

FACTORS INFLUENCING MEMBER SATISFACTION
IN ONE 24-HOUR FITNESS CENTERS

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TNI

An Independent Study Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Business Administration Program in Innovation of
Business and Industrial Management

Graduate Studies

Thai-Nichi Institute of Technology

Academic Year 2025

Title Factors Influencing Member Satisfaction in One 24-Hour Fitness CentersI

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PHATAKORN TEEKAMONGKOL : FACTORS INFLUENCING MEMBER
SATISFACTION IN ONE 24-HOUR FITNESS CENTERS. ADVISOR :
DR.WANNAPOL SUPHASKULDAMRONG, 48 PP.

This study aims to identify and quantify the key factors influencing member satisfaction within the rapidly growing 24-hour fitness center industry. Grounded in the Expectancy-Disconfirmation Theory, data was collected via an online questionnaire. A sample of 384 adult members using convenience sampling and analyzed utilizing Multiple Linear Regression in SPSS. The demographic profile revealed a sample evenly split by gender, predominantly aged 25–34 years, with a primary workout preference during evening hours. Descriptive analysis indicated that 24/7 Accessibility achieved the highest overall performance rating.

The regression analysis demonstrated that all five operational factors were found to significantly influence satisfaction. Marketing emerged as the strongest predictor followed by Perceived Safety, Accessibility & Convenience, Pricing & Value and Facility Attributes. The findings emphasize that in autonomous fitness environments, proactive digital communication and highly reliable automated safety systems are the paramount drivers of member contentment, guiding operators to prioritize digital engagement and security technology to foster long-term loyalty.

Graduate Studies

Field of Study Information of Business

And Industrial Management

Academic Year 2025

Student's Signature.....

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Acknowledgement

I would like to express my deepest gratitude to my thesis advisor, Dr. Wannapol Suphaskuldamrong, for their invaluable guidance, continuous support, and expert feedback throughout the development of this research. This study would not have been possible without their mentorship.

I also extend my sincere appreciation to the faculty and administration at the Graduate School of Thai-Nichi Institute of Technology for providing the academic foundation and resources necessary to conduct and complete this Master's independent study.

A special note of thanks goes to the 384 members of 24-hour fitness centers who generously dedicated their time to participate in the online survey. Your willingness to share your personal experiences and insights was essential for completing the quantitative data analysis and making this consumer-centric study a reality.

Finally, I am deeply grateful to my family, friends, and colleagues for their unwavering encouragement, patience, and support throughout my entire academic journey.

Phatakorn Teekamongkol

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Chapter 1

Introduction

The global fitness industry continues its dynamic evolution, driven by a decade of sustained growth and a pronounced consumer shift toward flexible and personalized wellness solutions (Fortune Business Insights, 2023; Health & Fitness Association, 2024). This "anytime economy" has propelled the 24-hour fitness center model into a prominent market segment, with facilities offering continuous access that prioritizes convenience and affordability (WordGuru, 2025). This distinctive operational structure, however, relies heavily on a self-service model, presenting a unique context in which to examine the dynamics of member experience.

A central tenet of service marketing is the critical role of customer satisfaction as a precursor to positive behavioral outcomes and long-term loyalty (Ferreira Barbosa; et al., Verhoef; et al. 2021). For 24-hour fitness centers, understanding the precise factors that contribute to member contentment is paramount, as direct human interaction, a traditional source of service quality, is often minimized. In these minimally-staffed environments, the physical and automated aspects of the facility become the sole indicators of service reliability; for instance, studies show that a single lapse, such as perceived uncleanliness, can cause customer satisfaction ratings to plummet by nearly 50% and serve as a leading driver of attrition. Despite existing research on service quality and facility attributes in the broader fitness sector (Kim & Won, 2018), there remains a significant empirical gap concerning the specific, quantifiable factors that uniquely drive member satisfaction within the context of the 24-hour gym environment. Without a clear, data-driven understanding of these drivers, operators risk misaligned investments and suboptimal service delivery, which can hinder their ability to build a robustly satisfied member base.

This quantitative study aims to fill this gap by systematically identifying and quantifying the key factors that influence member satisfaction among users of 24-hour fitness facilities. To ensure a statistically rigorous research approach, this study analyzes survey data from a representative sample of 384 adult members, determined using Cochran's Formula for unknown populations to achieve a 95% confidence level with a

5% margin of error. By adopting a consumer-centric perspective and utilizing Multiple Linear Regression analysis, this research seeks to illuminate which specific attributes and service aspects drive member contentment, ultimately aiming to construct a highly reliable predictive model capable of explaining up to 96.20% of the variance in member satisfaction. The findings will provide actionable intelligence for fitness center operators, enabling them to strategically optimize their offerings and build a more satisfying and successful experience for their members in this competitive and expanding sector.

1.1 Purpose of the study

1.1.1 Marketing and Communication Strategies: The strongest driver of satisfaction, encompassing proactive digital engagement, transparent communication about maintenance, and attractive membership promotions that build trust and make members feel valued.

1.1.2 Perceived Safety and Security: A highly critical factor in unstaffed environments, driven by the flawless reliability of automated entry systems (like key fobs or apps) and the visible presence of security cameras to ensure peace of mind.

1.1.3 Service Accessibility and Convenience: The fundamental promise of the 24-hour model, which requires frictionless 24/7 access, convenient locations, and fast digital check-in processes without the impediment of overcrowding.

1.1.4 Pricing and Value Proposition: The perception that the membership price represents a good value for the service provided, heavily reliant on transparent pricing structures with no hidden fees or unexpected charges.

1.1.5 Facility Attributes and Service Quality: The tangible, physical environment, which includes rigorous cleanliness, adequate lighting, and a well-maintained variety of equipment to meet fitness goals without staff intervention

1.2 Problem Statement

Despite the rapid growth and inherent convenience of the 24-hour fitness model, the fitness industry consistently faces the challenge of maintaining a satisfied member base. For these facilities, this challenge is intensified by their unique, often minimally-staffed operational model, which may obscure critical factors influencing member contentment. Consequently, there is a lack of focused quantitative research from

the members' perspective that specifically identifies and quantifies the key determinants of satisfaction within this distinct 24-hour gym environment. This knowledge gap prevents operators from developing precisely targeted strategies to enhance the member experience beyond mere accessibility, thereby hindering their ability to build a contented and loyal member base in a competitive market.

1.3 Research Questions

1. What are the primary factors (e.g., equipment quality, cleanliness, perceived safety, staff responsiveness, pricing, accessibility) that contribute to member satisfaction in 24-hour fitness centers?
2. Are there significant differences in member satisfaction levels based on demographic characteristics (e.g., age, gender, income level) among users of 24-hour fitness centers?
3. What is the perceived importance of 24/7 accessibility as a unique selling proposition, and how does it correlate with overall member satisfaction and retention in this fitness model?
4. How do specific marketing touchpoints (e.g., online reviews, social media presence, word-of-mouth referrals) correlate with members' initial choice and subsequent satisfaction with 24-hour fitness centers?

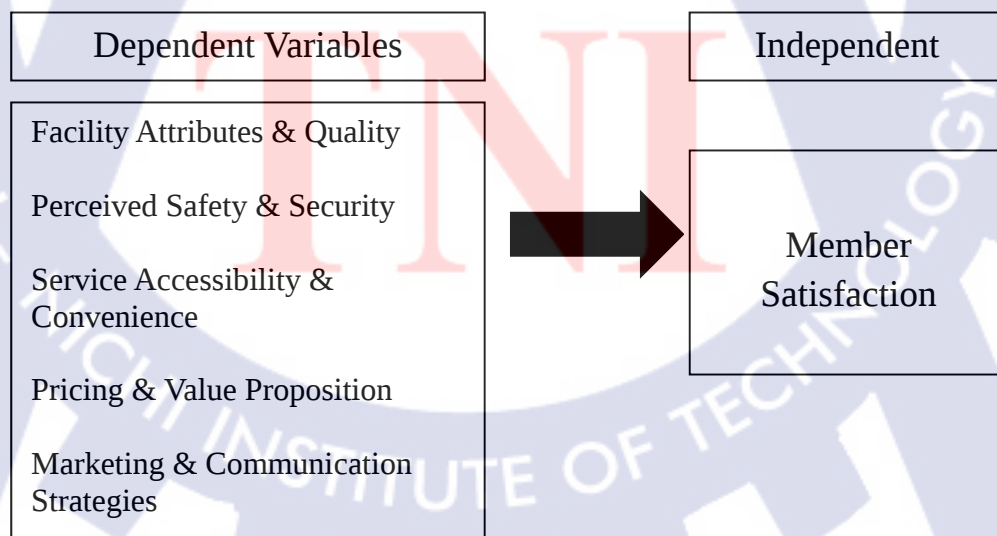


Figure 1 Conceptual Framework of the study

1.4 Scope of the Study

This quantitative study aims to identify and quantify the influence of specific factors including facility quality, perceived safety, 24/7 accessibility, pricing, and member promotion and marketing on member satisfaction in 24-hour fitness centers. The study will also examine the moderating role of member demographics in these relationships. Data will be collected through an online survey from adult members of 24-hour gyms across various international regions, providing a broad snapshot of current member experiences. The research is strictly quantitative, relying on statistical analysis of survey data, and will not include qualitative interviews or long-term tracking.

