcome of factors that are service-related and as an important predictor of customer loyalty. Measuring and comprehending customer satisfaction is essential not only for predicting but also for improving customer loyalty. Satisfied customers are more likely to repeat purchases and encourage others - usually family or friends - to buy the service (word-of-mouth communication) (Akhgari & Bruning, 2024). In addition, a satisfied customer is someone who has developed positive feelings about the company as well as feelings of trust and commitment. This emotional attachment is a driver to loyalty (attitudinal loyalty) (Akhgari & Bruning, 2024) and a factor of increased risk in case the client is considering to switch providers (Ganaie T. A. & Bhat M. A. 2021).

In today's competitive and aggressive market, maintaining the customer base is extremely challenging while attracting new customers is increasingly expensive (marketing, advertising, etc.). When customers are loyal to a brand or product, they will most likely continue choosing and buying it and will possibly spend more money if compared to unfamiliar customers. As a result, loyal customers are an asset for a company which translates into higher earnings and economic stability. Moreover, consumers' willingness to repurchase the specific products or services can lead to effective word-of-mouth marketing, since satisfied clients recommend the product/service to their friends and acquaintances, resulting in stronger brand recognition and new customers.

In the context of fitness studios, customer satisfaction is formed by various facets, including the quality of equipment and facilities, the professionalism, the affection and friendliness of the gym staff and the rest of the personnel, the pricing policies, the diversity and adequacy of fitness programs and other services when available, all of which form the overall experience of each member. When these elements meet or surpass members' expectations, satisfaction is achieved, which can lead to increased loyalty, repeated attendance, and positive word-of-mouth promotion. Therefore, understanding and measuring customer satisfaction is crucial for managers, through improved quality of service; studios can achieve customers' greater retention rates and gain or even sustain a competitive advantage in the fast-growing fitness market.

## **2.5 Factors**

According to existing literature, CS in fitness is multidimensional, reflecting the complicated nature of services regarding exercise and wellness. It is comprised of a set of factors that interact with each other and play their part in forming the customer experience. Other than that, fitness services are characterized by a high degree of reciprocal influence between service provider and customer. These conditions of co-production dictate the contribution of several factors, both tangible and intangible. In that context, several studies approach the aspects that affect customers' satisfaction from services in fitness through a wider categorization of tangible and intangible factors (Papadimitriou & Karteroliotis, 2000; Chelladurai & Chang, 2000).

Tangible factors refer to all physical and operational attributes of the service, which include the quality of machinery and equipment, the cleanliness and layout of the fitness center and its supporting facilities (i.e. changing rooms, showers, lockers, hydration station). The literature shows that these elements play an important role and act as key indicators of the quality as perceived by the member. These aspects are far more important in cases where the individual - for example a potential customer - is not in a position to assess the whole service since to do so he/she has to experience it first (Wakefield & Blodgett, 1999).

Complementary to the tangible factors are the intangible ones: they are related to the emotional, relational and empirical dimensions of the service. They include critical aspects of the service such as the quality of staff, the expertise and conduct of trainers, the quality of the interpersonal relations among customers or between trainers and customers, the responsiveness of management to customers' requests and more. The literature highlights that in fitness settings intangible factors have a strong influence on customers' perception of satisfaction, since the service provided requires constant personal involvement, guidance, motivation and interaction (Alexandris et al., 2002; Theodorakis, 2014).

Bearing in mind the above, the current paper embraces a synthetic approach of the already existed literature and centers the attention on selected elements of tangible and intangible factors, that have been thoroughly examined in previous research in the context of fitness studio facilities and have proven to be statistically significant in affecting CS.

On the basis of the preceding discussion, the factors we look into in this study are analyzed below.

## **2.5.1 Factors examined**

### **1) QUALITY OF EQUIPMENT AND FACILITIES**

The regular maintenance of the equipment, the standards of cleanliness, the adequate space for the individual to exercise and the management of securing personal belongings are important factors when assessing the quality of a fitness center. First of all, the proper maintainance of the equipment not only extends the lifespan of the equipment but also reduces the risk of injuries due to malfunctions. Facility cleanliness is essential not only because it ensures a proper level of hygiene and helps avoid the transmission of viruses but also because it contributes to a more inviting fitness center. Moreover, every member should feel that they have enough space to exercise, that their private space is respected even when participating in group activities. Furthermore, effective and secure storage options for personal items promote trust in the organization. Enhancing safety and security helps

members to not be distracted by a potential theft of their belongings, reduce worries and can make them feel free to concentrate on the workout and enjoy it (Business Daily Media, 2025). Altogether, those components set up a nice, reliable and safe environment for people to exercise.

According to Barbosa et al. (2022) and Sukiri et al. (2021), the quality of the equipment (well-maintained gear without damages) and facility cleanliness and tidiness, were two of the four dimensions of evaluating the service quality in sports facilities. Another study by Jang and Baek (2024), concluded that "spatial layout" was assessed as the most important factor for CS for fitness center members; the spatial layout included the aspects of the sufficient exercise space, cleanliness and well-maintained equipment.

## **2) STAFF QUALITY**

A high level of quality standards for staff and trainers is of crucial importance for both the effectiveness of service and satisfaction of customer in fitness centers. On one hand, it is very important for trainers to possess a set of hard skills which include technical knowledge, in order to design safe workout programs, customized and customizable according to individual needs and goals (Chelladurai & Chang, 2000). Their expertise makes certain that members execute the exercises correctly, thus eliminating the risk of injuries and ensures that the workout programs can be adapted to the needs and goals of each specific member or group.

Equally important are the soft skills. In that case, all staff members are involved: trainers, administrative staff, managers, etc. These skills are demonstrated by attributes such as reliability, punctuality, a helpful and positive attitude, politeness and responsiveness to requests. A well-trained staff is the key to ensuring that all operations and services are running smoothly: the facility and equipment are safe; any potential dangers and hazards are identified and taken care of; customers are provided with all the help and assistance needed regarding the proper usage of the equipment, general or specific inquiries about the fitness center, its operation, training programs, exercises or other scientific subjects about

fitness and wellness. At the same time, communication skills and empathy contribute by improving collaboration and by promoting respect, emotional safeness and understanding. This is the key to enhancing the personal relationships built in the context of fitness centers.

Customers' perception of a firm is often affected by their relation with the staff. Successful companies have great levels of professionalism and their employees know how to listen and then efficiently deal with their customers' needs (Jyoti et al., 2024). According to Barbosa et Al. (2022), it is the combination of hard skills and professional behavior that create the reasons for trust and confidence towards the people who provide the service, thus influencing the perceived overall quality of a fitness center.

### **3) VARIETY OF PROGRAMMS, SERVICES AND AMENITIES**

In recent years, the fitness industry has been responding to a continuously increasing trend towards approaching training and wellness in a more holistic way. In this direction, fitness centers tend to diversify and enrich their services. The diversity of fitness programs, as well as the complementary services and amenities provided, are critical for increasing the overall value and effectiveness of a fitness facility. The road to diversification leads to a range of programs (i.e Pilates, yoga, functional training, high-intensity interval training) that coexist and complement each other. At the same time, services that are supplementary to the main service are added: nutrition services, massage therapies or specialized workshops are only some of the services that can add to the wellness experience. In that way, manager and owners are finding new ways to meet the specific preferences, goals and needs of every customer. Such variety goes hand in hand with the personalization of the service, thus creating more pathways for personal fit and wellness progress and, in the same time, elevating engagement and maintaining a long-lasting relationship with the organization. In addition, while in an "all-inclusive" concept, amenities may include the sale or provision of products such as snacks, refreshments and water, or accessories (for example towels, gym mats, etc.) supporting customers' comfort and "recharging" needs. All the above (the combination of a variety of programs, services and amenities) are the key to forming a

context where the customer can achieve what was described by Macon as the customers' "ease of mind".

Olcaş & Bavlı (2025), suggested that one of the main reasons for customer satisfaction and retention is the diversity of programs, while Papadimitriou & Karteroliotis (2000) included as a factor which contributes to satisfaction, the existence of supplementary services for the members. Finally, "ease of mind", as proposed by Macon (2020), was found to directly influence customer retention.

#### **4) EASE OF BOOKING**

Ease of booking is strongly related to utilizing digital tools and has a critical impact on CS within the fitness sector. User-friendly applications or online platforms for managing scheduling and facilitating online payments, are the key to reducing delays, averting overcrowding and frustration (Sun & Pan, 2023) and building a real-time, effortless experience for fitness clients. In a world where time is highly valued and flexibility and seamlessness are in great demand, the efficiency of booking applications or portals lower both the time and effort required for members to manage their schedule and secure their reservations and appointments, thus creating a positive experience and increasing the perceived quality of the service provided. Sun & Pan (2023) compared the effects of service quality and convenience on CS for staffed and unstaffed services. They concluded that the use of technology for online payments, booking and more seemed to have a strong positive influence on CS.

#### **5) CONVENIENCE AND COMFORT**

Convenience and comfort describe all the ways in which a fitness center can be easily accessed by its clients. Facilities situated close to the residences or workplaces of their customers reduce commuting time and eliminate barriers of access. Sufficient and safe parking (for clients using a car) as well as easy access by public transportation are translated into less time and stress which can both lead to increased customer satisfaction and

retention. Jebarajakirthy and Shankar (2021) suggested that fitness members attach non-monetary value (time and effort) to centers that need to spend less time and effort to reach. Moreover, their research showed that convenience surpasses the element of location and includes features like facility layout and parking, giving emphasis on the overall accessibility and comfort which contribute to customer satisfaction. Consequently, we decided to test in our sample how these factors may affect satisfaction.

## **6) PRICE AND VALUE FOR MONEY**

Pricing reflects, among other factors, the operational costs in combination with the perceived quality of the service offered. In the fitness industry, customers assess the costs according to their perceived gains and a number of factors such as the diversity of training programs proposed, the cleanliness, the quality of the equipment, the trainers' expertise, the ease and convenience (Sánchez & Iniesta, 2007). When customers feel that the quality of the service corresponds to or exceeds their expectations in relation to what they pay, then we are in a positive relationship where the fitness center seems to provide great value, promoting satisfaction and loyalty (Chelladurai & Chang, 2000). On the contrary, when inconsistency happens between price and perceived value for the quality of service, then the customers experience disappointment and are led to disengagement. In the long term, the balance between cost and benefit, as perceived by the customer, plays an important role in shaping future purchasing behavior and long-term commitment to the fitness center.

The study of Ferrand et al. (2010) showed that pricing and value for money did not affect customers' overall satisfaction and loyalty, as well as that satisfaction is not always fixated to repurchase behaviors. This comes in contrast with the studies of Bernhardt et al. (2000) and Chelladurai & Chang (2000). These controversial results were the reason we decided to test this factor to actually obtain empirical data for the specific business context.

## **7) CUSTOMER TO CUSTOMER INTERACTION**

In the services industry, interactions among customers are very common, since customers often “consume” the service provided simultaneously. According to Theodorakis (2014), these interactions and relationships among customers during their time in the fitness center can affect their experience and play a critical role in shaping customer satisfaction and future behaviors. Theodorakis’ research draws insights from the previous research of Lemke et al. (2011) and Verhoef et al (2009), which studied the customer experience in different service sectors and concluded that “perception of other customers” is, in fact, directly related to the overall customer satisfaction and experience. They presumed that this factor is actually multidimensional, consisting of three different aspects: appearance, appropriate behavior and similarity. The dimension “similarity” indicates the degree a member sees compatibility with others through common characteristics, appearances or behaviors. The aspect “appearance” makes reference to the overall visual image of other members while the “appropriate behavior” refers to the perception of other customers’ behavior in a manner suitable for the context of the service provided.

