

# GLOBAL HOTELS AND RESORTS(GHR) ANALYSIS

RIT  
BUSINESS ANALYTICS  
COMPETITION  
FALL 2023

# THE TEAM



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# BACKGROUND



OVERVIEW



PROBLEM

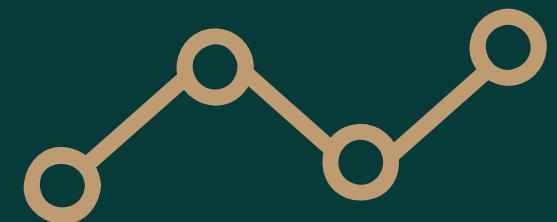


TASK

**Global Hotels and Resorts (GHR) is a prominent European hotel brand that recently acquired two properties, a city hotel, and a resort.**

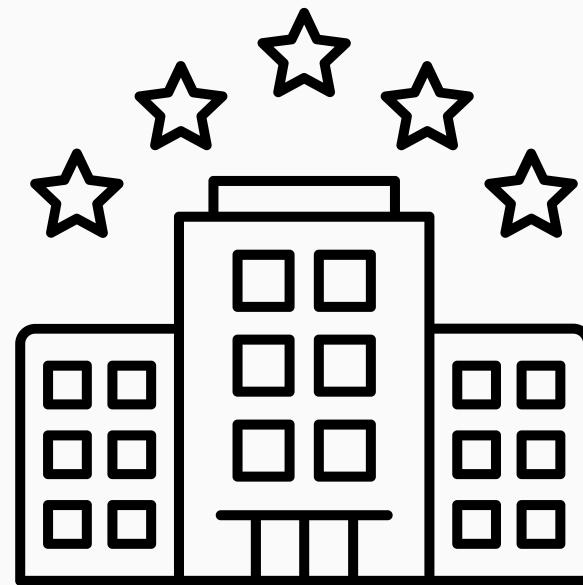
**GHR is facing challenges in deciphering customer demands within these properties, crucial for enhancing revenue and optimizing in-house services, leading to reduced operating costs.**

**Our role is to leverage data analysis and visualization techniques to empower GHR in making informed decisions for improved revenue management and customer satisfaction.**



# DATA EXPLORATION

# DATASETS



## hotels.csv

Contains 30412 booking records  
from July 2015 - December 2016

## resorts.csv

Contains 19814 booking records  
from July 2015 - December 2016

### Data Cleaning and Preprocessing

#### Handling Null Values

Performed data cleaning and preprocessing, including checking for data types, missing values, null values and duplicated entries.

Identified null values in the "booking company" and "travel agent" columns, assuming these indicate customers opting not to use booking companies or travel agents.

#### Handling Namibia's Country Code Issue

Handled issue with Namibia's country code (NA) being interpreted as a null value in data analysis by using `keep_default_na=False` due to absence of other null values.

# DATA TRANSFORMATION

ArrivalDate		ArrivalMonth
7/1/15		7
7/2/15		7
7/3/15	→	7
7/3/15		7
8/8/15		8

## ARRIVAL DATE CONVERSION

Converted the "Arrival Date" into datetime format and introduced a new column, "Arrival Month," extracting the month.

ArrivalDate	CheckoutDate	LengthOfStay
7/3/15	7/10/15	7
7/4/15	7/8/15	4
7/7/15	7/9/15	→ 2
7/7/15	7/17/15	10
7/8/15	7/10/15	2

## LENGTH OF STAY CALCULATION

Calculated the length of stay by determining the difference between the "Arrival Date" and "Checkout Date."

MarketSegment	MarketCategory
Offline TA/TO	Leisure
Groups	Leisure
Offline TA/TO	Leisure
Corporate	Business
Complementary	Business

## MARKET SEGMENT CATEGORIZATION

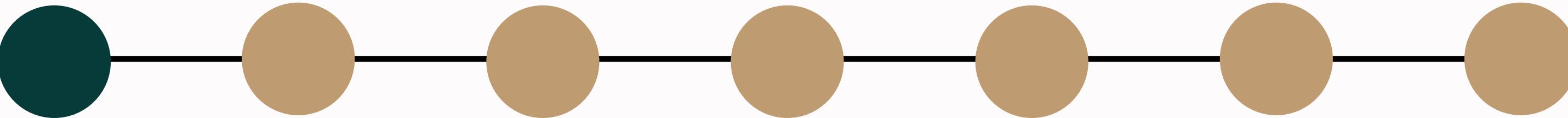
Strategically segmented the 'Market Segment' into '**Business**' and '**Leisure**' for enhanced customer categorization. The 'Business' category encompasses segments such as '**Aviation**', '**Corporate**', and '**Complementary**', while the 'Leisure' category includes '**Direct**', '**Groups**', '**Offline TA/TO**', and '**Online TA**'.