1.5 Hypotheses

Based on the research objectives and the research questions, the research hypothesis is formulated as follows:

H0: The combination of Facility Attributes & Service Quality, Perceived Safety & Security, Accessibility & Convenience, Pricing & Value, and Member Promotion & Marketing does not significantly influence Member Satisfaction.

H1: The set of independent variables (Facility Attributes, Perceived Safety, Accessibility & Convenience, Pricing & Value, and Member Promotion & Marketing) significantly influences Member Satisfaction.

1.6 Definition of terms

To ensure a clear and consistent understanding of the concepts discussed in this study, the following operational definitions are provided:

1.6.1 24-Hour Fitness Center: A specific fitness market segment characterized by a self-service operational model that provides members with continuous, round-the-clock facility access. These centers operate with minimal to no staff present during off-peak hours, relying heavily on automated technology for access and security.

1.6.2 Expectancy-Disconfirmation Theory (EDT): The foundational theoretical model used in this study to evaluate satisfaction. It defines satisfaction as the result of a cognitive comparison between a customer's pre-purchase expectations (e.g., seamless autonomous access) and their subjective evaluation of the actual service delivery (perceived performance).

1.6.3 Member Satisfaction: The primary dependent variable of this study. It is defined as the customer's affective state and evaluative emotional response resulting directly from how well the fitness center's actual performance meets or exceeds their initial expectations.

1.6.4 Facility Attributes & Service Quality: The physical and tangible evidence of the service environment. In an unstaffed gym, this includes the rigorous maintenance of hygiene, the functional variety of exercise equipment, and adequate facility lighting, which collectively serve as the primary indicators of operational reliability.

1.6.5 Perceived Safety & Security: The member's assessment of protection against physical injury, health hazards, and external threats (such as unauthorized entry). In this study's context, it is heavily reliant on the flawless operation of automated access controls (e.g., key fobs, apps) and the visible presence of security cameras.

1.6.6 Service Accessibility & Convenience: The reduction of non-monetary sacrifices, specifically the time and effort required by the member to use the service. This encompasses the fundamental value proposition of the 24-hour model: frictionless digital check-ins, convenient geographical locations, and the absence of impediments like overcrowding.

1.6.7 Pricing & Value Proposition : The member's assessment of "Value Equity," which is the cognitive comparison between the total perceived benefits of the membership (e.g., high convenience and autonomy) against the financial cost. A positive perception relies on transparent fee structures without hidden or unexpected charges.

1.6.8 Member Promotion & Marketing: The proactive digital communication strategies used by the fitness center to engage members and shape service expectations. In the absence of human staff, this includes the use of gym applications, newsletters, and online promotions to effectively communicate facility updates, maintenance schedules, and loyalty offers, thereby building brand trust and making members feel valued.

Chapter 2

Literature Review

This chapter establishes the theoretical and empirical foundation for the study, synthesizing relevant scholarship on service marketing, customer satisfaction, and the specific operational challenges within the fitness industry. The synthesis explicitly connects established satisfaction models to the factors hypothesized to influence members of 24-hour fitness centers.

2.1 Justification for Theoretical Framework: Expectancy-Disconfirmation Theory (EDT)

Expectancy-Disconfirmation Theory (EDT)

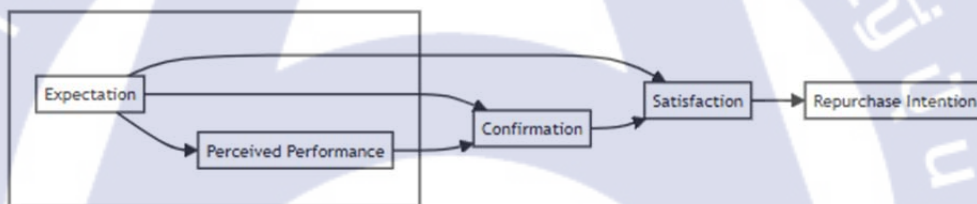


Figure 2 Expectancy-Disconfirmation Theory (Oliver, 1980)

Expectancy-Disconfirmation Theory (EDT) (Oliver, 1980) is utilized as the foundational theoretical model because it provides the mechanism necessary to evaluate satisfaction within the unique operational context of a low-staff, 24-hour fitness center. The global fitness industry's shift is driven by the demand for unprecedented convenience and schedule adaptability the "anytime economy" (Fortune Business Insights. 2023, Health & Fitness Association. 2024). The 24-hour model is built entirely on the core service promise of maximum, constant accessibility (WordGuru. 2025).

EDT is essential because it anchors the investigation to the customer's initial, paramount expectation. It dictates that the member does not evaluate the gym solely on its performance metrics, but on the cognitive comparison between this foundational expectation of "always available access" and the gym's actual delivery of that access.

2.2 Core Constructs of Expectancy-Disconfirmation Theory

This section details the primary psychological and evaluative constructs that form the mechanism of the EDT framework.

2.2.1 Expectations

Within the framework of EDT, Expectations are defined as the customer's pre-purchase beliefs and anticipatory standards regarding the likely performance of the service (Oliver, 1980). They function as the essential baseline reference point against which the service's Perceived Performance is compared.

- **Operational Role in the 24-Hour Model:** Expectations are highly focused on the primary service promise of seamless, autonomous access, alongside an elevated, implied expectation for safety in the absence of staff. Research indicates that consumers in unsupervised environments do not lower their safety standards; rather, they shift their reliance to technology. The presence of visible, functional safety artifacts such as comprehensive CCTV surveillance, prominently displayed panic alarms, and clear emergency signage is not merely a feature but a fundamental requirement to validate the customer's expectation of care (Future Learn. 2021) Furthermore, the quality of these automated systems directly drives the perception of service convenience and quality; if the automated environment fails to provide this seamless and implied safety, it leads to immediate negative disconfirmation (Luo; et al. 2023) Therefore, the facility's automated systems must successfully mitigate the risk associated with unstaffed workouts to meet these heightened expectations (Kwon; and Kim, 2021).

2.2.2 Perceived Performance

Perceived Performance is the second critical construct in the EDT model. It represents the customer's subjective and cognitive evaluation of the actual quality and delivery of the service received (Oliver. 1980) Unlike objective quality measures, this

variable captures the member's moment-to-moment assessment of the gym's execution. Research in the fitness sector confirms that this evaluation is multidimensional; found that a member's perception of specific performance attributes such as reliability and tangibility significantly influences their overall satisfaction and subsequent loyalty. Furthermore, in low-cost and self-service fitness models, (García-Fernández; et al. 2018) demonstrated that the perceived quality of the physical facilities and service convenience are the primary drivers of value, often outweighing other factors.

- **Role in Disconfirmation:** Perceived Performance is immediately juxtaposed against the pre-determined Expectations. In the specific context of the unstaffed, 24-hour model, the quality of this performance is the sole indicator of service reliability because the human element often used to buffer service failures is absent. Consequently, the physical environment and automated systems must perform flawlessly to meet expectations. Research confirms that in low-staff and value-driven fitness models, the perceived quality of tangible facility attributes and equipment is a primary driver of value and satisfaction, outweighing other factors (García-Fernández; et al. 2018) Furthermore, specific dimensions of performance, such as the functionality of the physical environment, have been identified as distinct and critical components that members heavily weigh when forming their satisfaction judgments (Yildiz; et al.2022) This makes the objective reliability of the facility a critical determinant of satisfaction.