According to Theodorakis (2014), the perception of other customers seems to affect directly the overall satisfaction of customers. Moreover, the customers’ intention to suggest the fitness center to others is directly influenced by their degree of satisfaction as well as their perception of “proximity” and how well they feel about the other members. Consequently, the study of the interaction between the customers is particularly important for the comprehension of the consumer behavior within the fitness context, a fact that justifies its inclusion in this dissertation.

## **8) CUSTOMER PARTICIPATION**

In the fitness industry, customer involvement is a key factor for the perceived quality, since in fitness services active participation of the members is required in order for the service to be produced and consumed. As opposed to passive services (massage), fitness requires engagement, motivation, energy and physical effort making the customer an essential

contributor during the production and consumption of the service offered (Chelladurai & Chang, 2000). Previous research has shown that the higher the customer's involvement, the greater the feeling of satisfaction (Aleksandris et al., 2002). In the same direction, Lehtinen and Lehtinen (1991) talked about the "process quality", which underlines the importance of the customers' role into forming their experience, especially in fitness sessions where customers are co-creators, buyers and users of the service procedure. Greater quality of participation experience is translated into greater perceived value and engagement. For all of the above, we consider members' participation not just a complementary feature, but an essential factor for the effectiveness of the service and overall CS.

## **9) INTRINSIC VALUE**

Intrinsic value is a fundamental dimension of motivation in order for someone to participate in fitness activities. It reflects the internal rewards a person can get from exercising, rewards like enjoyment and satisfaction. According to Alexandris et al. (2002), personal enjoyment and personal involvement are crucial elements of the intrinsic value. Both elements were found to be related to customer satisfaction. Rodrigues et al. (2021) found that enjoyment explains the level of fun and satisfaction experienced during a fitness activity, while Kim & Kim (2024) showed that people with higher involvement during the workouts tended to be more satisfied. In addition, these two elements are both presented as predictors of customer behavioral intentions like repurchase and long-term commitment. Similarly, a study from Berger (1996) highlighted that the lack of chances for exercising can significantly affect a person's psychological and physiological well-being in a negative direction, thus underlining the existence and importance of intrinsic values that are derived from participation in fitness activities. Moreover, in his study, Balaska & Alexandris (2011) suggested that people with low intrinsic value had a lower frequency of training and consequently were less satisfied. Based on this evidence we decided to test the importance of intrinsic value in overall customer satisfaction.

## **10) EMPLOYEE-CUSTOMER INTERACTION**

Employee to customer interaction has a significant effect on shaping customer perception of the quality of the service, especially in contexts where services are characterized by the concurrent production and consumption. In the case of fitness services, we examine the relationship developed between trainers and trainees. Throughout their encounters, the trainees evaluate the technical expertise, communication style and appearance of their trainers. According to Zeithaml et al. (1990), customers want to feel welcomed and motivated. Eskiler and Safak (2022) found that employee-customer interaction acts as a critical factor of customer satisfaction in the fitness context, where customers evaluate their experience from the fitness center not solely on the facilities but primarily from their interaction with other people, primarily the trainers and then other customers.

## **11) RECOVERY SERVICE**

From a management perspective, the elimination of service failures is better than recovery (Zeithaml et al., 1996); but, realistically speaking, service failures are inevitable, especially in an environment where the production and consumption of the services are simultaneous, and can happen in one or more dimensions: severity, timing and frequency (Kelley & Davis, 1994). Regarding the service quality, the recovery in cases of failure is of critical importance, since it directly affects CS, reliability and long-term engagement according to Chelladurai & Chang (2000). In the same research, it was shown that clients who had experienced an issue or difficulty but received a successful recovery usually expressed more satisfaction in comparison to those that never reported a problem. These results highlight the importance of appropriate and effective actions and reactions. In the fitness environment, where customer loyalty is essential for business survival, practices that aim at a strong service recovery strengthen trust and increase the perception of an organized, caring, reliable organization which is customer-centered, thus leading to increased retention and contentment.

## **2.5.2 Factors Excluded**

In addition to the main factors affecting customer satisfaction as described in the literature, there are several more determinants that have been identified to have little to no influence on CS in fitness centers. Although these factors could potentially contribute to the overall customer experience, empirical findings have shown that their influence is usually indirect or linked to a specific group of people having common demographic characteristics like age or gender (Afthinos et al. 2005). We consider these factors as supplementary since their contribution may be significant to the overall customer satisfaction only if and when all the other essential elements of the service have already been successfully and sufficiently met. For the above reasons and according to our literature review, we decided not to include them in our research. These factors are described and analyzed below.

### **1) ADVERTISING**

Advertising constitutes an essential factor of marketing communication and it includes a broad range of promotional activities, namely campaigns on traditional means of communication, digital and social media means, and brand awareness events and initiatives (Liu, 2017). Companies are adapting these practices to inform, persuade and attract potential new customers and to shape their brand image to create expectations among customers for the service/product offered. Khadka and Khadka (2022) pointed out advertising (alongside affordability and location) as the most important factors for CS. This comes in contrast with the work of Dela Peña et al. (2025) who, even though, highlighted the importance of advertising in general, they concluded that it does not have any influence on the perceived quality and satisfaction. The contained effect of advertising on CS suggests that marketing can affect a potential member on his/her initial steps of finding the fitness center of his preference and influence the members' expectations, nevertheless does not affect the existing and ongoing service experience. Therefore, advertising and promotion might attract new customers or raise brand awareness, however once somebody is already a customer, what matters is whether what was promised was delivered.

## **2) SOCIALIZATION**

As reported by the existing literature, the definition of socialization can be found under the terms of “social bonding” (Vlachopoulos S. 2008), “social value” (Özdemir et al. 2025) or “social constraint” (Alexandris et al. 2002). They all end up to one end: socializing is not a key factor for CS for most or all members. Fitness is an individual activity defined by the individuals’ drives, goals and needs (such as health, reduction of stress, bodyweight management and performance), which give personal outcomes greater importance than social interactions. Moreover, every person differs and the option to socialize is very subjective affected by numerous variables like personality, age, gender and nature of activity. Consequently, whilst positive social interactions can improve the overall experience of a member, they do not always affect satisfaction across all members or at the same level. Therefore, we consider that socialization acts as a complementary element of CS.

## **3) MUSIC AND AESTHETICS**

Jang and Beak (2024) examined in their research four principal factors influencing customer satisfaction, each of them was composed by several elements. These factors, by order of their importance as an influential factor on CS (from most to least important) were: spatial layout, cleanliness, ambient conditions and - the least effective (with almost no effect) - aesthetics. The first two factors, spatial layout and cleanliness, are already included in our “quality of equipment and facilities” factor. The third one, ambient conditions, are defined as the background features that stimulate the five senses of human beings, including air conditioning, light, temperature and music. The first three elements were found to have a significant effect on CS, whilst music had no effect. Concerning aesthetics, these include facets like the interior design (i.e. spatial planning), the décor (i.e. furniture) and architectural design (i.e. exterior layout). None of these elements was found to be in a positive relationship with customer satisfaction, with the attractiveness of the interior design being the least important among the three. The research concluded that while these elements

might help improve satisfaction, they still remain just supplementary factors with no direct significant impact.

## **3. METHODOLOGY**

### **3.1 Introduction**

The research was carried out in a fitness industry context and focused on small fitness centers that are operating in the northern suburbs of Athens (Greece). The dissertation took into consideration fitness studios that provide services of personal training and/or small group training (instead of simply providing equipment for free use). We made this choice taking into consideration their dynamic emergence in the fitness industry followed by a systematic and continuously growing presence over the recent years in the European and Greek fitness market. In addition to these reasons, the nature of their service is a more personalized one in contrast to bigger facilities with fewer interpersonal interactions. This results to a more suitable area in which we can examine the relationship between service providers and customers and how CS and loyalty are affected.

### **3.2 Research hypotheses**

According to the purpose of this research and the theoretical background previously discussed in the literature review, a series of research hypotheses have emerged. The goal was to examine whether there is a relationship between specific factors of service quality and customer satisfaction and retention in fitness centers in the ANS, using empirical data. The development of these hypotheses enables us to statistically test the data gathered by means of inferential statistics and analysis.

H1: Perceived quality of equipment and facilities have a positive and essential influence on customer satisfaction in fitness centers. (4 items)

H2: Perceived quality of staff has a positive and essential influence on customer satisfaction in fitness centers. (7 items)

H3: Variety of fitness programs, services and amenities have a positive and essential influence on customer satisfaction in fitness centers. (3 items)

H4: Ease of booking has a positive and essential influence on customer satisfaction in fitness centers. (1 item)

H5: Perceived comfort and convenience have a positive and essential influence on customer satisfaction in fitness centers. (2 items)

H6: Perceived value for money and price has a positive and essential influence on customer satisfaction in fitness centers. (2 items)

H7: Customer-to-customer interaction has a positive and essential influence on customer satisfaction in fitness centers. (2 items)

H8: Customer participation has a positive and essential influence on customer satisfaction in fitness centers. (1 item)

H9: Intrinsic value has a positive and essential influence on customer satisfaction in fitness centers. (3 items)

H10: Employee-to-customer interaction has a positive and essential influence on customer satisfaction in fitness centers. (1 item)

H11: Recovery of service has a positive and essential influence on customer satisfaction in fitness centers. (1 item)

### **3.3 Research approach**

For the purpose of testing our hypotheses, we adopted a quantitative research approach in order to collect primary data. Quantitative methods are an appropriate way of evaluating customers' perceptions and behavioral intentions. Since these constructs are subjective, we can use quantitative methods in our advantage and turn them into operational standardized measurement scales and convert them to numerical data, which also allow us to examine statistically any relationships between variables (Creswell, 2009). The primary data were collected via structured questionnaires, a common method used in order to measure CS and quality of service, as it offers a relatively simple and efficient manner to represent and record standardized feedback from large samples (Mammadli, n.d.).

### **3.4 Research design**

The dissertation was structured according to a descriptive research design, which is suitable in order to observe and describe features of the population examined without manipulating and/or controlling the variables we just observe and write down the results as they are in normal conditions. (Shinija, 2024). The questionnaire's goal was to gather data and measure the perceptions of customers regarding factors that emerged from our literature review as being of significant importance in affecting customer satisfaction, a total of 11 factors. A descriptive design allows us to examine the relationships and correlations between independent variables, for example staff behavior, and dependent variables, such as customer satisfaction regarding the customer's overall experience with the fitness center.

### **3.5 Research method**

A survey was conducted in order to collect the data and then be able to measure the attitudes and opinions of members across the sample with standardized measurements (Mammadli, n.d.). The tool to measure these perceptions was a questionnaire of 33 items of which 5 items were assessing demographics and the remaining 28 items were measuring satisfaction related to different factors across 6 sectors: quality of equipment and facilities, staff quality, quality of programs and services, location/comfort/price, personal perceptions, overall experience. All of the questions were mandatory except question 14, that refers to complementary services not available in all the fitness centers examined. Respondents were asked to give their answers on a 5-point Likert scale measure with anchors ranging from 1=not at all, 5=very much. All responses were treated as interval-level data for better statistical analysis, as commonly used in social sciences. Furthermore, Likert scales were chosen because they can be used for regression analysis and ANOVA (Joshi et al. 2025). The questionnaire was published for participants to complete from 19/11/2025 till 17/12/2025 (four weeks). The questionnaire's language was Greek and was later translated into English from two professional English translators that worked independently. Any inconsistencies between the two interpreted versions was discussed and resolved, thus leading to a mutual final and agreed version in English that reflected with accuracy the original questionnaire.

