

PUREGYM PERFORMANCE OPTIMISATION

An analysis of PureGym customer behaviour, demographics and preferences that inform actionable recommendations to attract new sign ups and improve member retention through optimization of services and offerings

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Business Context and Strategic Goals

PureGym is one of the largest, budget friendly fitness providers in Europe that is seeking to enhance their business performance by improving customer retention and attracting new sign-ups through optimisation of its offerings. With the European health and fitness market projected to grow to US\$1.38bn by 2027 there is growing interest and competition within this sector (Statista, 2024). To succeed in this environment, it is vital that PureGym have a clear understanding of their customer preferences for products, facilities and group exercise offerings to capture and retain members against growing competition.

The PureData team has broken down the overall business objective into four strategic goals to guide the analytical research and recommendations (Figure 1).

Strategic Goals (WHAT)	Objectives (WHY)
1 Enhance Product Suitability	Evaluate the effectiveness of all products, especially the Off-Peak product to understand whether they appropriately serve member needs.
2 Optimise Group Exercise Provision	Determine if the current group exercise timetables meet member demands and preferences.
3 Improve Member Experience	Identify opportunities to tailor group exercise schedules and product offerings to enhance efficiency, use of space and member satisfaction.
4 Drive Business Performance	Recommend data-informed strategies to increase member sign-ups, retention and operational efficiency.

Figure 1. Pure Gym Strategic Goals and Objectives

Overview of Recommendations



Strategic Goal 1	Strategic Goal 2	Strategic Goal 3	Strategic Goal 4
 Enhance Product Suitability	 Optimise Group Exercise	 Improve member experience	 Drive Business performance
Tailor product offerings and marketing to the identified customer clusters: <i>Dedicated Regulars, Emerging Enthusiasts and Casual Users.</i>	Introduce <i>Absolute Abs</i> and <i>Metcon</i> to the recommended timetable.	Regularly conduct TrustPilot Reviews analysis to identify feedback that can improve facilities and services.	Increase class capacity and revenue by introducing a small charge for no-shows to group exercise classes.

Figure 2. Overview of Recommendations

Analytical Approach

Four data sets were analysed in Excel and Python to extract insights and conclusions. The analytical process involved five key phases as shown in the table below.

Phase	Activities
Phase 1 Data Cleaning and Integration	<ul style="list-style-type: none">● Import and sense check the data to address missing values, duplicates, and inconsistencies.● Record initial assumptions or limitations.
Phase 2 Exploratory Data Analysis	<ul style="list-style-type: none">● Perform descriptive statistics to understand data distributions and trends in gym user demographics, class schedules, and member visit patterns.
Phase 3 In-Depth Analysis	<ul style="list-style-type: none">● Analyse membership types and their impact on gym usage.● Apply k-means clustering to segment members for targeted strategies and create cluster profiles.● Evaluate the effectiveness of group exercise provision based on member demographics and preferences.● Gather PureGym reviews from TrustPilot and conduct sentiment analysis.● Analyse trends in no shows for group exercise classes and identify strategies to improve class capacity utilisation.
Phase 4 Visualisation and Dashboard Development	<ul style="list-style-type: none">● Create visualisations to illustrate key findings.● Develop a user-friendly and accessible dashboard.
Phase 5 Reporting and Recommendations	<ul style="list-style-type: none">● Summarise key findings and insights derived from the analysis.● Provide actionable recommendations to achieve the strategic goals.

Assumptions and Limitations

Assumptions:

1. **Accurate Data Entry:** Data is presumed to be accurate and free from entry errors.
2. **Consistent Data Collection:** Data collection methods are assumed to have remained consistent, allowing valid comparisons over time and across locations.

Limitations:

1. **Historical Data Only:** Insights are based solely on historical data, and predictions may change with new data or external factors.
2. **Self-Reported Data Bias:** Data based on member feedback may include biases and inaccuracies.
3. **Analytical Tool Limitations:** Tools like Python and Tableau have inherent limitations in fully capturing complex human behaviours.
4. **Generalisation of Findings:** Findings may not apply universally across all PureGym locations due to regional variations.
5. **No-Show Data Reliability:** Reliability of no-show data depends on the accuracy of the check-in system and adherence to cancellation policies.