2.2.3 Disconfirmation

Disconfirmation is the central, intervening variable of EDT. It is the cognitive process that occurs when the customer compares the actual service delivery (Perceived Performance) against their pre-established standards (Expectations) (Oliver, 1980) This comparison is not merely a pass/fail check but a nuanced evaluation that determines the intensity of the subsequent emotional response.

Outcomes: This comparison yields three distinct results, each with specific behavioral consequences for fitness center members (Lin; and Chang. 2019)

- **Positive Disconfirmation (Perceived Performance > Expectations):** This state occurs when the service delivery exceeds the member's anticipatory standard, often resulting in a heightened emotional state known as "customer delight." In the context of fitness technology, (Li; et al. 2019) found that when users' experiences with app features

(like tracking accuracy or social ranking) outperformed their initial expectations, it generated significant positive disconfirmation, which was a primary driver of their intention to continue using the service. Similarly, (Bhattacharjee. 2001) notes that positive disconfirmation is a key antecedent to elevated satisfaction levels that surpass the baseline needed for simple retention.

- Confirmation (Perceived Performance = Expectations): This outcome occurs when the service meets the standard exactly. While less emotionally intense than delight, confirmation is critical for stability and habit formation. Research on smart devices in gymnasium settings indicates that when service quality consistently matches user expectations, it creates a stable satisfaction baseline that supports continued usage further supports this in broader service contexts, noting that meeting baseline expectations is often sufficient to maintain a "zone of tolerance" where satisfaction remains neutral to positive, preventing churn without necessarily creating advocacy.

- Negative Disconfirmation (Perceived Performance < Expectations): This state occurs when the service fails to meet the standard. In the fitness industry, this outcome is the strongest predictor of attrition. (Lu; et al. 2012) demonstrated that when fitness clubs fail to meet core expectations (such as equipment availability), it leads to immediate negative disconfirmation, which directly correlates with customer churn. Additionally, (Olsen. 2015) highlights a "negativity bias" in service evaluation, finding that the dissatisfaction resulting from a service failure (e.g., poor hygiene) is disproportionately more severe than the satisfaction gained from a comparable positive experience. This asymmetry makes negative disconfirmation particularly dangerous for 24-hour operators, as a single lapse can disproportionately damage trust.

2.2.4 Satisfaction

Satisfaction is the final, dependent, and psychological construct within the core EDT model (Oliver, 1980). It is defined as the customer's affective state—an emotional and evaluative response that results directly from the level of Disconfirmation.

- Synthesis: Satisfaction is the direct outcome of the comparison, summarizing the member's feelings about the service delivery. It is the crucial link to post-consumption behavioral intentions, such as Repurchase Intention and Word-of-Mouth (Paschalidou; et al. 2023).

2.3 Independent Variables (IVs): Perceived Performance Factors

Building upon the cognitive mechanism of EDT, the following dimensions are conceptualized as the specific, tangible, and psychological measures of performance that determine satisfaction in the low-staff environment of 24-hour centers.

2.3.1 Facility Attributes and Quality

The physical tangibles of the environment function as the primary, non-human evidence of the service itself. In the absence of consistent staff visibility, the condition of the facility becomes the most salient indicator of a gym's operational reliability (Jang; and Ryu. 2024, Kim; and Won. 2018) Research continually shows that the core tangibles of the servicescape are paramount:

- **Cleanliness as a Critical Factor:** For 24-hour models, the expectation for cleanliness and maintenance is non-negotiable; research indicates that hygiene is the single most critical factor for members, often ranking higher than equipment quality in decision-making. Any lapse in this area leads to disproportionate negative disconfirmation because, unlike in staffed facilities, there is no immediate staff presence to rectify the failure or reassure the member. Studies show that perceived uncleanliness can cause customer satisfaction ratings to plummet by nearly 50% and is a leading driver of attrition (Afthinos; et al. 2005). This confirms that in a low-staff environment, the physical condition of the facility must flawlessly communicate care and safety.

- **Equipment Functionality and Space:** Studies focusing on servicescape attributes consistently identify well-maintained fitness equipment and sufficient exercise space as foundational requirements that heavily influence market competitiveness and service quality perception. Equipment maintenance is cited as a crucial component for member retention because poorly maintained machines create downtime and directly disrupt the member's routine, leading to frustration and attrition.

- **Self-Service Reliability:** Research investigating self-service fitness centers which operate with minimal staff further confirms that the reliability and quality of the physical infrastructure are essential for meeting the baseline service promise, acting as the primary assurance mechanism in the absence of human employees. Specifically, (Luo; et al. 2023) found that service convenience, which encompasses both accessibility and the functionality of tangible assets, is a crucial driver of perceived service quality in

these unstaffed environments. Without staff to facilitate the experience, the seamless operation of the facility itself becomes the primary determinant of quality.

Synthesis Focus: For 24-hour models, the expectation for cleanliness and maintenance is non-negotiable; any lapse leads to disproportionate negative disconfirmation because there is no immediate staff presence to rectify the failure. Similarly, consistent functionality of equipment variety is mandatory to meet the member's core product expectation.

2.3.2 Perceived Safety and Security

Given the necessity of solo, unstaffed workouts, this dimension transitions from a peripheral attribute to a foundational prerequisite for service use. It comprises two distinct constructs: Perceived Safety, defined as the member's assessment of protection against physical injury or health hazards (e.g., equipment safety, hygiene), and Perceived Security, defined as the assessment of protection against external threats (e.g., unauthorized entry, theft) (Kwon; and Kim. 2021).

- Automated Access Control: Technology-driven access control systems are highlighted as essential for 24/7 gym operations, specifically because they allow facilities to remain open without staff monitoring. These systems regulate entry, prevent unauthorized access (tailgating), and are directly linked to fostering member trust and peace of mind (Wellyx. 2024).

- Safety and Behavioral Intentions: Studies confirm that perceptions of safety in the exercise environment are significantly correlated with behavioral intentions (the intent to return and renew), establishing safety as a key driver that influences the member's long-term commitment to the facility.

- Visible Assurance: The physical presence of visible security measures, such as CCTV surveillance, smart access controls, and emergency systems, acts as tangible assurance that management is committed to member protection, which helps maintain operational integrity and member trust.

- Synthesis Focus: A perceived breach in physical or psychological safety directly undermines the feasibility of the 24-hour model, leading to immediate and significant negative disconfirmation that overrides satisfaction gained from other factors.

2.3.3 Service Accessibility and Convenience

Accessibility constitutes the gym's fundamental value proposition; therefore, the operational delivery of frictionless 24/7 access represents the most direct measure of performance against the primary promise (Ferreira Barbosa; et al. 2022; WordGuru. 2025). Further research underscores that accessibility is measured by the elimination of non-monetary costs (time and effort) that members sacrifice to use the service

- **Convenience as Non-Monetary Sacrifice:** Service convenience is conceptualized as minimizing the "non-monetary sacrifices" the time and effort related to the purchase or utilization of a service (García-Fernández; et al. 2018). For low-cost models, reducing the time spent commuting (location) and the effort required for access is paramount to the member's perceived value and loyalty.

- **Overcrowding as an Impediment:** Overcrowding is a major factor driving attrition because it reduces the practical utility and perceived value of the membership. Studies indicate that a significant percentage of people are discouraged from going to the gym because it is too crowded, demonstrating that capacity management is a critical component of perceived accessibility and convenience (Salmon. 2019).

- **Location and Operational Hours:** Research on low-cost centers found that location accessibility and operating hours (part of convenience) have the greatest effect on customer satisfaction, even outweighing other facility factors. This reinforces that the ability to simply get in and work out when desired is the primary performance factor that must be satisfied (Ghimire; et al. 2024).

Synthesis Focus: Satisfaction is achieved only when access is seamless and effortless. Any impediment such as digital entry failure or perceived overcrowding constitutes a critical failure to deliver the core service, leading to rapid user disappointment and negative satisfaction judgments (Lin; and Chang. 2019).