### **3.6 Data collection**

Before the distribution of the final questionnaire, a focus group of 20 people was employed to assess the questions in order to test their clarity and whether they were clearly understood and interpreted. Their professions varied from lawyers to literature teachers as well as people who had previous experience with thesis and/or dissertation papers and surveys. Their tasks included checking the language, correcting any grammar or syntax errors, measuring the total time needed to complete the questionnaire (approximately 5 minutes), refining and clarifying the questions and providing qualitative insights in order to assess the validity and increase the efficiency of the questionnaire before its distribution to a larger sample (Prince and Davies, 2003). The final data were collected by the use of the updated questionnaire, distributed in paper form with a QR code, so respondents could scan it with their phones and answer it online through Google forms. The QR code was distributed to 4 different fitness studios and by shared link of the google form to members of other studios which fulfilled the requirements (ANS and studios offering only personal and small group sessions). The questionnaire ensured anonymity and participation was voluntary.

### **3.7 Sampling strategy and study context**

A convenience sampling strategy was used to gather the data (Etikan et al., 2016). The target sample was active members of fitness studios which operated in the ANS and offered exclusively personal and small group sessions. We received a total of 129 questionnaires and all of them were considered valid and suitable for the analysis, since they were fully answered and met all the required criteria (fitness studios that offer personal and group training, and that are located in the ANS). The sample size ( $N = 129$ ) was enough to satisfy the adequate statistical capacity in order to perform inferential statistical analysis. Seabrook (2025) suggested the "rule of thumb", which dictates that for multiple regression models at least 10 participants should be included for every predictor variable ( $k$ ). This is mathematically expressed as  $N \geq 10 \times k$ . For our study, this translates into  $10 \times 11 = 110$ , so a total of 110 questionnaires would be sufficient.

### **3.8 Ethics**

The survey followed the ethical standards in social sciences as set by the European Commission (2021). Customers' participation was voluntary, without any form of coercion or influence during the process. Volunteers were provided with direct and coherent information about their role and the purpose of the research. Personal information was gathered in a non-obligatory form and following written consent. The data collected were exclusively used for the purposes of this paper which was clearly communicated orally to all participants prior to completion. The questions were expressed in a non-biased and non-offensive way, as confirmed by the focus group. Lastly, sensitive information about the participants beyond standard demographic data was not gathered; specifically, there was only one question concerning age. Anonymity and confidentiality were maintained.

### **3.9 Reliability and validity**

The reliability of the questionnaire was assessed with the use of Cronbach's alpha to ensure that the multiple items that we used for our survey are internally consistent and that they measure the same construct. An alpha of 0.70 to 0.95 is considered as an acceptable reliability interval. We used Cronbach's alpha before we proceeded with the final questionnaire and the statistical analysis in order to confirm that our items were meticulously representing the primary concepts of our research (Sheposh, 2024). All the Cronbach's alphas values ranged from 0.72 to 0.92.

The validity of the dissertation was carefully examined to make certain that the questionnaire measured with accuracy the concept we investigated. The content validity was established from the thorough review of prior relevant literature and through feedback from the thesis supervisor during the development of the questionnaire. With this process we made sure that all the items covered with sufficiency all key aspects of the construct. Furthermore, the reliability analysis results came to support even more the construct validity, as the items within each variable showed internal consistency.

### **3.10 Data analysis**

The data were analyzed with the use of descriptive and inferential statistics. The descriptive analysis reviewed the answers of the respondents to the survey items and included Cronbach's alphas, mean scores, minimum and maximum scores, variances and standard deviations. This analysis allowed us to assess how the data were distributed, the internal consistency of the variables' items and to identify the overall patterns of CS. The inferential statistics were applied to test the research hypotheses and to examine relationships between the independent and dependent variables. We selected the multiple regression analysis as the most effective technique, not only because it is widely used in social sciences but, mostly, because it allows us to simultaneously examine the predictive effect and relative contribution of many independent variables (Sun et al., 2023). The software used to conduct this study was Microsoft Excel mainly for its suitability to support both descriptive and inferential statistical tools. In addition, with this tool we could proceed to producing ANOVA histograms. Last but not least, Excel is also a tool that enables us to ensure consistency and accuracy during the analysis process (Kumar, 2023).

## **4. RESULTS**

### **4.1 Introduction**

The current section shows the results of the analysis of the data collected via the questionnaires from 129 currently active fitness studio members in the ANS. Initially, the demographic features of the sample will be examined and thereafter the descriptive and inferential statistics of the survey.

### **4.2 Summary of the sample**

The sample consisted mostly of women at 89.9%, while men represented only 10.1% of the total participants. This could be a first indication that women are more interested in small group and personal training workouts. Nonetheless, this indication should be treated with caution, since it might as well reflect a preference for the type of service provided (i.e., Pilates, Yoga). The age intervals were 15 years, starting from <20 years (0%), 21-35 (29.5%), 36-50 (41.1%), 51-65 (26.6%) and >66 (3.1%). According to these data, all of

the participants were adults and over 20 years old. We also considered the duration of their membership: the percentage of people who attended the fitness center for 6 months or less was 23.3%, from 6 to 12 months was 19.4%, from 1 to 3 years was 35.7% and over 3 years at 21.7%. According to the aforementioned distribution of the participants, we can conclude that over 3 quarters of them have adequate experience with the services of the fitness studio they attend and therefore can fully evaluate their overall experience. Nevertheless, it can be interesting to check differences in the assessment of customer satisfaction among the different groups.

Respondent's profile:

Group	Frequency	Perc. %	Group	Frequency	Perc. %	Group	Frequency	Perc. %
Gender:			Age:			Duration:		
Male:	13	10.1%	<20	0	0.0%	<6 months	30	23.3%
Female:	116	89.9%	21-35	38	29.5%	6-12 months	25	19.4%
Total:	129	100%	36-50	53	41.1%	1-3 years	46	35.7%
			51-65	34	26.4%	>3 years	28	21.7%
			>66	4	3.1%			

Table 4. 1 Respondent's profile.

### 4.3 Reliability analysis

The reliability of the hypotheses examined in the survey was confirmed by the usage of Cronbach's alpha coefficient. The results showed that all hypotheses (by hypotheses we mean those with multiple items/questions) had adequate and highly acceptable scores of internal consistency, since their alphas ranged from 0.72 to 0.95, surpassing the minimum

limit of 0.70. This confirms that all questions within each hypothesis were consistent and they were all measuring the same subjective concept when phrased. Having this confirmed, we were allowed to further statistically examine the data.

#### **4.4 Descriptive statistics summary**

The descriptive analysis was carried out in order to describe the perception of the participants regarding the factors that influence their satisfaction and overall experience from the services offered by the fitness studio they are subscribed to. For every hypothesis, we calculated the mean, minimum and maximum scores, variance and standard deviation.

Descriptive statistics summary	Mean	Min	Max	Var	Stand. D.	Count
H1: Quality of equipment and facilities	4.63	2	5	0.40	0.63	516
H2: Quality staff	4.82	1	5	0.18	0.43	903
H3: Variety of programs, services and amenities	4.37	1	5	0.94	0.97	283
H4: Ease of booking	4.57	1	5	0.56	0.75	129
H5: Comfort and convenience	4.22	1	5	0.81	0.90	258
H6: Price and value for money	4.65	2	5	0.35	0.59	258
H7: Customer-to-customer interaction	4.36	2	5	0.61	0.78	258
H8: Customer participation	4.47	1	5	0.58	0.76	129
H9: Intrinsic value	4.79	2	5	0.24	0.49	129
H10: Employee to customer interaction	4.71	3	5	0.28	0.53	129
H11: Recovery of service	4.88	3	5	0.13	0.35	129

Table 4. 2 Descriptive summary of hypotheses.

As detailed in the table above, all hypotheses' means are above 4. From this we can conclude that, overall and compared to their expectations, customers are satisfied with the quality of services received by the fitness studio. This finding is in agreement with the results of the dependent variable which questions and measures customers' satisfaction with their overall experience at the fitness studio, with 88 respondents answering "very much", 39 "very", 2 "moderately" and zero respondents answering "a little" or "not at all".

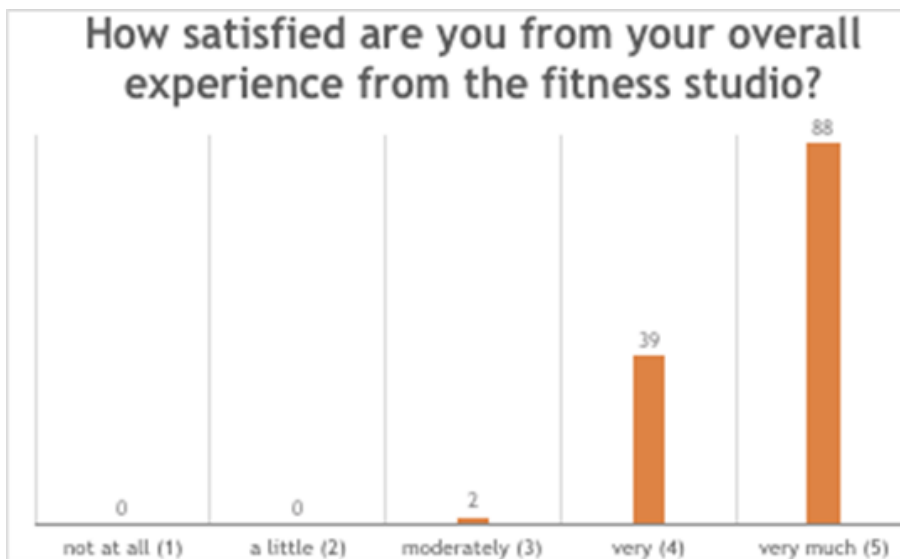


Table 4. 3 Overall satisfaction of customers.

The minimum and maximum scores represent the range of answers the participants gave according to our 5-point Likert scale. The appearance of maximum values across all variables suggests that at least one of the participants recorded the highest possible degree of satisfaction. In tandem with the high mean scores of each variable, we conclude that there is a generally positive assessment of the factors examined. The minimum scores ranged from one (1) to three (3) across all variables, indicating that respondents used the whole range of our 5-point Likert scale. This spread of answers indicates that the scale was suitable and appropriate to express the different levels of customer satisfaction. In addition, the existence of both low and high scores on the responses, in combination with standard deviations that were not equal to zero, suggest that no "ceiling" or "floor" effects were

present. This would be the case if too many responses were on the highest or lowest limits, which could potentially reduce the variability and effectiveness of the regression analysis, making the data unsuitable for inferential statistical testing (PsychExamReview, 2023).

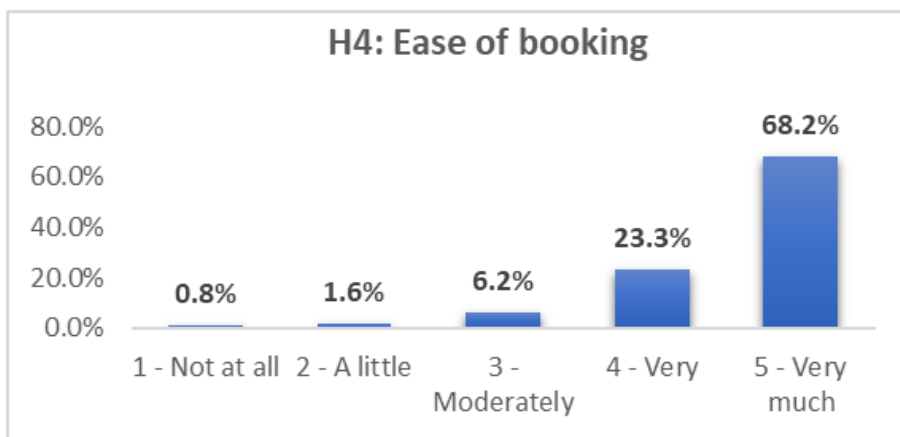
The variance and standard deviation (SD) indicate the degree of dispersion of responses for each construct measured using Likert-type scales. SD ranges from 0.35 to 0.97, while variances range from 0.13 to 0.94. These values indicate a moderate level of dispersion in all variables and none of them is close to zero, which suggests there is no extreme homogeneity or excessive variability in the participants' evaluations. Low variance and SD values suggest a high level of agreement among participants, whereas higher values reflect greater heterogeneity in their perceptions. Overall, the observed dispersion of the data indicates that the variables exhibit sufficient variability, supporting the methodological appropriateness of applying regression analysis. In particular, excessively low variability in Likert-scale responses may restrict the range of the variables and reduce statistical power, thereby increasing the risk of Type II errors and hindering the detection of statistically significant relationships between variables (Hargrave, 2025).