Key Insights

Snapshot Overview of the Data

Total Number of Gyms Analysed	Total Number of Members Analysed	Date Range
10 (Group Exercise performance Analysis)	683,072	Aug 2022 - Sept 2023
3 (Member Engagement and Visit Analysis)		

Strategic Goal 1 - Enhance Product Suitability

Member Engagement Key Figures

Average Age of Members	Average Daily Visits across 3 gyms	Average Visit Duration	Most Popular Product
31 years	1877	69 minutes	Core Membership

Member Segmentation

The application of K-means clustering successfully segmented PureGym's diverse membership into three distinct clusters (Figure 3, Figure 4).

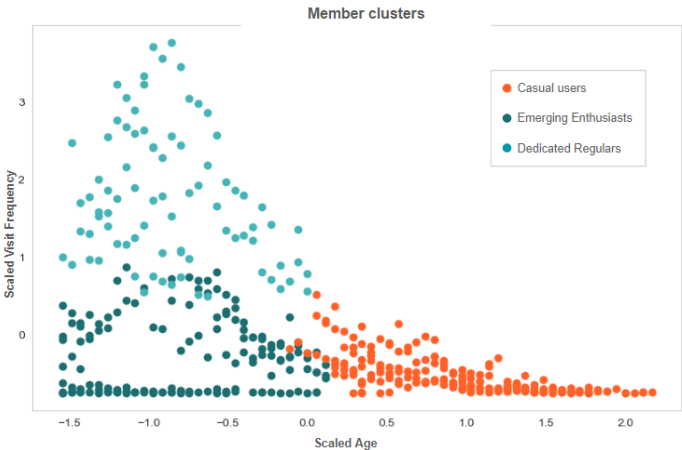


Figure 3. Member Segmentation using K-means Clustering

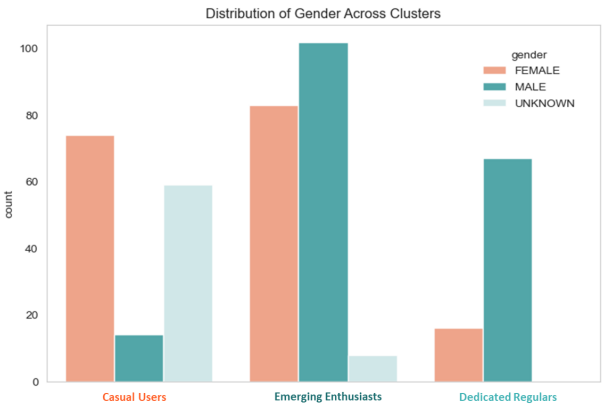


Figure 4. Gender Distribution of Member Clusters

This segmentation allows us to develop targeted engagement strategies and personalised service offerings, tailored to the unique characteristics and needs of each group (Figure 5). Implementing these strategies will help to better engage and retain customers, ultimately leading to improved overall revenue for PureGym.

Cluster Profiles

Clusters	Casual Users	Emerging Enthusiasts	Dedicated Regulars
Description	Members visit the gym infrequently and without consistent schedules.	Integrating fitness into their lifestyles, potential to become regulars.	Highly committed, fitness is a significant part of their lifestyle.
Demographics	Predominantly female, broad age range.	Balanced gender mix, typically mid-20s to mid-40s.	Predominantly younger males, includes all highly committed members.
Behavioural Traits	Low attendance, sporadic engagement.	Moderate to high attendance, increasing commitment.	High frequency of visits, routine driven.
Preferences	Flexibility in membership and payment, short-term classes.	Personalised workout plans, group classes with social interactions.	Advanced workout sessions, specialised equipment, networking.
Engagement Strategies	Flexible and pay-per-visit memberships ¹ , beginner-friendly classes, targeted digital marketing.	Enhanced onboarding with customised plans, group fitness challenges, rewards program.	Loyalty programs with exclusive benefits, advanced training programs, member-led clubs.