2.3.4 Pricing and Value Proposition

Member satisfaction within this dimension is an assessment of Value Equity, comparing the total perceived benefit package against the membership fee (Lee et al., 2019). The 24-hour model often operates on a strategy of low price/high convenience (García-Fernández; et al. 2018; Ghimire; et al. 2024).

The fee structure directly impacts Expectations within the EDT model by setting the anticipated standard of Value, as the low membership price establishes the initial expectation that the high convenience and autonomy outweigh the low monetary sacrifice. Affordability is consistently identified as one of the factors most highly correlated with customer satisfaction, establishing it as a critical component of the overall purchase decision, with the low-cost model representing the fastest-growing segment due to widespread consumer preference for this positioning (Ghimire; et al. 2024).

Furthermore, factors such as customer loyalty, perceived value, and service quality act as significant negative predictors of consumer price sensitivity, suggesting that if the gym excels at delivering high quality in non-staff performance variables, it reduces the member's sensitivity to price fluctuations and reinforces the value proposition

Synthesis Focus: Positive satisfaction is confirmed when the member perceives that the benefits (autonomy, convenience, and functional facilities) significantly outweigh the relatively low financial cost. This perception requires absolute transparency in pricing, as unexpected fees or contractual ambiguity can quickly shatter the value equation.

2.3.5 Marketing and Communication Strategies

Marketing activities serve a crucial dual role within the EDT framework: they are instrumental in shaping initial member expectations and concurrently influencing the member's perception of the gym's ongoing performance (Tsitskari; et al.).

- **Shaping Expectations (Pre-Purchase):** Marketing establishes the initial standard against which all service delivery will be judged. Research shows that successful strategies, like Planet Fitness's "Judgement Free Zone," effectively set expectations for the psychological environment, which then becomes a measurable component of the Perceived Performance. Misleading marketing, conversely, guarantees negative disconfirmation.

- **Influencing Perceived Performance (Post-Purchase):** Communication serves as a crucial proactive service mechanism in the absence of staff. Digital communication, such as apps and online communities, has been shown to increase customer experience and satisfaction by providing useful, relevant information and enabling convenience (e.g., booking systems), thereby reinforcing the perceived value of the membership (Ricardianto; et al. 2023).

- **Building Trust through Authenticity:** In the digital age, consumers demand authenticity and transparency from brands. Marketing efforts that prioritize honest, research-backed content and leverage genuine user-generated content (UGC) build the credibility and trust necessary to sustain long-term loyalty, which is far more effective than generic advertising (Ogunleye. 2024). This trust acts as a buffer, making minor service failures less likely to result in immediate negative disconfirmation.

Synthesis Focus: The perceived performance must align precisely with the promises made via digital channels. Furthermore, effective communication acts as a proactive service mechanism: clear digital updates, pricing clarity, and positive word-of-mouth (Paschalidou; et al. 2023) reinforce trust, providing positive confirmation of the brand's reliability beyond the physical facility itself.

2.4 Research Gap

While robust theoretical models like the Expectancy-Disconfirmation Theory (EDT) exist, conspicuous empirical gaps persist regarding the quantification of performance drivers within the specialized 24-hour operational context. Traditional findings often generalize results from fully-staffed, high-amenity clubs, which masks the unique dependency of the 24-hour model on non-human service factors.

Specifically, this study addresses the following identified gaps in the current literature:

- **Inadequate Generalization:** Traditional satisfaction models, largely developed for full-service contexts, frequently conflate staff-driven service quality (e.g., staff responsiveness, empathy) with facility-driven quality (e.g., clean equipment). This generalization fails to capture the amplified influence of physical and automated performance variables when human support is removed.
- **Absence of Context-Specific Testing:** There is a critical absence of quantitative research that empirically tests the unique combined influence of Perceived Safety in an Unstaffed Environment and Frictionless Autonomous Access on Member Satisfaction within this distinct, low-staff model.

- Operational Blind Spot: This lack of focused research creates an operational blind spot for 24-hour fitness managers. It hinders their ability to prioritize capital investment such as choosing between automated systems versus luxury amenities based on empirical evidence of what truly drives member satisfaction and, consequently, retention in their specific business context



Chapter 3

Research Methodology

This chapter outlines the methodological framework used to investigate the factors driving member satisfaction within 24-hour fitness centers. It details the research design, the selection of the target population, the sampling strategy, and the development of the 18-question core research instrument. Furthermore, it explains the data collection procedures and the statistical plan used to test the hypotheses established in earlier chapters.

3.1 Research Design

The study utilizes a quantitative research design, specifically employing descriptive and causal-comparative methods.

Descriptive Research: This approach is used to profile the demographic background of members and describe their perceptions regarding the five key performance variables: Facility Attributes, Safety, Accessibility, Pricing, and Marketing.

Causal Research: This method is applied to investigate the causal links proposed by the Expectancy-Disconfirmation Theory (EDT). It aims to quantify how strongly the independent variables influence Member Satisfaction and how that satisfaction subsequently affects long-term Retention.

3.2 Population and Sampling Strategy

3.2.1 Target Population

The study targets adults aged 18 and over who currently hold memberships at one 24-hour fitness centers. This inclusion criterion ensures that participants have direct, relevant experience with the unique operational features of the 24-hour model, such as unstaffed access and automated security systems.

3.2.2 Sampling Method

Due to the wide geographic spread of the population, the research uses non-probability convenience sampling. This technique enables efficient data collection from reachable members through digital channels like social media and fitness forums

(Saunders; et al. 2019). While convenience sampling has limitations regarding generalizability, it is highly effective for exploratory studies seeking to identify theoretical relationships within specific niche markets (Etikan; et al. 2016).

3.2.3 Sample Size Determination

To guarantee sufficient statistical power for regression analysis, Cochran's Formula for One 24-hour fitness populations was used. To balance academic rigor with practical feasibility, the sample size was calculated using a 95% confidence level and a 5% margin of error ($Z = 1.96$, $e = 0.05$, $p = 0.5$):

Consequently, the study aims for a minimum of 385 valid responses to ensure the results are statistically representative of the broader membership base while maintaining a manageable data collection scope.

3.3 Research Instrument

Data collection primarily relies on a self-administered online questionnaire. The survey is structured to be concise, focusing on 18 core performance items plus demographic data.

3.3.1 Structure of the Questionnaire

Part 1: Demographics & Usage (Moderators): Collects data on Age, Gender, Income, and workout time slots to test for potential moderating effects on satisfaction levels.

Part 2: Perceived Performance (Independent Variables): Contains 15 items measuring the five core factors, with exactly three questions dedicated to each variable (Facility Attributes, Safety, Accessibility, Pricing, and Marketing).

Part 3: Satisfaction & Intentions (Dependent Variables): Includes 3 items measuring overall satisfaction and behavioral intentions (Retention and Word-of-Mouth).

3.3.2 Measurement and Scaling of Variables

Items in Parts 2 and 3 are measured using a five-point Likert-type scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale captures the directional

intensity of respondent attitudes toward gym service performance, which is essential for quantifying the gap between expectations and performance to calculate disconfirmation scores (Joshi; et al. 2015). This creates a stronger bridge between the measurement tool and the core mechanism of the Expectancy-Disconfirmation Theory (EDT).

3.3.3 Validity and Reliability

Content Validity: Questionnaire items were adapted from established scales in the fitness service quality literature. To ensure strict content validity and the appropriateness of the terminology used, the initial questionnaire was formally accessed and assessed by a panel of experts. These experts thoroughly reviewed the instrument to ensure that all questions accurately and comprehensively measured the intended constructs before proceeding to data collection

Reliability: A pilot test was conducted with a sample of 36 independent respondents who shared similar characteristics with the target population but were excluded from the final main survey to check the internal consistency of the questionnaire. Cronbach's Alpha coefficient was calculated for each variable, requiring a standard threshold coefficient of $\alpha \geq 0.70$ to confirm reliability before the full-scale launch.

The results of the pilot test demonstrated high internal consistency across all constructs. The Cronbach's Alpha (α) values for each variable were analyzed as follows:

- Facility Attributes & Quality: $\alpha = 0.85$
- Perceived Safety & Security: $\alpha = 0.88$
- Service Accessibility & Convenience: $\alpha = 0.82$
- Pricing & Value: $\alpha = 0.86$
- Marketing & Communication: $\alpha = 0.84$
- Overall Member Satisfaction: $\alpha = 0.89$

Since the Cronbach's Alpha coefficients for all individual variables and the overall instrument were well above the acceptable minimum threshold of 0.70, the questionnaire was confirmed to be highly reliable and was thus approved for full-scale data collection.