#### **4.5 Histogram analysis**

The use of histograms is an excellent solution for representing visually the distribution of a dataset, especially when we have continuous data. Through histograms we can detect several elements such as the center, the spread, and the shape of the dataset as well as check for normality or skewness. They give insights about extreme values and outliers. We include them in our research in order to visualize the distributed data and to better support our statistical analysis, since ANOVA and regression assume specific data distributions (Leung, 2019).

Overall, hypotheses histograms depict a negative tendency in terms of skewness, since most of the answers are concentrated towards the upper limit of our Likert scale with answers from "very" to "very much", as can be seen in appendix A. This pattern indicates a high level of perceived satisfaction corresponding to the services offered by the fitness studios as evaluated by their members, and reveals a significant level of unanimity

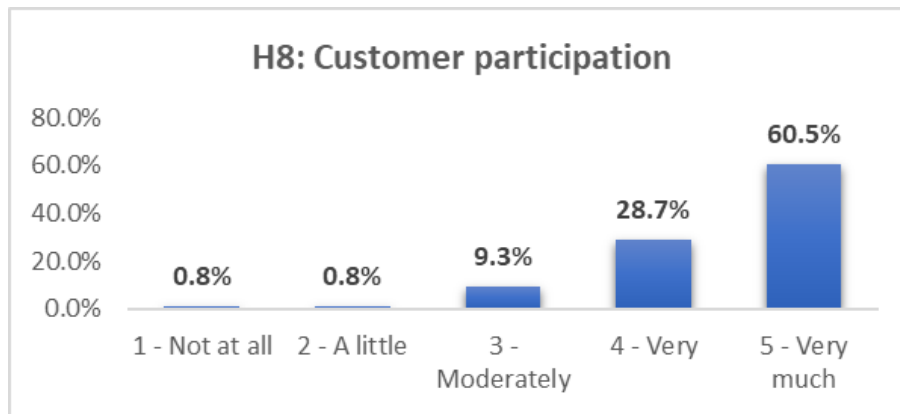
among participants. Moreover, we can detect small but sufficient dispersion among the answers, an occurrence which underlines the different experience each member perceives without the “ceiling” or “floor” effects; this means that responses were not concentrated either at the highest or at the lowest points of our scale. Such variability is critical for regression analysis, because it allows the model to evaluate the relationships between independent and dependent variables without restricted variance. We decided to examine two variables which displayed small signs of inconsistency with the rest.



**Figure 4. 1 Distribution of ease of booking.**

According to the above graph, 68.2% of the participants replied that they are very much satisfied with the ease of booking, while 23.3% said that they are very satisfied. At the same time, we have 6.2% of participants declared that were moderately satisfied, 1.6% little satisfied, and 0.8% dissatisfied. The distribution is negatively skewed but to a lesser degree, with most of the answers showing unanimity with a dispersion slightly larger than the rest. This result could be in line with the managers’ observations suggesting that in some cases,

members find it difficult to reserve a spot in the fitness class especially when there are different channels for reservation.



**Figure 4. 2 Distribution of customer participation.**

For our eighth hypothesis concerning the customer participation, we notice that 60.5% of the participants replied that they are very much satisfied with the customer participation, while 28.7% said that they are very satisfied, 9.3% are moderately satisfied and both ‘a little’ and ‘not at all’ satisfied were 0.8%. Even though the graph is still strongly negatively skewed, we see a greater dispersion of answers, indicating that some participants do not feel that they are actively involved in the co-production of the service. This variability can be crucial, since it will allow us to use the hypothesis “customer participation” as a meaningful explanatory element of our subsequent regression analysis, in which we will examine its relationship with overall satisfaction of customers.

## 4.6 Regression analysis summary

<i>Regression Statistics</i>	
Multiple R	0.88
R <sup>2</sup>	0.78
Adjusted R <sup>2</sup>	0.76
Stand. Er.	0.25
Observations	129

**Table 4. 4 Regression analysis.**

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F-stat</i>	<i>Significance F</i>
Regression	11	25.51	2.32	37.91	0.00
Residual	117	7.16	0.06		
Total	128	32.67			

**Table 4. 5 Anova analysis.**

The regression analysis was deployed in order to examine the influence of the 11 hypotheses regarding the factors that affect CS in fitness studios in the ANS. The results show that the model is statistically important. The multiple R of 0.88 implies a strong correlation between the multiple independent variables and the single dependent variable (Beers, 2025). The R-squared (also called the coefficient of determination) of 0.78 tells us that 78% of the variance regarding CS is explained by this regression model. In social sciences, 78% is an acceptable proportion and an indication of a strong model (Ozili, 2022). The adjusted R-squared is equal to 0.76, an adjusted version of the R-squared that penalizes irrelevant variables and gives a better and stricter fit to the model. The 76% fitness of the test validates the suitability of the model.

From the Analysis of Variance (ANOVA) we can assess the overall statistical significance of the multiple regression model. Our ANOVA table gives us insights into whether and how well our model explains the variance of the dependent variable in comparison to the residual error. ANOVA tests the null hypothesis, which states that all regression coefficients are equal to one another. If that was true in our case study, then the F-statistic would be small

( $F \leq 1$ ) (Ozgur, 2016). However, we have a considerably large F-stat of 37.91, with a P-value  $< 0.001$ , which is less than  $\alpha=0.05$ , we can safely reject the null hypothesis (where  $H_0: \beta_1=\beta_2=\dots=\beta_{11}$ ) and accept that at least one of the variables has a different coefficient (not all  $\beta_i$  are equal).

	$\beta$	Stand. Er.	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.42	0.47	0.89	0.37	-1.36	0.52
H1: Quality of equipment and facilities	0.04	0.07	0.58	0.56	-0.10	0.18
H2: Quality staff	0.07	0.12	0.53	0.60	-0.18	0.31
H3: Variety of programs, services and amenities	0.11	0.04	2.98	0.00	0.04	0.18
H4: Ease of booking	0.08	0.03	2.26	0.03	0.01	0.14
H5: Comfort and convenience	0.08	0.04	2.09	0.04	0.00	0.15
H6: Price and value for money	0.11	0.05	2.15	0.03	0.01	0.22
H7: Customer-to-customer interaction	0.23	0.05	5.11	0.00	0.14	0.32
H8: Customer participation	0.10	0.04	2.40	0.02	0.02	0.18
H9: Intrinsic value	0.03	0.09	0.36	0.72	-0.15	0.22
H10: Employee to customer interaction	0.07	0.07	0.94	0.35	-0.08	0.22
H11: Recovery of service	0.20	0.06	3.43	0.00	0.09	0.32

**Table 4. 6 Regression analysis.**

In the above table we have the results of the variables' regression analysis. These results suggest that not all variables are statistically important for the prediction of the dependent variable. More specifically, the hypotheses H1, H2, H9 and H10 do not have any significant statistical influence, since their p-values have a score greater than 0.05, with 0.56, 0.60, 0.72 and 0.35 accordingly. In addition to the p-values, we have a 95% confidence interval that contain number zero, which confirms the insignificance of the aforementioned hypotheses (Hayes, 2025). On the contrary, hypotheses H3, H4, H5, H6, H7, H8 and H11 indicate a statistically and positive influence on the dependent variable with p-values less than 0.05.

Based on these results, not statistically significant variables were excluded and a final regression model was estimated taking into consideration only the significant variables.

	$\beta$	Stand. Er.	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.18	0.24	0.72	0.47	-0.31	0.66
H3: Variety of programs, services and amenities	0.12	0.04	3.33	0.00	0.05	0.19
H4: Ease of booking	0.07	0.03	2.25	0.03	0.01	0.14
H5: Comfort and convenience	0.08	0.03	2.38	0.02	0.01	0.15
H6: Price and value for money	0.12	0.05	2.38	0.02	0.02	0.23
H7: Customer-to-customer interaction	0.23	0.04	5.36	0.00	0.15	0.32
H8: Customer participation	0.12	0.04	3.35	0.00	0.05	0.20
H11: Recovery of service	0.24	0.05	4.93	0.00	0.14	0.34

**Table 4. 7 Regression analysis.**

From our final regression model, we can confirm that all the variables H3, H4, H5, H6, H7, H8 and H11 are statistically important with corresponding p-values of 0.00, 0.03, 0.02, 0.02, 0.00, 0.00, and 0.00, all of them being less than the benchmark of 0.05. In addition to that, their confidence intervals do not include number zero. Moreover, the results described in the above table, present that all coefficients ( $\beta$ ) are positive, which indicates a positive relationship between each specific variable and customer satisfaction. The variable with the strongest predictive factor of the dependent variable was H11: Recovery of service with a coefficient of  $\beta = 0.24$  and a p-value  $< 0.001$ , followed by H7: Customer-to-customer interaction with a coefficient of  $\beta = 0.23$  and a p-value  $< 0.001$ . The variables H3 (Variety of programs, services and amenities), H4 (Ease of booking), H5 (Comfort and convenience), H6 (Price and value for money), H8 (Customer participation) are also presented as being strong predictors of customer satisfaction with their coefficients ranging from 0.08 to 0.12.

#### **4.7 One-way ANOVA summary**

In addition to our regression analysis and descriptive summary, we performed an ANOVA (single factor) test in order to examine if and how demographic and behavioral factors may influence customer perceptions of quality and customer satisfaction, as described by the hypotheses of our study. More specifically, the factors tested were: duration of subscription, training frequency and age group. In total, the results of the ANOVA showed that in almost all occasions, there are no statistically significant differences between the mean values of the variables in the groups, with their p-values being greater than 0.05 (as shown in the appendices B, C and D). The mean values of the hypotheses remain high and relatively stable regardless of the aforementioned demographic and behavioral attributes. These results highlight that there is no significant connection between these attributes and customers' perception of quality or customers' satisfaction level.

Nevertheless, there is one specifically important exception to the above conclusion, concerning the hypothesis H10 (Employee to customer interaction) and the behavioral factor of training frequency. The result of the ANOVA showed that the difference among the groups was statistically important, since  $F\text{-stat}(2,126) = 3.72$ , which is higher than  $F\text{-crit} = 3.07$ , and the  $p\text{-value} = 0.03$ , which is less than the level of significance  $=0.05$ . Therefore, the null hypothesis is rejected and the fact that frequency does affect the assessment of the variable H10 is proven. The participants were grouped into three categories: those who trained 1 to 2 times per week, those who trained 3 to 4 times per week and those who trained 5 or more times per week. In more detail, those who trained 1-2 times per week had a mean of  $M=4.82$ , while the other two groups had a mean of  $M=5$ . Interpreting this result, we conclude that the more frequent the training, the more positive the evaluation of each dimension of service and the customer satisfaction that follows. This is described in the table below.

Anova: Single Factor						
SUMMARY H10						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	429.00	4.82	0.17		
3 to 4	35.00	175.00	5.00	0.00		
5+	5.00	25.00	5.00	0.00		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.89	2.00	0.45	3.72	<b>0.03</b>	3.07
Within Groups	15.12	126.00	0.12			
Total	16.02	128.00				

Table 4. 8 Anova single factor of hypothesis 10.