Figure 5. Summary of Member Segmentation Profiles and Strategic Recommendations

It should be noted that this member segmentation analysis was conducted using "visit keys" instead of Member IDs due to lack of data availability. While this approach has limitations—such as potentially counting multiple visits by the same member as separate entries—it still provides valuable insights into overall visitation patterns and member engagement. Incorporating unique Member IDs in future data collection would refine our methodology, yet the current strategy remains a robust interim solution to inform effective engagement strategies.

¹ Revenue implications of pay-per-visit memberships need to be carefully assessed prior to implementation to ensure that the predicted volume of members opting for a pay-per-visit membership is sufficient to compensate for the reduced revenue from customers using longer-term memberships.

Strategic Goal 2 – Optimise Group Exercise Provision

Total Number of Unique Classes Offered	Total Number of Unique Classes included in the suggested timetable	Average Utilisation Rate based on class capacity across all 62 classes	Average Attendance Rate
62	17	27.91%	25.78%

Class Attendance by Gender

To optimise the group exercise timetable offered by PureGym, class attendance was analysed by gender. Initial findings showed a higher proportion of female class attendees, at around 80.7% (Figure 6), with Cycle classes being most popular across all genders. Further analysis is required to better understand the reasons behind lower class attendance by male PureGym members, to evaluate the requirement for additional strategies to encourage broader class attendance.

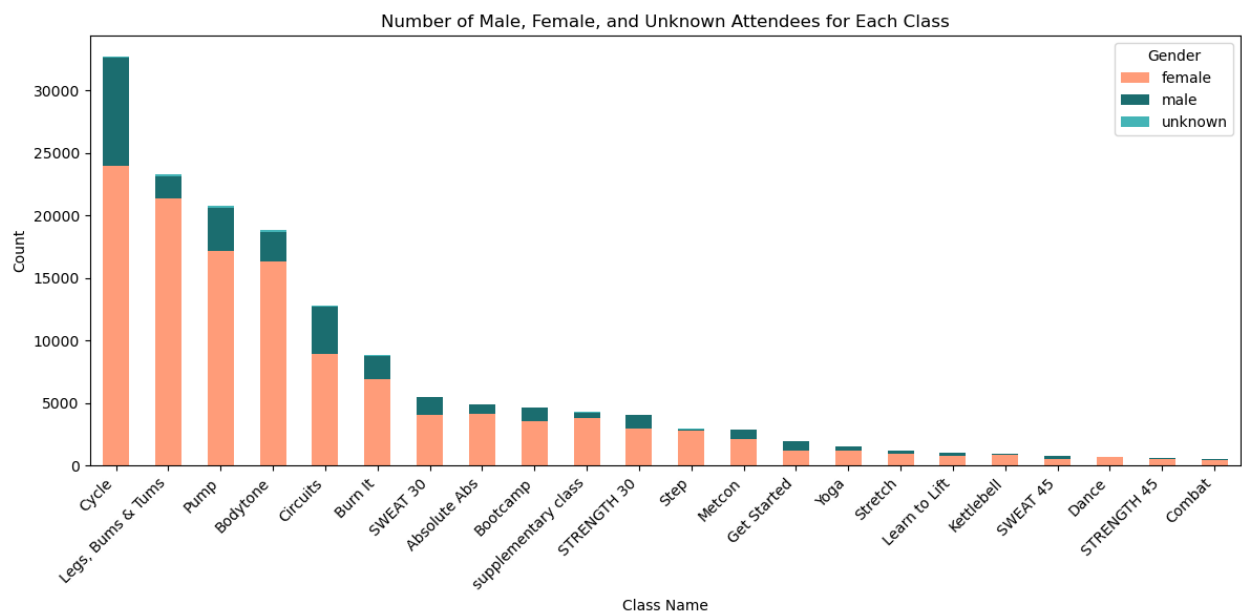


Figure 6. Class Attendance by Gender

Timetable Class Popularity Analysis

An analysis of the number of attendees per class revealed that three² of the top 15 classes were not included in the current recommended timetable – Absolute Abs, Metcon and Get Started (Figure 7). Of the classes that appeared on the timetable the most frequently, HEAT did not appear in the Top 15 by class attendance (Figure 8). Our recommendation is that PureGym replace the classes on the timetable with low attendance, such as HEAT, with those that have higher attendance to optimise PureGym’s group exercise timetable and make the most out of the space occupied by these classes.