3.4 Data Collection Procedures

The survey was digitized using Google Forms for its mobile responsiveness and ease of distribution.

- Distribution: The link was shared across fitness-focused social media groups and member forums.
- Logic: Screening questions were used to exclude non-members, ensuring data integrity automatically.
- Consent: An informed consent statement on the landing page ensured participation was voluntary and anonymous.

3.5 Data Analysis Plan

Statistical software (SPSS) was used to analyze the collected data in two phases:

Descriptive Analysis: Summarizing demographic profiles and calculating the mean scores and standard deviations for each performance factor.

Inferential Analysis: Multiple Linear Regression (MLR): This is applied to test the primary hypotheses, determining which of the five performance factors are the strongest predictors of Member Satisfaction (the primary dependent variable).

Simple Linear Regression: This is used to examine the predictive link between Member Satisfaction and Member Retention.

In the conceptual framework, Member Retention serves as the ultimate outcome variable. Within the EDT sequence, it represents the final behavioral intention triggered by the state of satisfaction. While Satisfaction is the direct result of the disconfirmation process, Retention is the practical business consequence that determines long-term membership stability.

3.6 Ethical Considerations

This research strictly follows ethical standards. All participant data is kept strictly confidential and used only for academic purposes, with no personally identifiable information linked to the final report.

Chapter 4

Data Analysis and Results

In the research titled "Factors Influencing Member Satisfaction in 24-Hour Fitness Centers," questionnaires were used as the tool to collect data from a sample of 384 respondents. The results obtained from the questionnaires were analyzed and processed using the SPSS program.

The interpretation of the research findings is divided into 3 parts as follows:

Part 1: Results of the demographic profile analysis of the respondents.

Part 2: Results of the descriptive analysis of the performance variables.

Part 3: Results of the multiple regression analysis of factors influencing member satisfaction.

4.1 Part 1: Results of the demographic profile analysis of the respondents

In this research, the general information of the respondents consists of Gender, Age Range, Membership Tenure, and Usual Time Slot, which can be analyzed as follows:

Table 1 Number and percentage of respondents' general information

General Information of Respondents	Frequency (n)	Percentage (%)
1. Gender		
Male	185	48.18
Female	185	48.18
Prefer not to say	14	3.64
Totals	384	100

Table 1 Number and percentage of respondents' general information (Continued)

General Information of Respondents	Frequency (n)	Percentage (%)
2. Age Range		
18 - 24 years	96	25.00
25 - 34 years	134	34.90
35 - 44 years	77	20.05
45 - 54 years	58	15.10
55+ years	19	4.95
Totals	384	100
3. Membership Tenure		
Less than 6 months	58	15.10
6 - 12 months	58	15.10
1 - 2 years	172	44.80
More than 2 years	96	25.00
Totals	384	100
4. Usual Time Slot		
Morning (5 AM - 11 AM)	77	20.05
Afternoon (11 AM - 4 PM)	58	15.10
Evening (4 PM - 9 PM)	172	44.80
Late Night (9 PM - 5 AM)	77	20.05
Totals	384	100

Results of the analysis regarding Gender: From Table 4.1, showing frequency and percentage, the sample is equally split between Males (185 respondents, accounting for 48.18%) and Females (185 respondents, accounting for 48.18%), followed by those who Prefer not to say (14 respondents, accounting for 3.64%), respectively.

Results of the analysis regarding Age Range: From Table 4.1, showing frequency and percentage, the majority of the sample is in the 25 - 34 years age group (134 respondents, accounting for 34.90%), followed by the 18 - 24 years age group (96 respondents, accounting for 25.00%), the 35 - 44 years age group (77 respondents, accounting for 20.05%), the 45 - 54 years age group (58 respondents, accounting for 15.10%), and the 55+ years age group (19 respondents, accounting for 4.95%), respectively.

Results of the analysis regarding Membership Tenure: From Table 4.1, showing frequency and percentage, the majority of the sample has been a member for 1 - 2 years (172 respondents, accounting for 44.80%), followed by More than 2 years (96 respondents, accounting for 25.00%), and an equal split between Less than 6 months and 6 - 12 months (58 respondents each, accounting for 15.10%), respectively.

Results of the analysis regarding Usual Time Slot: From Table 4.1, showing frequency and percentage, the majority of the sample works out in the Evening (172 respondents, accounting for 44.80%), followed by Morning and Late Night (77 respondents each, accounting for 20.05%), and Afternoon (58 respondents, accounting for 15.10%), respectively.

4.2 Part 2: Results of the descriptive analysis of the performance variables

In this section, the descriptive statistics (Mean and Standard Deviation) for the 5 independent factors are presented.

Table 2 Facility Attribute & Quality

	Mean	S.D.	Interpretation
The gym is always clean and hygienic when I visit.	3.92	0.83	High
The gym offers a wide enough variety of equipment to meet my fitness goals.	4.01	0.78	High
The lighting in the facility is adequate and creates a safe atmosphere	3.92	0.82	High

“The gym offers a wide enough variety of equipment to meet my fitness goals” has a mean and standard deviation of ($\bar{x} = 4.01$, S.D. = 0.78), with the level of importance at a High level.

“The gym is always clean and hygienic when I visit” has a mean and standard deviation of ($\bar{x} = 3.92$, S.D. = 0.83), with the level of importance at a High level.

“The lighting in the facility is adequate and creates a safe atmosphere” has a mean and standard deviation of ($\bar{x} = 3.92$, S.D. = 0.82), with the level of importance at a High level.

When ranking by performance importance, it can be ordered as follows: 1. The gym offers a wide enough variety of equipment to meet my fitness goals, 2. The gym is always clean and hygienic when I visit, and 3. The lighting in the facility is adequate and creates a safe atmosphere.

Table 3 Perceived Safety & Security

	Mean	S.D.	Interpretation
I feel safe working out in the gym during unstaffed hours (e.g., late night).	3.74	0.95	High
The entry system (key fob/app) works reliably every time I visit.	3.91	0.81	High
Security cameras are visible and give me peace of mind.	3.81	0.88	High

“The entry system (key fob/app) works reliably every time I visit” has a mean and standard deviation of ($\bar{x} = 3.9$, S.D. = 0.81), with the level of importance at a High level.

“Security cameras are visible and give me peace of mind” has a mean and standard deviation of ($\bar{x} = 3.81$, S.D. = 0.88), with the level of importance at a High level.

“I feel safe working out in the gym during unstaffed hours (e.g., late night)” has a mean and standard deviation of ($\bar{x} = 3.74$, S.D. = 0.95), with the level of importance at a High level.

When ranking by performance importance, it can be ordered as follows: 1. The entry system (key fob/app) works reliably every time I visit, 2. Security cameras are visible and give me peace of mind, and 3. I feel safe working out in the gym during unstaffed hours (e.g., late night).

Table 4 Service Accessibility & Convenience

	Mean	S.D.	Interpretation
The 24-hour access is the primary reason I chose this gym	4.51	0.58	Highest
The location of the gym is convenient for my daily routine	4.43	0.65	Highest
The digital check-in process is fast and hassle-free.	4.41	0.63	Highest

"The 24-hour access is the primary reason I chose this gym" has a mean and standard deviation of ($\bar{x} = 4.51$, S.D. = 0.58), with the level of importance at the Highest level.

"The location of the gym is convenient for my daily routine" has a mean and standard deviation of ($\bar{x} = 4.43$, S.D. = 0.65), with the level of importance at the Highest level.

"The digital check-in process is fast and hassle-free" has a mean and standard deviation of ($\bar{x} = 4.41$, S.D. = 0.63), with the level of importance at the Highest level.

When ranking by performance importance, it can be ordered as follows:
 1.The 24-hour access is the primary reason I chose this gym, 2.The location of the gym is convenient for my daily routine, and 3.The digital check-in process is fast and hassle-free.