Global Hotels and Resorts

Let's begin Analysis



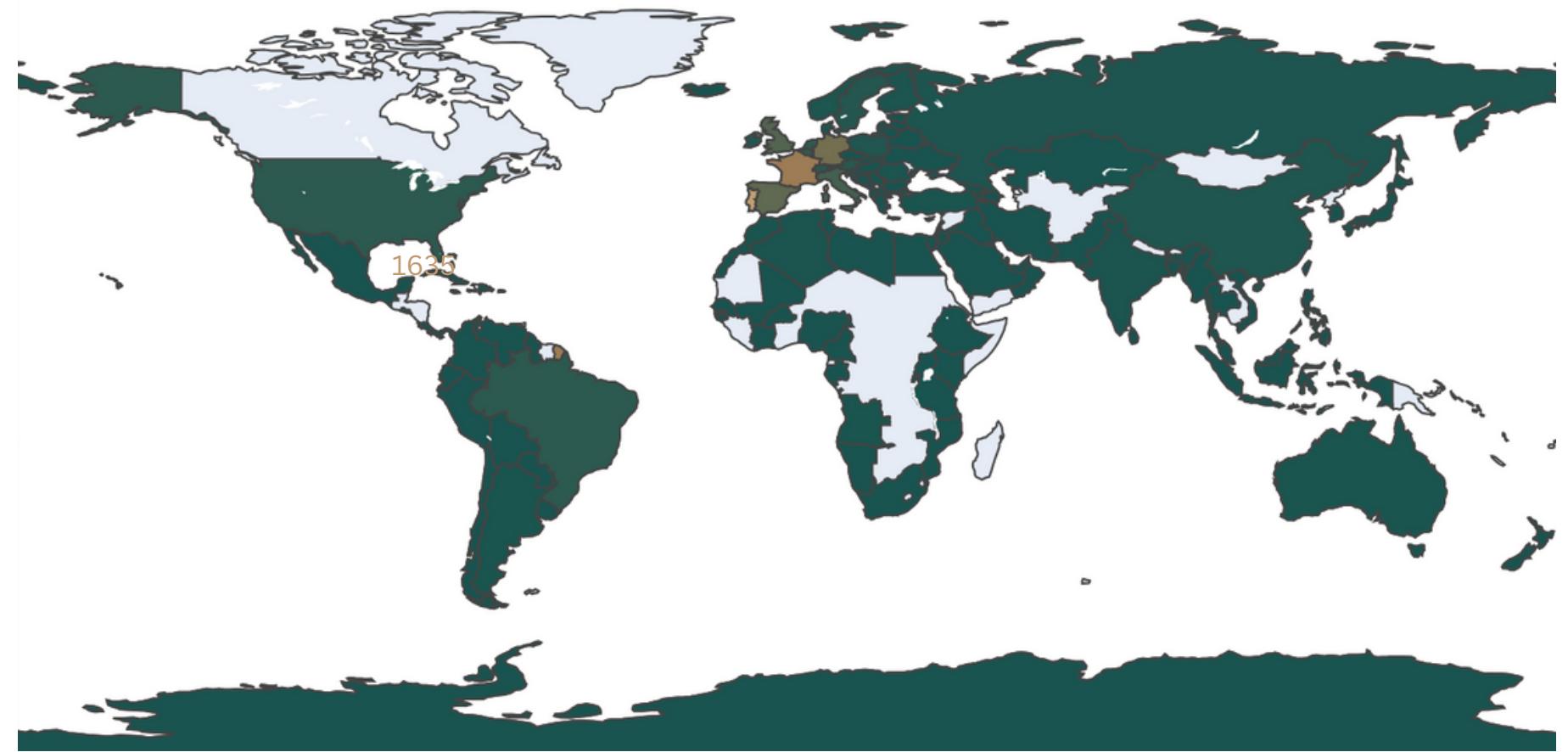
Are you  
ready?