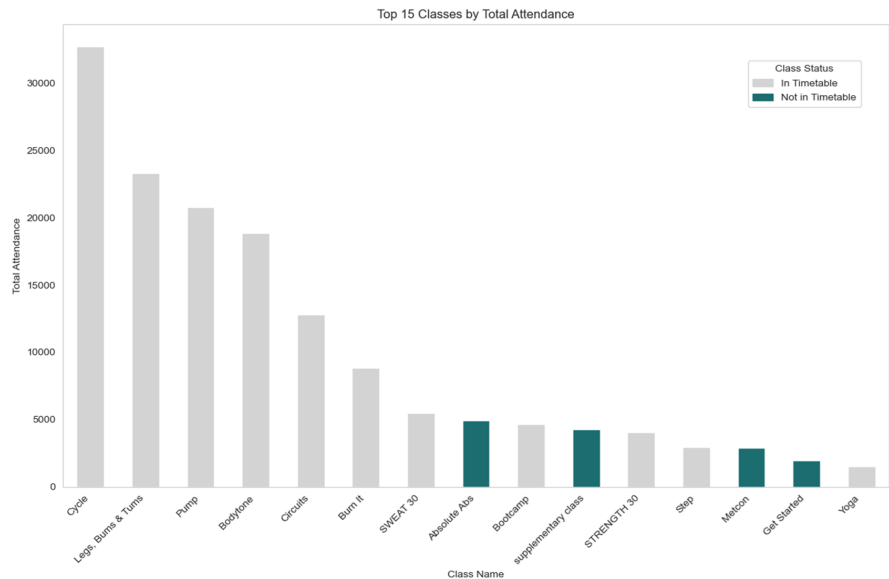


Figure 7. Top 15 Classes by Total Attendance

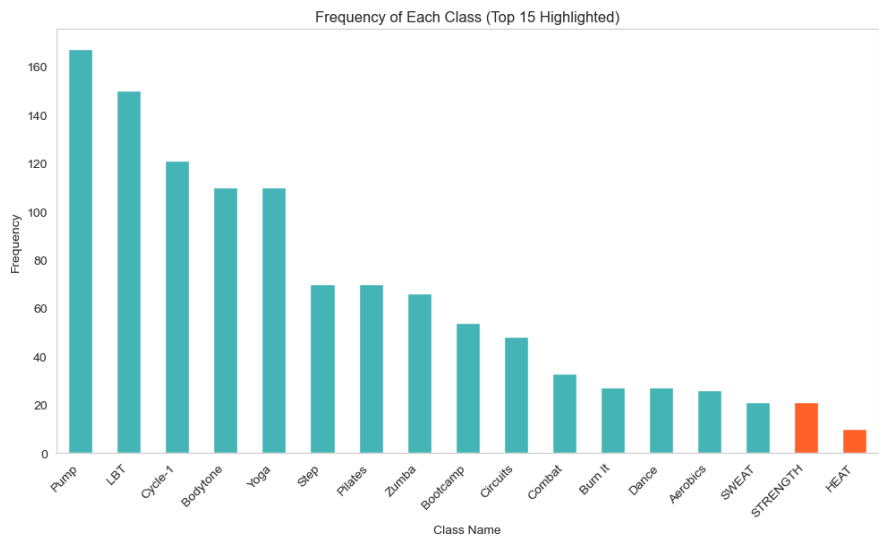


Figure 8. Top Timetable Classes by Frequency

² There were actually four classes in the top 15 that were not on the timetable, however, one of them was Supplementary Class which represents a combination of all classes requiring a supplementary charge. Due to this one not being an actual exercise class, it was removed from the recommendation and added instead as a footnote.