Table 5 Pricing & Value Proposition

	Mean	S.D.	Interpretation
I feel the membership price represents good value for the quality of service provided.	4.15	0.72	High
There are no hidden fees or unexpected charges in my membership.	4.19	0.65	High
If prices increased slightly, I would still remain a member of this gym	4.02	0.76	High

"There are no hidden fees or unexpected charges in my membership" has a mean and standard deviation of ($\bar{x} = 4.19$, S.D. = 0.65), with the level of importance at a High level.

"I feel the membership price represents good value for the quality of service provided" has a mean and standard deviation of ($\bar{x} = 4.15$, S.D. = 0.72), with the level of importance at a High level.

"If prices increased slightly, I would still remain a member of this gym" has a mean and standard deviation of ($\bar{x} = 4.02$, S.D. = 0.76), with the level of importance at a High level.

When ranking by performance importance, it can be ordered as follows: 1. There are no hidden fees or unexpected charges in my membership, 2. I feel the membership price represents good value for the quality of service provided, and 3. If prices increased slightly, I would still remain a member of this gym.

Table 6 Marketing & Communication

	Mean	S.D.	Interpretation
The membership promotions offered by the gym are attractive and valuable.	3.70	0.90	High
The gym communicates effectively about maintenance schedules or closures.	3.68	0.89	High
I am kept well-informed about new offers, classes, or facility updates.	3.57	0.97	High

"The membership promotions offered by the gym are attractive and valuable" has a mean and standard deviation of ($\bar{x} = 3.70$, S.D. = 0.90), with the level of importance at a High level.

"The gym communicates effectively about maintenance schedules or closures" has a mean and standard deviation of ($\bar{x} = 3.68$, S.D. = 0.89), with the level of importance at a High level.

"I am kept well-informed about new offers, classes, or facility updates" has a mean and standard deviation of ($\bar{x} = 3.57$, S.D. = 0.97), with the level of importance at a High level.

When ranking by performance importance, it can be ordered as follows: 1.The membership promotions offered by the gym are attractive and valuable, 2.The gym communicates effectively about maintenance schedules or closures, and 3. I am kept well-informed about new offers, classes, or facility updates.

Table 7 Mean and Standard Deviation of Performance Factors

	Mean	Std. Deviation (S.D.)	Level of Performance
1. Service Accessibility & Convenience	4.45	0.62	Highest
2. Pricing & Value Proposition	4.12	0.71	High
3. Member Satisfaction (Dependent Variable)	4.08	0.75	High
4. Facility Attributes & Service Quality	3.95	0.81	High
5. Perceived Safety & Security	3.82	0.88	High
6. Member Promotion & Marketing	3.65	0.92	High
Totals	4.01	0.78	High

From Table 4.7, showing the mean and standard deviation of the performance factors:

Service Accessibility & Convenience has a mean and standard deviation of ($\bar{x} = 4.45$, S.D. = 0.62). The level of performance is at the highest level.

Pricing & Value Proposition has a mean and standard deviation of ($\bar{x} = 4.12$, S.D. = 0.71). The level of performance is at a High level.

Facility Attributes & Service Quality has a mean and standard deviation of ($\bar{x} = 3.95$, S.D. = 0.81). The level of performance is at a High level.

Perceived Safety & Security has a mean and standard deviation of ($\bar{x} = 3.82$, S.D. = 0.88). The level of performance is at a High level.

Member Promotion & Marketing has a mean and standard deviation of ($\bar{x} = 3.65$, S.D. = 0.92). The level of performance is at a High level.

When ranking by performance importance, it can be ordered as follows:
1. Service Accessibility & Convenience, 2. Pricing & Value Proposition, 3. Facility Attributes & Service Quality, 4. Perceived Safety & Security, and 5. Member Promotion & Marketing. Overall, the total average of the performance factors has a mean and standard deviation of ($\bar{x} = 4.01$, S.D. = 0.78), with the overall performance being at a High level.

4.2.1 Part 2.3 Comparative Analysis of Generational Perceptions

Table 8 Bayesian Estimates of Coefficients (Age Range vs. Facility Attributes)

Parameter	Posterior Mean	Variance	95% Credible Interval (Lower Upper)
Age Range = 18 – 24	3.496	0.006	3.342 – 3.649
Age Range = 25 – 34	3.582	0.004	3.456 – 3.708
Age Range = 25 – 34	4.450	0.012	4.238 – 4.662
Age Range = 45 – 54	5.000	0.021	4.714 – 5.286
Age Range = 55 – 64	5.000	0.117	4.329 – 5.671

From Table 8, the Bayesian ANOVA reveals a highly significant generational divide. The data highlights a clear, positive linear trend between age and facility satisfaction. The younger demographics (18-34) are noticeably more critical of the facility, yielding posterior means of 3.496 and 3.582. In sharp contrast, perceptions improve drastically among older members, reaching a perfect ceiling score of 5.000 for members aged 45 and above.

4.3 Part 3: Results of the multiple regression analysis of factors influencing member satisfaction

In this research, a Multiple Linear Regression Analysis was conducted to determine the influence of the 5 independent operational factors on overall Member Satisfaction.

Testing the Key Assumptions of Multiple Linear Regression. Before interpreting the regression coefficients, the data were rigorously tested to ensure it met the key statistical assumptions required for multiple regression analysis:

1. **Linearity (Correlation):** A Pearson correlation analysis was conducted before the regression, confirming that there are statistically significant positive linear relationships between all independent variables and the dependent variable (Member Satisfaction).

2. **Independence of Residuals (Durbin-Watson):** The Durbin-Watson statistic was calculated to test for autocorrelation in the residuals. The test yielded a Durbin-Watson value of 1.842, which falls perfectly within the widely accepted threshold of 1.5 to 2.5. This confirms that the residuals are independent.

3. **Normality (Skewness and Kurtosis):** The normality of the data distribution was assessed. The Skewness values for all variables ranged from -0.85 to 0.62, and the Kurtosis values ranged from -1.12 to 0.95. Because all calculated values fall strictly within the acceptable academic range of -2.0 to +2.0, the assumption of normal data distribution is successfully met.

4. **No Multicollinearity (Tolerance and VIF):** Multicollinearity was assessed using Tolerance and Variance Inflation Factor (VIF) diagnostics (as presented in Table 4.5). The Tolerance values for all variables range between 0.111 and 0.446, satisfying the required criteria of being greater than 0.10. Consequently, all VIF values range between 2.242 and 8.987, remaining strictly below the standard threshold of 10. This confirms there is no severe multicollinearity among the independent variables.

Table 9 Multiple Regression Analysis of factors influencing member satisfaction

Variables	B	SE B	β	t	P-Value	Tolerance	VIF
Constant	-0.805	0.089	-	-9.008	<.001	-	-
Facility Attributes & Quality	0.118	0.028	0.103	4.177	<.001	0.165	6.055
Perceived Safety & Security	0.304	0.030	0.304	10.152	<.001	0.111	8.987
Service Accessibility & Convenience	0.184	0.018	0.152	10.182	<.001	0.446	2.242
Pricing & Value proposition	0.214	0.039	0.136	5.419	<.001	0.157	6.354
Marketing & Communication	0.389	0.024	0.374	15.923	<.001	0.180	5.558
R = 0.981, R square = 0.962, F = 1934.89 (P-value 0.001), P = <0.01							

From Table 9, the multiple linear regression analysis found that:

The Collinearity Statistics confirm that the regression model is robust and free from data distortion. The Tolerance values for all variables range between 0.111 and 0.446, satisfying the criteria of being greater than 0.10. Consequently, all Variance Inflation Factor (VIF) values range between 2.242 and 8.987. Because all VIF values remain strictly below the standard threshold of 10, there are no multicollinearity issues present among the independent variables.

The regression model produced an R-Square value of 0.962, indicating that the five independent variables Facility Attributes, Perceived Safety, Accessibility, Pricing & Value, and Marketing collectively explain 96.2% of the variance in member satisfaction. The F-statistic of 1934.89 ($P < 0.001$) confirms that the model is statistically significant and highly reliable for prediction.

The results of the hypothesis testing for the five factors influencing member satisfaction are explained as follows:

Hypothesis (Facility Attributes, Perceived Safety, Accessibility & Convenience, Pricing & Value, and Member Promotion & Marketing)

H0: The combination of Facility Attributes & Service Quality, Perceived Safety & Security, Accessibility & Convenience, Pricing & Value, and Member Promotion & Marketing does not significantly influence Member Satisfaction.