All of the above come to support our findings regarding the regression analysis, according to which the overall satisfaction of customers is influenced by specific facets of the service experienced rather than by demographic or behavioral factors. The only statistically important factor that affected the variable "employee to customer interaction" was the frequency of training.

Overall, the findings from the ANOVA indicate that CS remains mostly consistent across demographic and behavioral characteristics, confirming that satisfaction is mainly dependent from the services provided. These results come to enrich the regression analysis and the important role of quality service-related factors in explaining CS.

## 5. DISCUSSION

The aim of this chapter is to interpret and discuss the empirical results of this dissertation in relation to the theoretical background and existing literature review. The analysis of the results allows us to define the factors that play a crucial role in forming the CS of members of fitness studios in the ANS, as well as describe the level of influence of each factor. The regression analysis results indicated that our model manages to explain to a great extent the variation of the overall satisfaction of customers with an R-squared equal to 0.78 ( $R^2 = 0.78$ ) (Ozili, 2022). This is considered as quite a high percentage, especially for social sciences.

In the same time, the majority of the explanatory variables are statistically important ( $p$ -value  $< 0.05$ ) (Peterson, 2023). The data gathered confirm that member satisfaction in fitness studios comes through experiential and operational aspects of the service provided rather than demographics or behavioral characteristics. This outcome aligns with previous researches on the field (Rane et al., 2023) which concluded that the most important factors to enhance the customer experience are the quality of the products and services, convenience, personalization and many more, unrelated to demographics aspects. At the same direction, the study of Khadka and Khadka (2022) draws attention to factors influencing customer satisfaction such as ease and accessibility, price and position while Theodorakis (2014) insisted on the importance of interactions and relationships formed in the fitness centers, especially the customer-to-customer ones.

There were seven out of the eleven factors that were examined that proved to have a statistically significant and positive influence on behavioral intentions of customers. The factor with the strongest prediction was H11: Recovery of service, a result that confirms the literature. According to Zeithaml et al. (1996), the effective management of issues or complaints is not only a matter of dealing with the problem but can also enhance the trust and long-term commitment of the members to the firm. Resolving an issue can translate into a higher customer satisfaction level, even higher than in cases where there was no service failure. In the context of fitness studios, where the provision of services is inseparably linked to human interaction, the immediate and effective recovery of mistakes operates as a crucial mechanism for the enhancement of CS.

A factor of equal importance to the recovery service, presenting a high coefficient, is the customer-to-customer interaction. This finding is in line with the findings of Theodorakis (2014), who claimed that the perception of other customers strongly influences the overall experience of the customers. Even though it does not directly affect their behavioral intentions, nevertheless the way members interact with others can affect their overall satisfaction and willingness of recommending the fitness center to friends and relatives. In fitness studios, the participants are organized and interact in small groups and the feelings of familiarity, similarity and appropriate behavior that may develop among them, all seem to increase the positive environment and satisfaction.

There were five more variables with statistical significance that were also validated as important factors in forming customer satisfaction: H3: Variety of programs, services and amenities, H4: Ease of booking, H5: Comfort and convenience, H6: Price and value for money and H8: Customer participation. These results agree with previous research that highlight the significance of the active participation of the customer, the variety of services provided, the convenience and comfort as non-monetary values and also the perceived cost to gain ratio and how determinant these factors can be in the assessment of the services offered. In particular, the variable H3: variety of programs, services and amenities indicates that fitness studio members place value on a variety of choices in a fitness environment and on amenities that alleviate them from extra stress by giving them quick, easy and practical solutions - a refreshment when thirsty, a snack when hungry, a towel when lacking one. This comes into alignment with the findings of Olcaş & Bavlı (2025) and Papadimitriou & Karteroliotis (2000). The hypothesis H4: Ease of booking, demonstrates the increasing significance of efficiency and digitalization in the fitness service environment. In alignment with the study of Sun & Pan (2023), user-friendly booking procedures may reduce effort and save time. For fitness studios, and because of their size, capacity is inevitably limited. Therefore, efficient scheduling is the key towards smooth operation and a better customer experience. In the same way, H5: Comfort and convenience also play a significant role in affecting satisfaction by further increasing the notion that non-monetary costs (time and effort) are of equal or even greater importance than monetary ones (Chetty, 2010). The results of our findings come to support the findings of Jebarajakirthy and Shankar (2021) who showed that convenience acts as a form of value that counterbalances lower prices. Fitness studios can capitalize on ease and convenience when they apply higher pricing policies and still enjoy high customer satisfaction levels. This brings us to the sixth variable H6: Price and value for money. Customers consider prices but they also consider the cost to benefit ratio, instead of pricing alone. Chelladurai & Chang (2000) suggested that pricing and perceived value are strong indicators of satisfaction, since members evaluate the benefits they receive from the fitness center and if they are worth their monetary investments. Fitness studios can charge higher prices as long as they can justify these prices with greater value for the customer. Ultimately, the variable H8: Customer participation, was also proven to be an important predictor of CS highlighting the importance and complexity of the fitness service as the customer is both co-producer and consumer of this

process. In line with Alexandris et al. (2002) and Chelladurai & Chang (2000), our results showed that participants' involvement increases enjoyment which positively contributes to the overall satisfaction. This finding is important for fitness studios, since active participation of customers during the workout sessions enhance satisfaction, which is not solely dependent on the service provider but also the customers themselves. From a managerial point of view, this could foster the implementation of practices that actively involve members in the workout planning and a training environment that enhances interaction.

On the contrary, according to the regression analysis the variables regarding the quality of equipment and facilities, staff quality, intrinsic value and the employee-to-customer interaction did not show any statistically significant effect in our final regression model. These outcomes do not necessarily mean that the factors are insignificant; their high mean scores in combination with their low variance indicate that these specific elements are considered indispensable and therefore taken for granted. When these elements of satisfaction are at a high-level and coexist with significant factors that actually affect CS which are also at a high level, then the former have no influence and do not play a role in differentiating the perceived experience for the customer. However, when the set of factors that are considered standard (e.g., quality of equipment, etc.) and variables that have a strong influence on CS both fail to meet the customer's expectations then we are led to dissatisfaction. This interpretation coincides with the Expectation Confirmation Theory (ECT) (Shukla et al., 2026), which states that customers shape their expectations before the consumption of the service and then compare the actual experience with the expected one. If the customer's expectation is confirmed then he/she is satisfied, if not then he/she is dissatisfied. However, when a characteristic of the service is considered obvious and of high quality, then it does not affect the experience perceived by the customer (baseline expectation). In fitness studios contexts, high quality equipment and facilities, adequate and professional staff, and interaction of customers with staff seem to be the baseline expectation and opposed to factors of differentiation. In other words, when the baseline expectations are met, they do not influence satisfaction, when they are not, they increase dissatisfaction. This conclusion has an extremely useful managerial implication: if managers and/or owners of fitness studios want to invest in their clients' satisfaction, then their first investment should

be on these factors. If expectations concerning these factors are not met, then dissatisfaction is the customer's answer.

The factor examining the intrinsic value was the one with the most controversial findings. Even though intrinsic value had a very high mean (4.79), it demonstrated the highest p-value (0.7), which translates into a non-statistically important influence on our regression model. A valid explanation would be that intrinsic value acts as a motive and prerequisite for physical exercise linked to the individuals' personal incentives. Individuals who exercise already have a high level of intrinsic value which suggests that intrinsic value acts as a personal motivation for exercising, instead of a factor of CS. This comes in complete disagreement with Alexandris et al. (2002) who concluded that enjoyment and involvement (the cornerstones of intrinsic value) were the most important factors as predictors of future customer behavioral intentions as well as with the work of Rodrigues et al. (2021) and Kim & Kim (2024), who found that enjoyment and involvement are both determinants of CS.

The one-way analysis of variance (ANOVA) showed that almost all demographic and behavioral characteristics of the participants (age, duration of subscription, frequency of training) do not lead to any statistically significant differences regarding customer satisfaction. From the aforementioned variables, age was the only demographic characteristic, while duration of subscription and frequency of training are included among the behavioral characteristics in the analysis. This result implies that, in the case of the fitness sector, the evaluation of the quality of service, the overall experience and the level of satisfaction derived heavily relies on the empirical elements of the services provided and not on demographic or behavioral distinctions.

However, an exception to this pattern was observed in the relationship between the frequency of training and the employee-to-customer interaction. According to the results, customers who train more often are the ones who evaluate more positively the specific aspect in comparison with those who train fewer times per week. This finding can be explained if we take into consideration the increased interrelationship between the trainers and the customers. Frequent interaction facilitates the development of mutual trust as well

as a deeper understanding of the clients' individual goals and needs (Rowe, 2018). All in all, the ANOVAs' results work as an enhancer of the regression analysis. They confirm that customer satisfaction is influenced primarily by the quality of the service, while demographic and behavioral variables play an insignificant part, with the only exception being the relationship between the volume of weekly training and staff-member interaction, where a meaningful differentiation was found.

In short, the results of this dissertation bring out that customer satisfaction in fitness studios is mainly influenced by the experiential aspects of the service, instead of demographic or other behavioral characteristics of the customers. The strong explanatory power of our regression model validates that factors like service recovery, customer-to-customer interaction, convenience and comfort, the variety of programs and services, the simplicity of booking, the price and perceived value for money, and customer involvement in the service process are of critical importance for shaping the customers' satisfaction and therefore their loyalty. Nevertheless, other aspects of the service which are considered equally or more important appeared to have no impact on customer experience. Quality of equipment and facilities, staff professionalism and intrinsic value are factors that are usually considered as prerequisites and are not taken into consideration when evaluating the overall experience and satisfaction. The only factor that was not affected by the experiential aspects of the service but from a behavioral characteristic is the employee-to-customer interaction, which indicated that members who trained more frequently were more satisfied with this aspect of the service. Overall, this dissertation provides managerial guidance and actions, while from an academic point of view it supports and broadens the existing literature about service quality and satisfaction by giving emphasis on the strong influence of empirical factors over the weak demographic and behavioral attributes.

## **6. CONCLUSION**

In the current chapter, the most essential findings of this dissertation are summarized and synthesized. The goal is to come to clear and complete conclusions regarding the factors that influence customer satisfaction and loyalty of members in fitness studios located in the Athens northern suburbs. At the same time, the findings are interpreted in a manner that

relates to existing literature and theoretical framework, whilst practical implications are spotlighted in order to serve as a useful planning tool for managers or owners of fitness studios, and generally for professionals who operate in the fitness industry. Moreover, a brief reference of the limitations in the methodology and data of the study are reviewed, and suggestions are made to further explore in future research.

The current thesis is concentrated on a market, the fitness industry, which is exponentially growing at both international and national (Greek) level. Nonetheless, it still remains a relatively under-researched market compared to other sectors. This is the case not only for the niche of Greek fitness studios which is even less explored, but for fitness centers at a European or international level. Choosing small and/or medium-sized fitness centers allowed us the examination and analysis of the relationship between the business and the customer. The competitive advantage of these businesses and a cornerstone of their differentiation strategy is the personalization of their services. They provide small group training sessions, focused on the goals of their customers and boosted with extra attention to their members' needs and wants. These conditions offered the context needed in order to study how the quality of service, customer satisfaction and loyalty can be explained and understood in an environment where human interaction and experiential value created by the customer (through experiences and interactions during the service provided) play a pivotal role in forming members' engagement.

The primary research purpose of this study was to examine, using empirical data in the context of fitness studios situated in the Athens northern suburbs, which factors affect customer satisfaction and to what extent. In addition, we examined whether there was a correlation between customer satisfaction and the customers' behavioral intentions and their engagement with a specific fitness studio, as expressed through their loyalty. For the research, we selected a quantitative methodological approach on the basis of primary data collection. We collected the data through a structured questionnaire, shared via a QR code to currently active members of several fitness studios in the ANS, in order to be filled online.