Strategic Goal 3 – Improve Member Experience

To enhance member satisfaction and experience at PureGym, sentiment analysis was performed on the latest 200 reviews sourced from Trustpilot as of April 10th, 2024. The sentiment analysis was performed using Python TextBlob sentiment analyser to standardise the analysis and eliminate individual bias or variations in review ratings.

The analysis revealed an overall positive sentiment among customers towards PureGym, with 64% 5-star ratings and over 82% of reviews having a review polarity of over 0.05 (Figure 9). Specific positive reviews mentioned the spaciousness, staff quality, and equipment availability. Negative reviews highlighted issues with online customer service and the lack of availability of off-peak memberships at certain locations. Reviews mentioning classes or group exercise were similarly positive (68% 5-stars), but concerns were raised regarding long waiting lists, class capacity, and disruptions caused by using open-plan areas for classes.

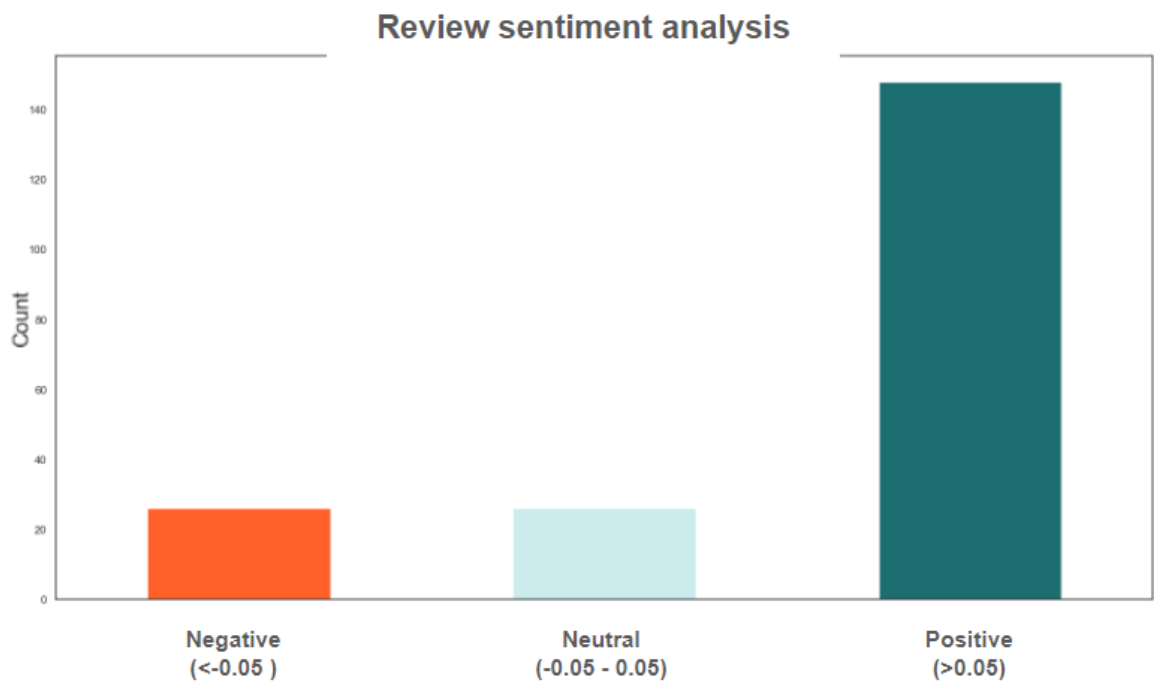


Figure 9. Sentiment analysis of 200 TrustPilot Reviews for PureGym

While this analysis provides useful insight into customer sentiment, the findings must be considered in the context of the limitations of sentiment analysers, which may struggle with nuances like sarcasm and double negatives. These results should be interpreted with caution and supplemented with qualitative understanding from the review content.