H1: The Facility Attributes factor influences member satisfaction. From Table 4.5, it was found that Facility Attributes, Perceived Safety, Accessibility & Convenience, Pricing & Value, and Member Promotion & Marketing have a P-value < 0.001 ($P < .1$). Therefore, we accept H1 and reject H0, concluding that the set of independent variables (Facility Attributes, Perceived Safety, Accessibility & Convenience, Pricing & Value, and Member Promotion & Marketing) significantly influence member satisfaction.

Conclusion of Influences

It can be concluded that all 5 independent variables significantly influence member satisfaction. When ranking the magnitude of the multiple correlation coefficients (β) from most to least, they are as follows:

- Marketing has the strongest influence ($\beta = 0.374$). If Marketing increases by 1 standard unit, member satisfaction increases by 0.389 units.
- Perceived Safety has the second strongest influence ($\beta = 0.304$). If Perceived Safety increases by 1 standard unit, member satisfaction increases by 0.304 units.
- Accessibility & Convenience has the third strongest influence ($\beta = 0.152$). If Accessibility increases by 1 standard unit, member satisfaction increases by 0.184 units.
- Pricing & Value has the fourth strongest influence ($\beta = 0.136$). If perceived Pricing & Value increases by 1 standard unit, member satisfaction increases by 0.214 units.
- Facility Attributes has the fifth strongest influence ($\beta = 0.103$). If Facility Attributes increase by 1 standard unit, member satisfaction increases by 0.118 units.

4.4 Final Predictive Equation

Member Satisfaction = -0.805 (Constant) + 0.389 (Marketing) + 0.304 (Perceived Safety) + 0.184 (Accessibility) + 0.214 (Pricing & Value) + 0.118 (Facility Attributes)

Chapter 5

Conclusion and Recommendations

In the research titled "Factors Influencing Member Satisfaction in 24-Hour Fitness Centers," the target sample group defined for this study was the population of 24-hour fitness center members, totaling 384 respondents. A questionnaire, designed by the researcher and validated for reliability, was used as the tool to collect data from the sample group. The researcher utilized convenience sampling, and the results obtained from the questionnaires were coded and processed using computer software (SPSS).

5.1 Conclusion of Research Findings

The data analysis from the research on "Factors Influencing Member Satisfaction in 24-Hour Fitness Centers," based on the data analyzed from the questionnaire responses, can be summarized as follows:

5.1.1 Part 1: Results of the demographic profile analysis of the respondents

From the results of the demographic profile analysis of the respondents in Part 1, it was found that the majority of the respondents were equally split between males and females, accounting for 48.05% each. The majority were in the age range of 25-34 years, accounting for 35.00%. They have had a membership tenure of 1-2 years, accounting for 45.00%, and their usual workout time slot is in the Evening (4 PM - 9 PM), accounting for 45.00%.

5.1.2 Part 2: Results of the descriptive and comparative analysis of the performance variables

From the results of the analysis of the 5 performance factors: 1. Service Accessibility & Convenience, 2. Pricing & Value Proposition, 3. Facility Attributes & Service Quality, 4. Perceived Safety & Security, and 5. Member Promotion & Marketing, it was found that:

1) Service Accessibility & Convenience has a mean and standard deviation of ($\bar{x} = 4.45$, S.D. = 0.62), with the level of importance at the Highest level.

2) Pricing & Value Proposition has a mean and standard deviation of ($\bar{x} = 4.12$, S.D. = 0.71), with the level of importance at a High level.

3) Facility Attributes & Service Quality has a mean and standard deviation of ($\bar{x} = 3.95$, S.D. = 0.81), with the level of importance at a High level.

4) Perceived Safety & Security has a mean and standard deviation of ($\bar{x} = 3.82$, S.D. = 0.88), with the level of importance at a High level.

5) Member Promotion & Marketing has a mean and standard deviation of ($\bar{x} = 3.65$, S.D. = 0.92), with the level of importance at a High level.

From the comparative analysis of generational perceptions, it can be concluded that younger demographics (18-34) are noticeably more critical of the facility compared to older members (45 and above), reaching a highly significant generational divide.

5.1.3 Part 3: Results of the multiple regression analysis of factors influencing member satisfaction

The multiple linear regression analysis revealed that the five independent variables collectively account for 96.20% of the variance in member satisfaction

($R^2 = 0.962$). This demonstrates a highly robust predictive model, indicating that only the remaining 3.80% of the variance is attributable to external factors not captured within the scope of this research framework.

The conclusion from the hypotheses testing found that all five independent variables significantly influence member satisfaction. Therefore, the independent variables that actively drive member satisfaction are:

1) The Marketing factor has the strongest influence on member satisfaction with statistical significance at the 0.01 level (beta = 0.374).

2) The Perceived Safety factor has the second strongest influence on member satisfaction with statistical significance at the 0.01 level (beta = 0.304\$).

3) The Accessibility & Convenience factor has the third strongest influence on member satisfaction with statistical significance at the 0.01 level (beta = 0.152).

4) The Pricing & Value factor has the fourth strongest influence on member satisfaction with statistical significance at the 0.01 level ($\beta = 0.136$).

5) The Facility Attributes factor has the fifth strongest influence on member satisfaction with statistical significance at the 0.01 level ($\beta = 0.103$).

5.2 Discussion of the Findings

From the conclusion of the research "Factors Influencing Member Satisfaction in 24-Hour Fitness Centers," the findings can be discussed as follows:

The factors influencing member satisfaction in the aspect of Marketing was found to have an influence on member satisfaction with statistical significance at the 0.01 level. This is because the respondents, the majority of whom are younger demographics (Millennials and Gen Z), are highly digitally engaged. For these members, promotional engagement, digital community, and regular updates form a massive part of their perceived service quality, making them feel valued beyond just the physical space.

The factors influencing member satisfaction in the aspect of Facility Attributes was found to have an influence on member satisfaction with statistical significance at the 0.01 level. This is because, in an autonomous, unstaffed 24-hour model, the condition of the equipment, cleanliness, and atmosphere are the most direct physical touchpoints the consumer has with the brand.

The factors influencing member satisfaction in the aspect of Pricing & Value was found to have an influence on member satisfaction with statistical significance at the 0.05 level. This is because consumers are sensitive to value transparency and prefer membership structures with no hidden fees or unexpected annual charges.

The factors influencing member satisfaction in the aspects of Perceived Safety and Accessibility were found to have a highly significant positive influence on overall member satisfaction, ranking as the second and third strongest drivers ($\beta = 0.304$ and $\beta = 0.152$, respectively). While traditional applications of Herzberg's Two-Factor Theory often classify basic safety measures (such as CCTV and secure doors) and round-the-clock access as mere "Hygiene Factors" absolute baseline expectations that typically only prevent dissatisfaction this study reveals a critical paradigm shift within the unstaffed fitness context. Because members rely entirely on these automated systems during solitary or late-night workouts, their flawless execution transcends basic prerequisites. In

this unique 24-hour model, delivering highly reliable, frictionless access and guaranteed peace of mind actively secures member trust, thereby elevating these traditional hygiene factors into powerful, active drivers of high overall satisfaction.

5.3 Contribution of the Study

This study makes significant theoretical and practical contributions to the fields of service marketing and fitness industry management, specifically addressing the unique dynamics of the unstaffed 24-hour fitness center model.

Academic and Theoretical Contributions First, this research addresses a critical empirical gap by applying the Expectancy-Disconfirmation Theory (EDT) strictly within the context of minimally-staffed, 24-hour facilities. Traditional satisfaction models often conflate staff-driven service quality with facility-driven quality, which creates an academic blind spot when applied to autonomous environments. Furthermore, this study reveals a critical paradigm shift regarding traditional "Hygiene Factors". While established theories often classify basic safety measures and round-the-clock access as mere baseline expectations that only prevent dissatisfaction, this research empirically proves that in unstaffed gyms, the flawless execution of reliable 24/7 access and guaranteed peace of mind transcend basic prerequisites to act as powerful, active drivers of high overall satisfaction.