The factors that we examined emerged from a comprehensive and thorough review of the international literature. We organized them into eleven hypotheses that included both

tangible and intangible aspects of the service offered. They incorporated elements such as the quality of equipment, the cleanliness of the facilities, staff expertise and so on. After the data were gathered, we analyzed them with the use of descriptive and inferential statistical techniques, with a particular focus on regression analysis and ANOVA one-way, in an attempt to evaluate the weight and effect of each hypothesis on customers' overall satisfaction.

The main research findings of the study presented a particularly high customer satisfaction within the context of the fitness studios examined in the northern suburbs of Athens. The largest part of the respondents replied with "very" and "very much" when referring to their satisfaction from their overall experience based on their interactions with the studios they attend. According to these results, the fitness studios included in the study have largely succeeded in meeting or even exceeding their customers' standards and expectations.

At a more detailed level of individual factors, all the variables which we examined have high mean scores. This suggests that members take into consideration a broad range of service aspects instead of assessing their experience based on a single superior factor. We can also draw conclusions about the complexity and multidimensional nature of fitness services, as CS is derived from a mixture of intangible assets, interactions, financial and non-financial benefits, and perceptions. Nevertheless, among the variables there are differences observed in relation to the level of influence and relative significance of each hypothesis.

Among the factors that we examined, recovery of service emerged as the most important determinant of customer satisfaction. Even though service failures are considered unavoidable, especially in services such as those in the fitness industry where the human factor plays a crucial role, the findings reveal that efficient handling of complaints, problem resolution and real efforts to recover the service quality can restore customer engagement and intentions to repurchase. This comes to confirm the phenomenon of the "service recovery paradox", which implies that customers are more engaged and satisfied when a service has failed and was successfully recovered, rather than when no failure has occurred (Bitca A., 2024).

The predictor with the second highest influence was customer-to-customer interaction. This finding highlights the importance attributed by members in sharing common attributes with others in the fitness studio of their selection, and in approving of their behavior and appearance. Constructive interactions and a positive environment among clients are thus proven as largely responsible for customer satisfaction.

In addition, a group of supplementary variables also demonstrated statistical importance, although, compared to the aforementioned factors, they are presented as weaker predictors of customer satisfaction. These variables comprise hypotheses H3: variety of programs, services and amenities, H4: ease of booking, H5: comfort and convenience, H6: price and value for money and H8: customer participation. Their standardized coefficients range from  $\beta = 0.08$  to  $\beta = 0.12$ . Even though each of these factors has a more moderate influence on CS than service recovery and customer-to-customer interaction, their grouped importance implies that member satisfaction in fitness studios is "sculpted" not exclusively by isolated factors of the service, but by the accumulated contribution of different elements of the service. Therefore, these factors function in a more supporting manner, thus increasing the overall experience of the service provided and "paving the way" for other more significant factors to apply their full influence on CS.

More specifically, the variety of programs, services and amenities increases satisfaction firstly by including fitness classes for diverse preferences, fitness goals, and different needs. In addition, supplementary services respond to actual fitness trends by promoting a healthy lifestyle and providing a more holistic approach to wellbeing. This works towards the diversification of services by offering a larger palette of options thus increasing the perception of customization. Concerning the ease of booking as well as the comfort and convenience factors, we notice that these factors primarily contribute to CS by reducing non-monetary costs namely time, effort and psychological fatigue and friction, elements which are prominent in modern urban lifestyles. On the other hand, financial aspects like the variable of price and value for money can affect overall satisfaction by supporting the perception of a fair and justified expenditure in terms of price and value. Finally, customer participation demonstrates the co-productive nature of services within the fitness context.

Participants who feel that they actively take part in the training process demonstrate increased satisfaction regarding the training outcome. Whilst none of these variables, when considered alone, appears to be a primary factor for CS, the fact of their presence creates an effect of supportive contributors of CS in the fitness service environment that promotes engagement, loyalty, continuity and positive feelings regarding the overall customer experience.

By linking the findings of this study with the international literature of previous research in the field of services and more specifically in fitness services, we find that they come into alignment and support the idea of the multidimensional nature of the fitness service. We also confirm the fact that customer satisfaction has an important impact on customer loyalty. This outcome supports well-established theoretical frameworks like SERVQUAL and customer satisfaction models in the context of service settings. Most remarkably, the emergence of service recovery and customer-to-customer interaction as important predictors of customer satisfaction as well as the identification of other statistically significant factors are consistent with prior studies. These studies suggest that correct service recovery, positive interactions among members and other factors - which were found to have a less influential impact in forming satisfaction - can jointly shape CS instead of isolated attributes of service.

The results of this research can offer much important information for managers and owners of fitness studios if they want to adapt and improve their services. To begin with, service recovery is highlighted as a major factor determining satisfaction. This suggests that managers who actually prioritize successful handling of complaints and finding solutions to emerging problems may reap the benefits of greater retention rates and increased satisfaction of customers. This can be achieved by creating recovery protocols, supporting staff initiatives to address and resolve any unexpected issues and having clear and transparent communication with the members in order to address and deal with any concerns that might arise. All the above can enhance the positive perception of customers' regarding the studio and help for building long-term relationships (Alam S., 2021). Secondly, the impact observed concerning customer-to-customer interaction should incite managers to actively encourage a socially positive environment by boosting respectful interaction, appropriate behavior and appearance, and designing group formats based on the individuals'

characteristics and goals. By doing so, managers can reduce discomfort among members and increase consistency among groups, which in turn affects CS positively. Lastly, facets such as program and service variety, amenities, ease of booking, comfort and convenience, price, value for money and customer participation even though they display a weaker effect (but are still statistically significant), they also have a role to play in formatting the member's experience. The management should invest in user-friendly booking platforms, in adopting procedures that enhance reduction of non-monetary costs, in creating a variety of fitness classes and supplementary fitness-oriented services, in reinforcing fair pricing and professionalism and in ensuring the involvement of members during the fitness service process.

However, the study is prone to some limitations. First and foremost, the research took place in a very restricted geographic area and relies on a particularly selected sample, which in turn can limit the broadness of the findings. Secondly, the data might be biased since most of the participants were women and there was not enough representation of older participants. Moreover, the exclusive use of quantitative methods may limit the understanding of more complex and deeper aspects of personal satisfaction and perceived value, which qualitative methods might have revealed. Finally, the research focuses mainly on factors which have been identified and examined in previous literature, which means that there might be other potential factors that have not been examined.

Overall, the current thesis validates the international literature by confirming the fact that customer satisfaction and loyalty in fitness centers and more specifically in fitness studios are driven by multiple factors of service quality rather than a single factor. The experiential dimension and the physical and psychological nature of the service make customers' perception of the service very sensitive to experiential and relational dynamics. In this context, it is essential to include the effectiveness of service recovery in case of service failure. Moreover, the findings suggest that tangible elements including quality of equipment, facilities and cleanliness are fundamental aspects of the fitness service. However, members consider them as obvious elements of a fitness center and for that reason, they alone cannot cause significant levels of customer satisfaction. On the contrary, it is the intangible aspects of the service that have an important role in forming members'

general perceptions and assessments. It is also very important to note that according to the study, satisfaction is formed independently of demographic characteristics: the perception of a good service quality is insensitive to differences in age and may apply to different segments of customers. Therefore, fitness studios can successfully fulfill the expectations of a universal clientele by focusing on experience-oriented strategies and creating a sense of trust between the fitness center and its members.

At a national level, this study offers empirical data and results to the limited literature of the Greek fitness industry with regard to customer satisfaction and behavioral intention. From a managerial point of view, these findings highlight key aspects of long-term success in the fitness market, by effectively retaining existing clients and maintaining their satisfaction.

In brief, this study spotlights that the long-term prosperity of fitness studios does not lie purely in the procurement of high-quality machinery and equipment, but on the competence of managers and employees to create experiences with meaning, to build relationships and deliver services driven by trust and position the member at the center of their focus, thus creating value for them.

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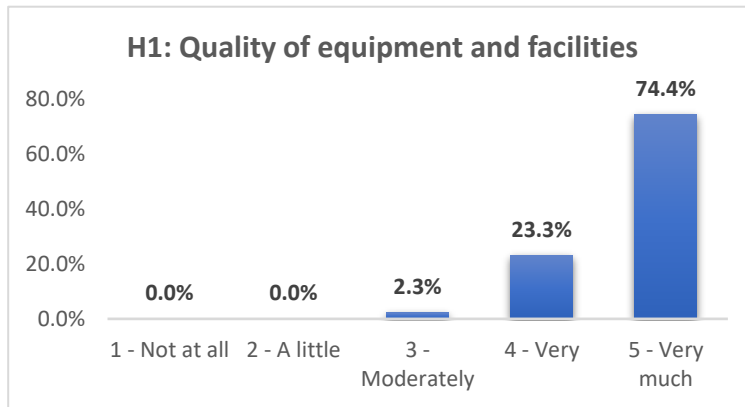
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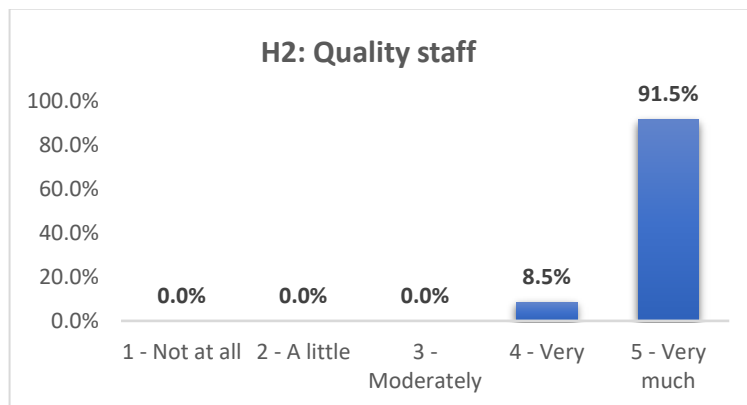
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## APPENDIX

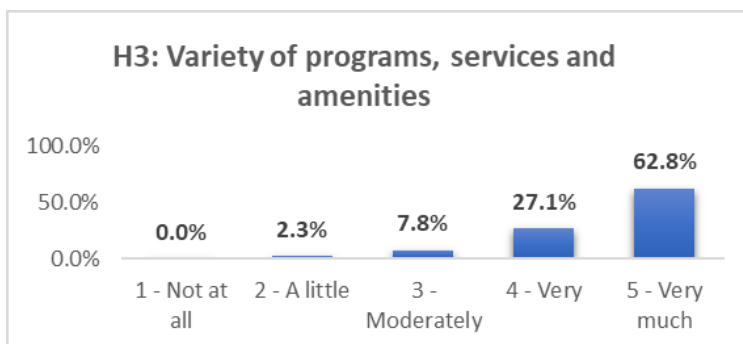
### Appendix A: "Histograms "



**Figure A. 1** Distribution of customer satisfaction levels, regarding quality of equipment and facilities.



**Figure A. 2** Distribution of customer satisfaction levels, regarding quality of staff.



**Figure A. 3** Distribution of customer satisfaction levels, regarding variety of programs, services and amenities.

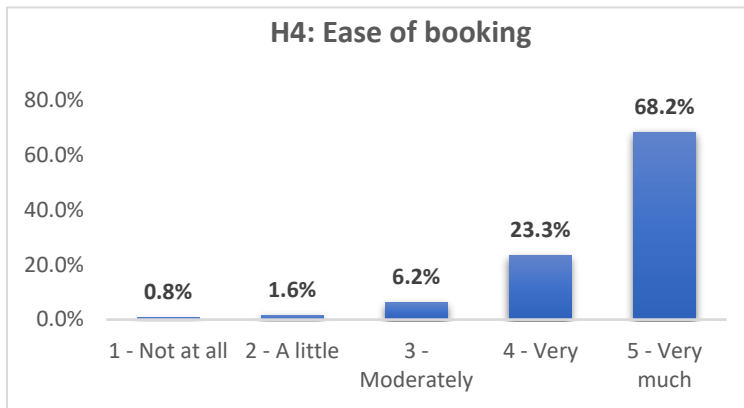


Figure A. 4 Distribution of customer satisfaction levels, regarding ease of booking.