Analysis of these reviews revealed that class attendance is strongly linked to positive reviews. This suggests that PureGym should continue to remind members to complete Google and Trustpilot reviews to capitalise on this positive sentiment. Class experiences could be improved by reducing waiting list times, increasing class capacity, and ensuring dedicated spaces for classes to minimise disruptions to other gym users. By implementing these recommendations and maintaining a proactive approach to customer feedback, PureGym can further elevate member satisfaction and reinforce its position as a leading fitness provider.

Strategic Goal 4 – Drive Business Performance

Based on the group exercise feedback identified in the sentiment analysis, class capacity and no shows were identified as a potential opportunity for PureGym to drive business performance by making better use of class capacity. A detailed analysis of no show trends by time of day, class type and gender did not reveal any significant peaks or clusters for no shows (Figure 10, Figure 11). This suggests that a broad strategy is required to address no shows across all member and class types.

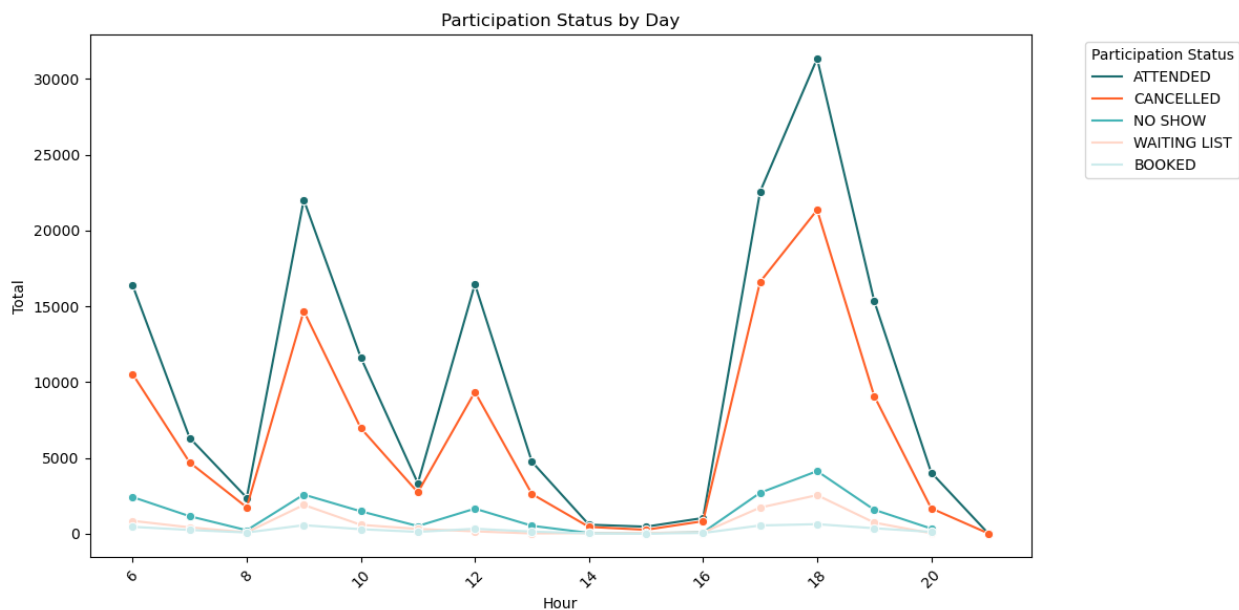


Figure 10. Participation status by time of day

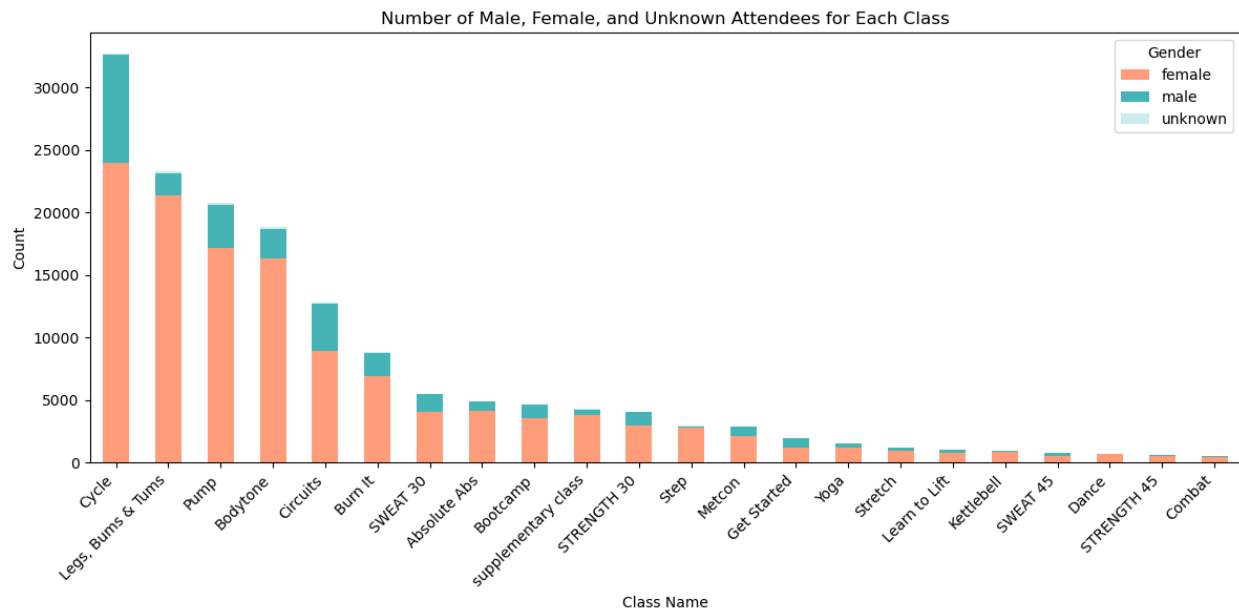


Figure 11. No shows by class type and gender

PureGym currently uses a three-strike penalty system for no-shows, where a member has all future booked classes cancelled and cannot book any further classes for 8 days if they do not attend three booked classes in a 28 day period. Despite this measure, there is still an overall no show rate of 7% across all classes. To address the impact of no shows on PureGym's class capacity utilisation, mitigation strategies including no-show fees, booking reminders and incentives promoting the attendance of booked classes could be introduced. However, these mitigation strategies may be associated with both benefits and risks for PureGym (Figure 12).