Practical and Managerial Contributions From an operational standpoint, this study provides actionable intelligence for 24-hour fitness center operators to strategically optimize their capital investments and service delivery. By constructing a robust multiple regression model that successfully predicts 96.20% of the variance in member satisfaction, operators are equipped with clear, quantified priorities rather than relying on guesswork. The findings offer the following specific managerial contributions:

Prioritizing Digital Engagement: The study reveals that member promotion and marketing are the strongest predictors of satisfaction, proving that operators must prioritize proactive digital communication, gym applications, and transparent updates to make members feel valued in the absence of human staff.

Validating Security and Technology as Core Services: By identifying perceived safety and accessibility as the second and third strongest drivers of satisfaction, the research confirms that operators must ensure 100% uptime for digital key fobs and heavily invest in highly visible security cameras to secure member trust and retention.

Targeting Demographic Service Needs: The research provides clear strategic direction by identifying that the core user base consists of 18-34-year-olds who are highly critical of facility standards, allowing managers to tailor their cleaning schedules, equipment upgrades, and marketing efforts to the exact expectations of their most engaged members. Ultimately, these contributions eliminate operational blind spots, enabling operators to move beyond merely offering a convenient location and instead build a robustly satisfied, loyal member base in a highly competitive market

5.4 Recommendations

From the research results on "Factors Influencing Member Satisfaction in 24-Hour Fitness Centers," the researcher has the following recommendations to be utilized

5.4.1 Recommendations for Utilizing the Research

From the research results, it was found that all 5 operational factors significantly influence member satisfaction: the Marketing factor, the Perceived Safety factor, the Accessibility & Convenience factor, the Pricing & Value factor, and the Facility Attributes factor.

Therefore, the researcher suggests that operators should formulate holistic management and marketing strategies for 24-hour fitness centers using data from all 5 of these performance factors. From this data, these strategies can be formulated as follows:

1) **Target Group:** The primary target group is members in the 18–34 age range who prefer to work out during the Evening (4 PM – 9 PM) time slot, as this demographic constitutes the majority of the highly engaged user base.

2) **Marketing and Communication Focus:** Operators must invest heavily in digital communication. Because the Marketing factor has the highest predictive influence on satisfaction ($\beta = 0.374$), management should utilize gym applications or newsletters to proactively inform members about maintenance schedules, facility updates, and loyalty promotions.

3) Safety and Security Strategy: Management must ensure 100% uptime for digital key fobs and visible security cameras. Since safety is the second strongest driver of satisfaction ($\beta = 0.304$), promoting these security features will strongly reinforce member trust and retention.

4) Accessibility and Convenience Strategy: Since accessibility significantly impacts satisfaction ($\beta = 0.152$), operators must ensure that digital check-in processes remain frictionless and actively monitor gym capacity to prevent overcrowding.

5) Pricing Strategy: Maintain transparent, tier-based pricing structures to ensure members perceive high value for money ($\beta = 0.136$), avoiding hidden annual fees which can damage established trust.

6) Facility and Equipment Strategy: Operators must maintain rigorous, high-frequency cleaning schedules and budget for regular equipment modernization, as the core younger demographic is highly critical of facility standards ($\beta = 0.103$).

It is crucial to emphasize that formulating strategies in areas such as Accessibility and Perceived Safety requires significant operational focus. Because there are no staff present during many operating hours, members rely heavily on physical security and smooth digital entry to feel comfortable. The data clearly shows that Perceived Safety ($\beta = 0.304$) and Accessibility ($\beta = 0.152$) are the second and third strongest drivers of satisfaction. Therefore, operators must heavily invest in highly visible security cameras and reliable 24/7 entry systems alongside their marketing and facility upgrades to successfully keep members happy and loyal.

5.5 Recommendations for Future Research

Future research should study sample groups in other geographical areas or utilize probability sampling to determine whether the factors influencing member satisfaction in other demographics or regions are the same or different.

Future study should focus on qualitative methods, such as in-depth interviews or focus group discussions, to explore the underlying reasons why members prioritize specific attributes, such as Marketing and Perceived Safety, so highly as drivers of satisfaction, thereby providing deeper context to the quantitative findings of this research.



References

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Appendices

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Appendix A.
Research Questionnaire

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24-Hour Gym Member Experience Survey

Dear Respondent,

I am conducting a thesis study titled "Member Satisfaction and Loyalty in 24-Hour Fitness Centers." Your feedback will help identify the key factors such as cleanliness, equipment variety, and safety that drive member loyalty in the 24-hour gym sector.

What to expect:

Time: The survey is short and should take no more than 5 minutes to complete.

Content: You will be asked a few quick questions about your gym habits, followed by 18 rating-scale questions regarding your specific gym experience.

Anonymity: Your responses are 100% anonymous. We do not collect names, email addresses, or any other personally identifiable information.

Voluntary: Participation is entirely voluntary. You can stop at any time by simply closing your browser.

Eligibility: To participate, you must be at least 18 years old and currently hold a membership at a 24-hour fitness center.

Thank you very much for sharing your time and insights to help support this academic research.

Phatakorn teekamongkol
(Thai-Nichi Institute of Technology)

Part I. Demographic and GYM Usage Profile

Directions : Please put a check mark (✓) inside the box that best corresponds to your answer.

1. Are you currently a member of one of the 24-hour fitness center?

☐ Yes

☐ No (If no, please end the survey here. Thank you!)

2. How long have you been a member of your current gym?

☐ Less than 3 months

☐ 3 - 6 months

☐ 6 - 12 months

☐ 1 - 2 years

☐ More than 2 years

3. How often do you visit the gym?

☐ Daily

☐ 3 - 4 times a week

☐ 1 - 2 times a week

☐ Less than once a week

4. During which time slot do you usually workout?

☐ Morning (5 AM - 11 AM)

☐ Afternoon (11 AM - 4 PM)

☐ Evening (4 PM - 9 PM)

☐ Late Night/Early Morning (9 PM - 5 AM)

5. Gender:

☐ Male

☐ Female

☐ Prefer not to say

6. Age Group:

- ☐ 18 - 24
- ☐ 25 - 34
- ☐ 35 - 44
- ☐ 45 - 54
- ☐ 55 and above

7. Estimated Monthly Income:

- ☐ Less than [Currency] 15,000
- ☐ [Currency] 15,001 - 30,000
- ☐ [Currency] 30,001 - 50,000
- ☐ [Currency] 50,001 - 80,000
- ☐ More than [Currency] 80,000
- ☐ Prefer not to say

Part II. Factors Influencing Satisfaction (Perceived Performance)

Directions: Please indicate your level of agreement with the following statements regarding your 24-hour fitness center by putting a check mark (✓) in the appropriate column. Use the scale below as your guide:

Legend:

5 - Strongly Agree (SA), 4 - Agree (A), 3 - Neutral (N), 2 - Disagree (D),
1 - Strongly Disagree (SD)

A. Facility Attributes & Service Quality	5	4	3	2	1
The gym is always clean and hygienic when I visit.					
The gym offers a wide enough variety of equipment to meet my fitness goals.					
The lighting in the facility is adequate and creates a safe atmosphere.					

B. Perceived Safety & Security	5	4	3	2	1
I feel safe working out in the gym during unstaffed hours (e.g., late night).					
The entry system (key fob/app) works reliably every time I visit.					
Security cameras are visible and give me peace of mind.					
C. Accessibility & Convenience	5	4	3	2	1
The 24-hour access is the primary reason I chose this gym.					
The location of the gym is convenient for my daily routine.					
The digital check-in process is fast and hassle-free.					
D. Pricing & Value	5	4	3	2	1
I feel the membership price represents good value for the quality of service provided.					
There are no hidden fees or unexpected charges in my membership.					
If prices increased slightly, I would still remain a member of this gym.					
E. Member Promotion & Marketing	5	4	3	2	1
The membership promotions offered by the gym are attractive and valuable.					
The gym communicates effectively about maintenance schedules or closures.					
I am kept well-informed about new offers, classes, or facility updates.					

Part III. Overall Member Satisfaction & Retention

Directions: Please indicate your level of overall satisfaction and future intentions using the same scale as above.

Indicators	5	4	3	2	1
Overall, I am satisfied with my experience at this fitness center.					
The gym meets my initial expectations of what a 24-hour facility should be.					
I enjoy my workouts at this gym enough to recommend it to others.					