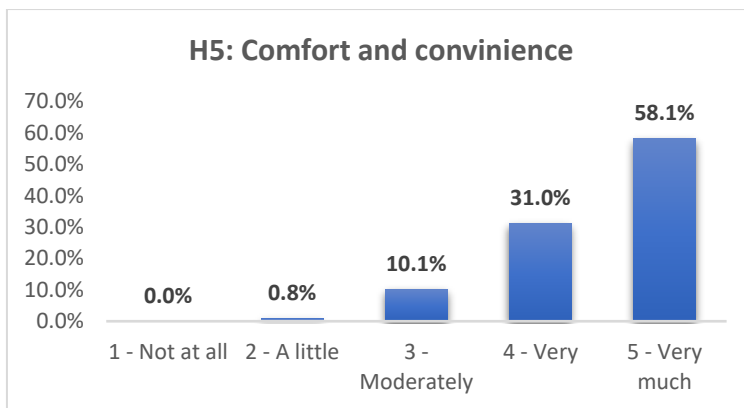


Figure A. 5 Distribution of customer satisfaction levels, regarding comfort and convenience.

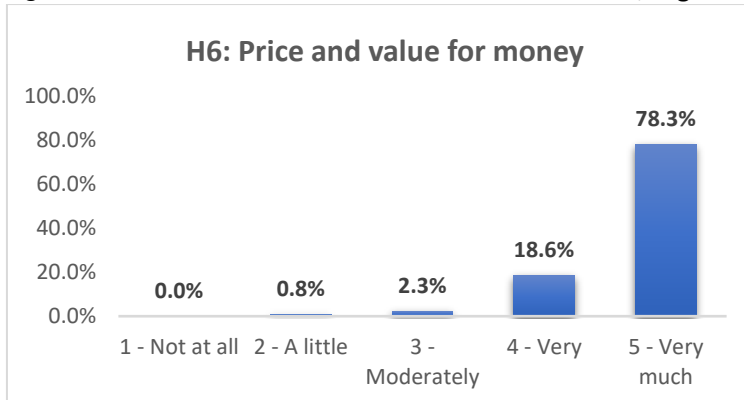


Figure A. 6 Distribution of customer satisfaction levels, regarding price and value for money.

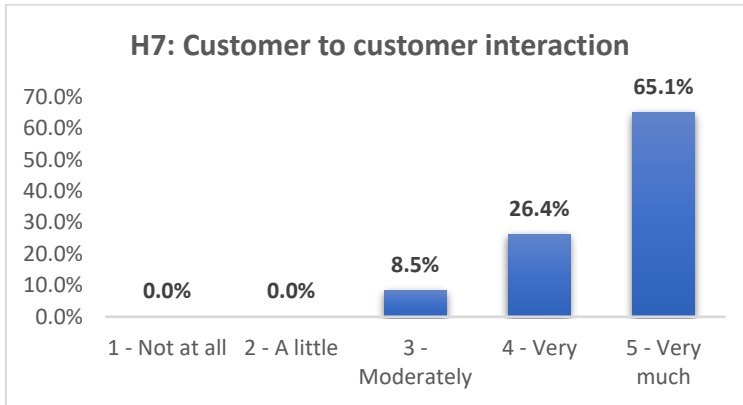


Figure A. 7 Distribution of customer satisfaction levels, regarding customer to customer interaction.

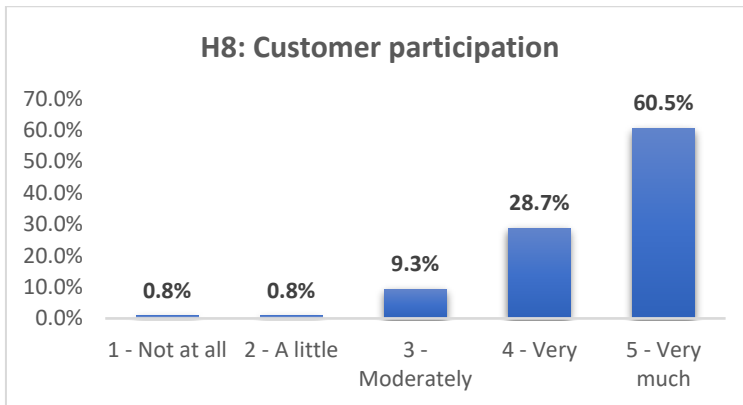


Figure A. 8 Distribution of customer satisfaction levels, regarding customer participation.

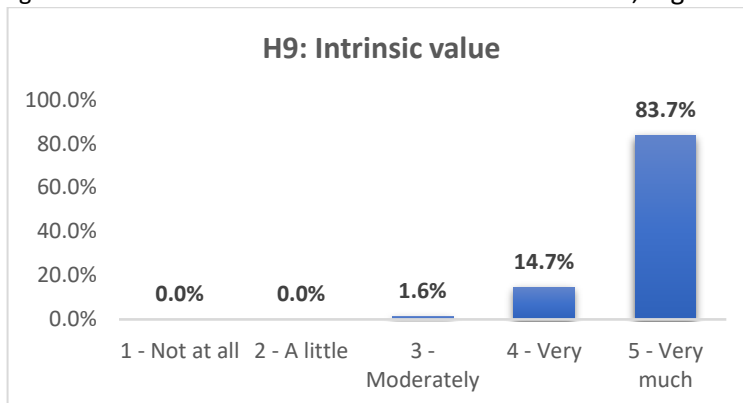


Figure A. 9 Distribution of customer satisfaction levels, regarding intrinsic value.

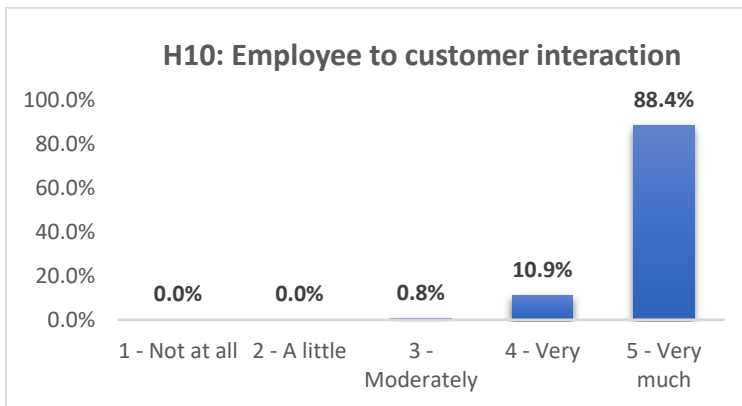


Figure A. 10 Distribution of customer satisfaction levels, regarding employee to customer interaction.

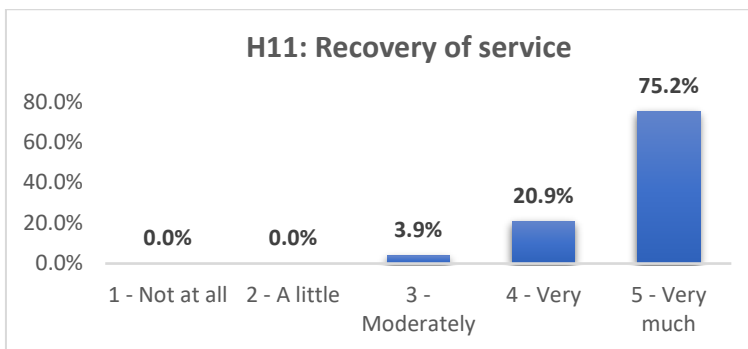


Figure A. 11 Distribution of customer satisfaction levels, regarding recovery service.

## Appendix B: “ANOVA – Duration of subscription ”

Anova: Single Factor						
SUMMARY H1						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	136.00	4.53	0.19		
6-12 months	25.00	117.75	4.71	0.13		
1-3 years	46.00	214.25	4.66	0.23		
>3 years	28.00	129.42	4.62	0.19		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.48	3.00	0.16	0.82	0.49	2.68
Within Groups	24.27	125.00	0.19			
Total	24.75	128.00				

Table B. 1 One-way ANOVA results for duration of subscription and quality of equipment and facilities.

Anova: Single Factor						
SUMMARY H2						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	146.63	4.89	0.05		
6-12 months	25.00	119.83	4.79	0.13		
1-3 years	46.00	225.00	4.89	0.06		
>3 years	28.00	133.67	4.77	0.11		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.36	3.00	0.12	1.52	0.21	2.68
Within Groups	9.95	125.00	0.08			
Total	10.31	128.00				

**Table B. 2** One-way ANOVA results for duration of subscription and quality of staff.

Anova: Single Factor						
SUMMARY H3						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	126.17	4.21	0.80		
6-12 months	25.00	107.50	4.30	0.62		
1-3 years	46.00	209.83	4.56	0.38		
>3 years	46.00	203.67	4.43	0.58		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.62	3.00	0.87	1.53	0.21	2.67
Within Groups	81.59	143.00	0.57			
Total	84.21	146.00				

**Table B. 3** One-way ANOVA results for duration of subscription and variety of programs, services and amenities.

Anova: Single Factor						
SUMMARY H4						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	136.00	4.53	0.46		
6-12 months	25.00	114.00	4.56	0.59		
1-3 years	46.00	220.00	4.78	0.17		
>3 years	46.00	205.17	4.46	0.83		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.60	3.00	0.87	1.70	0.17	2.67
Within Groups	72.91	143.00	0.51			
Total	75.51	146.00				

**Table B. 4** One-way ANOVA results for duration of subscription and ease of booking.

Anova: Single Factor						
SUMMARY H5						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	124.00	4.13	0.72		
6-12 months	25.00	107.50	4.30	0.58		
1-3 years	46.00	195.50	4.25	0.50		
>3 years	46.00	203.67	4.43	0.39		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.68	3.00	0.56	1.07	0.36	2.67
Within Groups	74.88	143.00	0.52			
Total	76.56	146.00				

**Table B. 5** One-way ANOVA results for duration of subscription and comfort and convenience.

Anova: Single Factor						
SUMMARY H6						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	135.00	4.50	0.50		
6-12 months	25.00	116.50	4.66	0.29		
1-3 years	46.00	220.50	4.79	0.14		
>3 years	46.00	213.67	4.64	0.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.60	3.00	0.53	1.86	0.14	2.67
Within Groups	40.96	143.00	0.29			
Total	42.55	146.00				

**Table B. 6** One-way ANOVA results for duration of subscription and price and value for money.

Anova: Single Factor						
SUMMARY H7						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	126.50	4.22	0.37		
6-12 months	25.00	108.00	4.32	0.44		
1-3 years	46.00	210.00	4.57	0.34		
>3 years	46.00	204.67	4.45	0.35		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.50	3.00	0.83	2.28	0.08	2.67
Within Groups	52.25	143.00	0.37			
Total	54.74	146.00				

**Table B. 7** One-way ANOVA results for duration of subscription and customer to customer interaction.

Anova: Single Factor						
SUMMARY H8						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	132.00	4.40	0.52		
6-12 months	25.00	113.00	4.52	0.51		
1-3 years	46.00	211.00	4.59	0.60		
>3 years	46.00	207.17	4.50	0.52		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.64	3.00	0.21	0.39	0.76	2.67
Within Groups	78.12	143.00	0.55			
Total	78.76	146.00				