Strategy	Benefits	Risks
Check-in reminders - user must register that they are still planning to attend class between 12-6 hours prior	Ability to release additional class space if members do not check-in at least 6 hours before the class.	No additional incentive for members to attend once checked-in.
No show charge - between 50p and £2 for the most popular classes only	Possibility to generate additional revenue for PureGym while also acting as a deterrent for no shows.	Could deter future bookings or even membership retention rates if customers deem them too punitive (Oh, 2012).
Incentives for class attendance - rewards or discounts if all booked classes are attended for 3 months	Incentivise members to attend more classes while simultaneously disincentivising no-shows without being punitive.	May incur additional costs for PureGym to provide the reward to members that fulfil criteria

Figure 12. Benefits and Risks for No-show Mitigation Strategies

To minimise the potential negative impacts of these mitigation strategies on member sign-ups or retention, PureGym should conduct thorough evaluation through pilot testing before widespread implementation³. PureGym should consider leveraging these strategies in combination and initially targeting only the most popular classes during peak times where the strategies are likely to have the greatest impact on waiting lists.

Existing Industry Practices of Cancellation and No-Show charges

Research into competitor practices has revealed targeted use of no-show charges which typically range between £2 and the full class cost, and can guide PureGym in setting appropriate fee levels to strike a balance between deterrence and user acceptability.