**Table B. 8** One-way ANOVA results for duration of subscription and customer participation.

Anova: Single Factor						
SUMMARY H9						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	144.33	4.81	0.10		
6-12 months	25.00	119.00	4.76	0.21		
1-3 years	46.00	220.33	4.79	0.17		
>3 years	46.00	219.83	4.78	0.12		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.04	3.00	0.01	0.09	0.97	2.67
Within Groups	21.41	143.00	0.15			
Total	21.44	146.00				

**Table B. 9** One-way ANOVA results for duration of subscription and intrinsic value.

Anova: Single Factor						
SUMMARY H10						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	144.00	4.80	0.23		
6-12 months	25.00	119.00	4.76	0.19		
1-3 years	46.00	228.00	4.96	0.04		
>3 years	46.00	224.17	4.87	0.11		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.79	3.00	0.26	2.05	0.11	2.67
Within Groups	18.39	143.00	0.13			
Total	19.19	146.00				

**Table B. 10** One-way ANOVA results for duration of subscription and employee to customer interaction.

Anova: Single Factor						
SUMMARY H11						
Groups	Count	Sum	Average	Variance		
<6 months	30.00	144.00	4.80	0.23		
6-12 months	25.00	113.00	4.52	0.43		
1-3 years	46.00	221.00	4.80	0.16		
>3 years	46.00	216.17	4.70	0.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.54	3.00	0.51	1.93	0.13	2.67
Within Groups	37.98	143.00	0.27			
Total	39.52	146.00				

**Table B. 11** One-way ANOVA results for duration of subscription and recovery of service.

## Appendix C: “ANOVA – Training frequency”

Anova: Single Factor						
SUMMARY H1						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	412.42	4.63	0.17		
3 to 4	35.00	160.25	4.58	0.28		
5+	5.00	24.75	4.95	0.01		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.61	2.00	0.30	1.58	0.21	3.07
Within Groups	24.14	126.00	0.19			
Total	24.75	128.00				

**Table C. 1** One-way ANOVA results for training frequency and quality of equipment and facilities.

Anova: Single Factor						
SUMMARY H2						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	428.63	4.82	0.09		
3 to 4	35.00	171.50	4.90	0.05		
5+	5.00	25.00	5.00	0.00		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.30	2.00	0.15	1.89	0.16	3.07
Within Groups	10.01	126.00	0.08			
Total	10.31	128.00				

**Table C. 2** One-way ANOVA results for training frequency and quality of staff.

Anova: Single Factor						
SUMMARY H3						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	385.17	4.33	0.62		
3 to 4	35.00	151.50	4.33	0.65		
5+	5.00	24.33	4.87	0.09		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.39	2.00	0.70	1.15	0.32	3.07
Within Groups	76.74	126.00	0.61			
Total	78.14	128.00				

**Table C. 3** One-way ANOVA results for training frequency and variety of programs, services and amenities.

Anova: Single Factor						
SUMMARY H4						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	401.00	4.51	0.62		
3 to 4	35.00	165.00	4.71	0.45		
5+	5.00	23.00	4.60	0.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.10	2.00	0.55	0.98	0.38	3.07
Within Groups	70.59	126.00	0.56			
Total	71.69	128.00				

**Table C. 4 One-way ANOVA results for training frequency and ease of booking.**

Anova: Single Factor						
SUMMARY H5						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	375.50	4.22	0.53		
3 to 4	35.00	145.00	4.14	0.57		
5+	5.00	24.00	4.80	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.89	2.00	0.95	1.79	0.17	3.07
Within Groups	66.56	126.00	0.53			
Total	68.45	128.00				

**Table C. 5 One-way ANOVA results for training frequency and comfort and convenience.**

Anova: Single Factor						
SUMMARY H6						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	410.00	4.61	0.34		
3 to 4	35.00	165.50	4.73	0.24		
5+	5.00	24.00	4.80	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.49	2.00	0.25	0.80	0.45	3.07
Within Groups	38.71	126.00	0.31			
Total	39.20	128.00				

**Table C. 6 One-way ANOVA results for training frequency and price and value for money.**

Anova: Single Factor						
SUMMARY H7						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	393.00	4.42	0.35		
3 to 4	35.00	146.50	4.19	0.44		
5+	5.00	23.50	4.70	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.92	2.00	0.96	2.57	0.08	3.07
Within Groups	46.96	126.00	0.37			
Total	48.88	128.00				

**Table C. 7 One-way ANOVA results for training frequency and customer to customer interaction.**

Anova: Single Factor						
SUMMARY H8						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	403.00	4.53	0.43		
3 to 4	35.00	152.00	4.34	1.00		
5+	5.00	22.00	4.40	0.30		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.89	2.00	0.44	0.76	0.47	3.07
Within Groups	73.27	126.00	0.58			
Total	74.16	128.00				

**Table C. 8 One-way ANOVA results for training frequency and customer participation.**

Anova: Single Factor						
SUMMARY H9						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	425.00	4.78	0.12		
3 to 4	35.00	167.33	4.78	0.22		
5+	5.00	25.00	5.00	0.00		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.24	2.00	0.12	0.83	0.44	3.07
Within Groups	18.16	126.00	0.14			
Total	18.40	128.00				

**Table C. 9 One-way ANOVA results for training frequency and intrinsic value.**

Anova: Single Factor						
SUMMARY H10						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	429.00	4.82	0.17		
3 to 4	35.00	175.00	5.00	0.00		
5+	5.00	25.00	5.00	0.00		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.89	2.00	0.45	3.72	0.03	3.07
Within Groups	15.12	126.00	0.12			
Total	16.02	128.00				

**Table C. 10 One-way ANOVA results for training frequency and employee to customer interaction.**

Anova: Single Factor						
SUMMARY H11						
Groups	Count	Sum	Average	Variance		
1 to 2	89.00	415.00	4.66	0.34		
3 to 4	35.00	168.00	4.80	0.16		
5+	5.00	25.00	5.00	0.00		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.90	2.00	0.45	1.60	0.21	3.07
Within Groups	35.49	126.00	0.28			
Total	36.39	128.00				

**Table C. 11: One-way ANOVA results for training frequency and recovery of service.**

## Appendix D: “ANOVA – Age group”

Anova: Single Factor						
SUMMARY H1						
Groups	Count	Sum	Average	Variance		
21-35	38.00	181.25	4.77	0.11		
36-50	52.00	235.00	4.52	0.28		
51-65	34.00	157.75	4.64	0.14		
>66	5.00	23.42	4.68	0.04		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.40	3.00	0.47	2.49	0.06	2.68
Within Groups	23.35	125.00	0.19			
Total	24.75	128.00				

**Table D. 1 One-way ANOVA results for age group and quality of equipment and facilities.**

Anova: Single Factor						
SUMMARY H2						
Groups	Count	Sum	Average	Variance		
21-35	38.00	185.67	4.89	0.07		
36-50	52.00	250.17	4.81	0.09		
51-65	34.00	164.47	4.84	0.09		
>66	5.00	24.83	4.97	0.01		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.20	3.00	0.07	0.82	0.48	2.68
Within Groups	10.11	125.00	0.08			
Total	10.31	128.00				

**Table D. 2 One-way ANOVA results for age group and quality of staff.**

Anova: Single Factor						
SUMMARY H3						
Groups	Count	Sum	Average	Variance		
21-35	38.00	166.33	4.38	0.65		
36-50	52.00	222.83	4.29	0.59		
51-65	34.00	148.33	4.36	0.68		
>66	5.00	23.50	4.70	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.86	3.00	0.29	0.47	0.71	2.68
Within Groups	77.27	125.00	0.62			
Total	78.14	128.00				

**Table D. 3 One-way ANOVA results for age group and variety of programs, services and amenities.**

Anova: Single Factor						
SUMMARY H4						
Groups	Count	Sum	Average	Variance		
21-35	38.00	178.00	4.68	0.38		
36-50	52.00	228.00	4.38	0.79		
51-65	34.00	158.00	4.65	0.42		
>66	5.00	25.00	5.00	0.00		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	3.41	3.00	1.14	2.08	0.11	2.68
Within Groups	68.28	125.00	0.55			
Total	71.69	128.00				

**Table D. 4 One-way ANOVA results for age group and ease of booking.**

Anova: Single Factor						
SUMMARY H5						
Groups	Count	Sum	Average	Variance		
21-35	38.00	164.50	4.33	0.54		
36-50	52.00	215.50	4.14	0.55		
51-65	34.00	143.00	4.21	0.50		
>66	5.00	21.50	4.30	0.70		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.79	3.00	0.26	0.49	0.69	2.68
Within Groups	67.67	125.00	0.54			
Total	68.45	128.00				

**Table D. 5 One-way ANOVA results for age group and comfort and convenience.**

Anova: Single Factor						
SUMMARY H6						
Groups	Count	Sum	Average	Variance		
21-35	38.00	177.50	4.67	0.34		
36-50	52.00	237.00	4.56	0.35		
51-65	34.00	160.50	4.72	0.23		
>66	5.00	24.50	4.90	0.05		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.94	3.00	0.31	1.02	0.38	2.68
Within Groups	38.26	125.00	0.31			
Total	39.20	128.00				

**Table D. 6 One-way ANOVA results for age group and price and value for money.**

Anova: Single Factor						
SUMMARY H7						
Groups	Count	Sum	Average	Variance		
21-35	38.00	165.00	4.34	0.51		
36-50	52.00	222.00	4.27	0.33		
51-65	34.00	152.50	4.49	0.34		
>66	5.00	23.50	4.70	0.08		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.55	3.00	0.52	1.36	0.26	2.68
Within Groups	47.33	125.00	0.38			
Total	48.88	128.00				

**Table D. 7 One-way ANOVA results for age group and customer to customer interaction.**

Anova: Single Factor						
SUMMARY H8						
Groups	Count	Sum	Average	Variance		
21-35	38.00	170.00	4.47	0.63		
36-50	52.00	228.00	4.38	0.67		
51-65	34.00	155.00	4.56	0.44		
>66	5.00	24.00	4.80	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.19	3.00	0.40	0.68	0.57	2.68
Within Groups	72.96	125.00	0.58			
Total	74.16	128.00				

**Table D. 8 One-way ANOVA results for age group and customer participation.**

Anova: Single Factor						
SUMMARY H9						
Groups	Count	Sum	Average	Variance		
21-35	38.00	183.00	4.82	0.10		
36-50	52.00	244.67	4.71	0.25		
51-65	34.00	165.00	4.85	0.04		
>66	5.00	24.67	4.93	0.02		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.63	3.00	0.21	1.49	0.22	2.68
Within Groups	17.76	125.00	0.14			
Total	18.40	128.00				

**Table D. 9 One-way ANOVA results for age group and intrinsic value.**

Anova: Single Factor						
SUMMARY H10						
Groups	Count	Sum	Average	Variance		
21-35	38.00	187.00	4.92	0.07		
36-50	52.00	253.00	4.87	0.16		
51-65	34.00	165.00	4.85	0.13		
>66	5.00	24.00	4.80	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.13	3.00	0.04	0.34	0.80	2.68
Within Groups	15.89	125.00	0.13			
Total	16.02	128.00				

**Table D. 10 One-way ANOVA results for age group and employee to customer interaction.**

Anova: Single Factor						
SUMMARY H11						
Groups	Count	Sum	Average	Variance		
21-35	38.00	185.00	4.87	0.17		
36-50	52.00	239.00	4.60	0.36		
51-65	34.00	160.00	4.71	0.27		
>66	5.00	24.00	4.80	0.20		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.67	3.00	0.56	2.00	0.12	2.68
Within Groups	34.72	125.00	0.28			
Total	36.39	128.00				

**Table D. 11 One-way ANOVA results for age group and recovery of service.**

Author’s Statement:

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