Company	Class Charge	Policy	No Show Charge
Everyone Active	Partial charge based on membership type	Cancellation period: 4 hours prior to class and no further booking allowed without clearing the due	£4
Better UK	Partial charge based on membership type	Cancellation period: 4 hours prior to class and payment in advance	£3
The Gym Group	Free unlimited classes for members & Paid for non-members	Varies by class	No Penalty for members Full Charge of class for paid classes

³ No show fees are already utilised in PureGym centres in Denmark which could be used as a case study for wider implementation in other PureGym locations.

Recommendations

Strategic Goals (WHAT)	Recommendations
1 Enhance Product Suitability	Tailor engagement strategies to member habits to enhance retention and foster long-term growth. Adjust the off-peak timing offering for center 174 to better manage capacity.
2 Optimise Group Exercise Provision	Investigate the requirement for more classes targeted to non-female participants such as cycle, pump and strength. Optimize prime hours and top classes in the recommended timetable to enhance gym attendance.
3 Improve Member Experience	Leverage TrustPilot reviews to make improvements to facility and class provisions, focussing on customer service, expanding the use of off-peak memberships, reducing group exercise waiting lists and introducing more functional spaces for classes.
4 Drive Business Performance	Consider introducing a check-in function for group exercise classes and a small charge no shows to help increase class capacity and generate additional revenue

Figure 11. Detailed PureGym Recommendations

To enhance PureGym's data-driven strategy and further understand customer behaviour for improved satisfaction and growth, we propose the following way forward for the data team:

- In-Depth Data Collection:
 - Implement the collection of visit data with unique member IDs to gain more granular insights into customer habits.
 - Utilise this detailed segmentation to deliver personalised experiences and fine-tune targeted marketing initiatives.
- Qualitative Member Insight:
 - Conduct qualitative studies to explore the factors contributing to lower male participation in group exercise classes.
 - Utilise these insights to identify and address specific preferences and barriers, tailoring engagement strategies to boost attendance.

By adopting this multi-faceted approach that combines both quantitative and qualitative analysis, along with our strategic recommendations (as depicted in Figure 11), PureGym can cultivate a richer understanding of member engagement patterns. This will not only lead to heightened member satisfaction but also support the company's overarching objectives for sustainable business growth.

Appendix

1.1 Dashboard Documentation

A. Overview of PureGym Performance Insights Dashboard

Introduction

The PureGym Performance Insights Dashboard is an interactive tool that is meticulously designed to provide a holistic view of gym operations, membership trends, and class engagement across all locations. The goal is to equip our managers and stakeholders with real-time, actionable insights, enabling strategic decision-making to enhance service optimization.

Using the Dashboard

- **Navigation:** Users can toggle between tabs to explore various analytical perspectives provided within this dashboard suite.
- **Customization:** Interactive filters are available to customise views by center ID, class name, and gender for targeted analysis.

Navigation Tips

- For detailed analysis, users can explore dedicated dashboards focusing on Member Engagement, Group Exercise Performance, and Class Scheduling Optimization.

B. Specific Dashboards

1. Overview Dashboard

Purpose: To guide strategic planning and enhance day-to-day operations, providing insights into member interactions and operational efficiency.

Usage: Employ filters to access key metrics for different gym locations to get an snapshot overview.

2. Operations and Member Engagement Dashboard

Purpose: To guide strategic planning and enhance day-to-day operations, providing insights into member interactions and operational efficiency.

Usage: Employ filters to access specific data for different gym locations and make decisions to boost member engagement and operational efficiency.

3. Group Exercise Performance Dashboard

Purpose: To support strategic and operational improvements by delivering insights into our group exercise programs.

Usage: Use filters to adapt the insights to specific centres, genders, and participation statuses to deeply understand engagement and performance across facilities.

4. Class Schedule Optimization Dashboard

Purpose: To aid in optimising class scheduling by providing key insights into class timings and attendance.

Usage: Utilise filters to focus on specific data points, enabling adjustments to class schedules for enhanced member satisfaction and resource management.

C. Technical Specifications

This dashboard was developed using Tableau, ensuring a user-friendly interface and real-time data processing. Access is granted through secure credentials to maintain data integrity and confidentiality.

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