# **Understanding Customer Demographics**

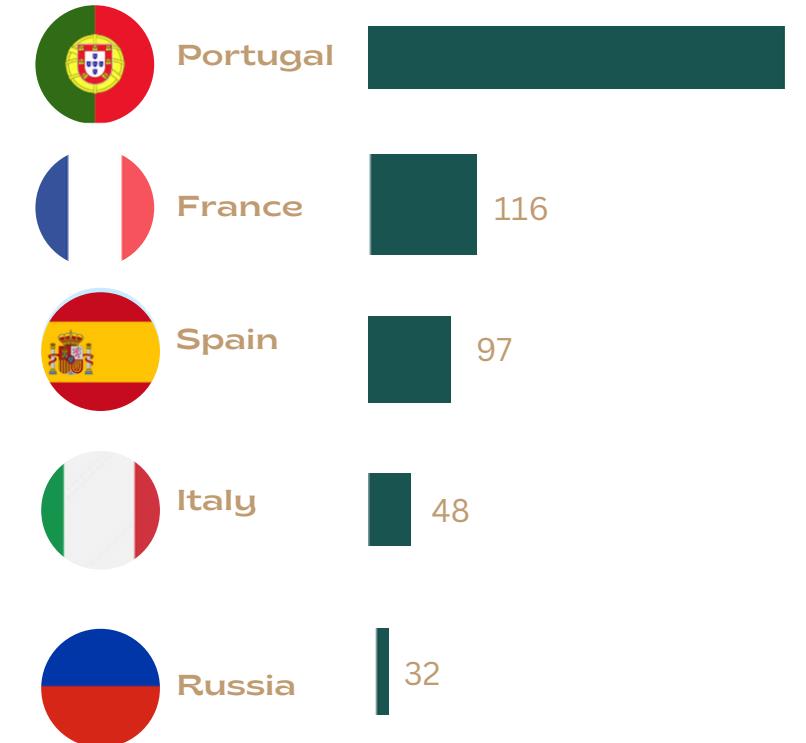
# WHERE ARE YOUR HOTEL GUESTS FROM?

Number\_of\_Bookings

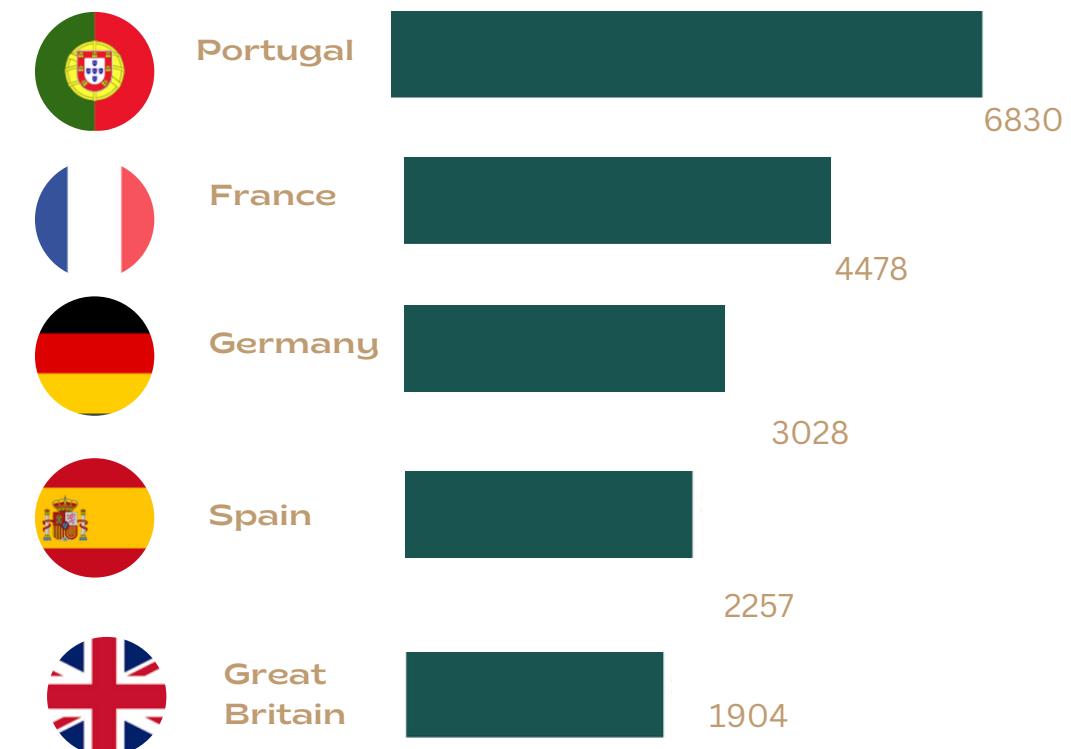


1635

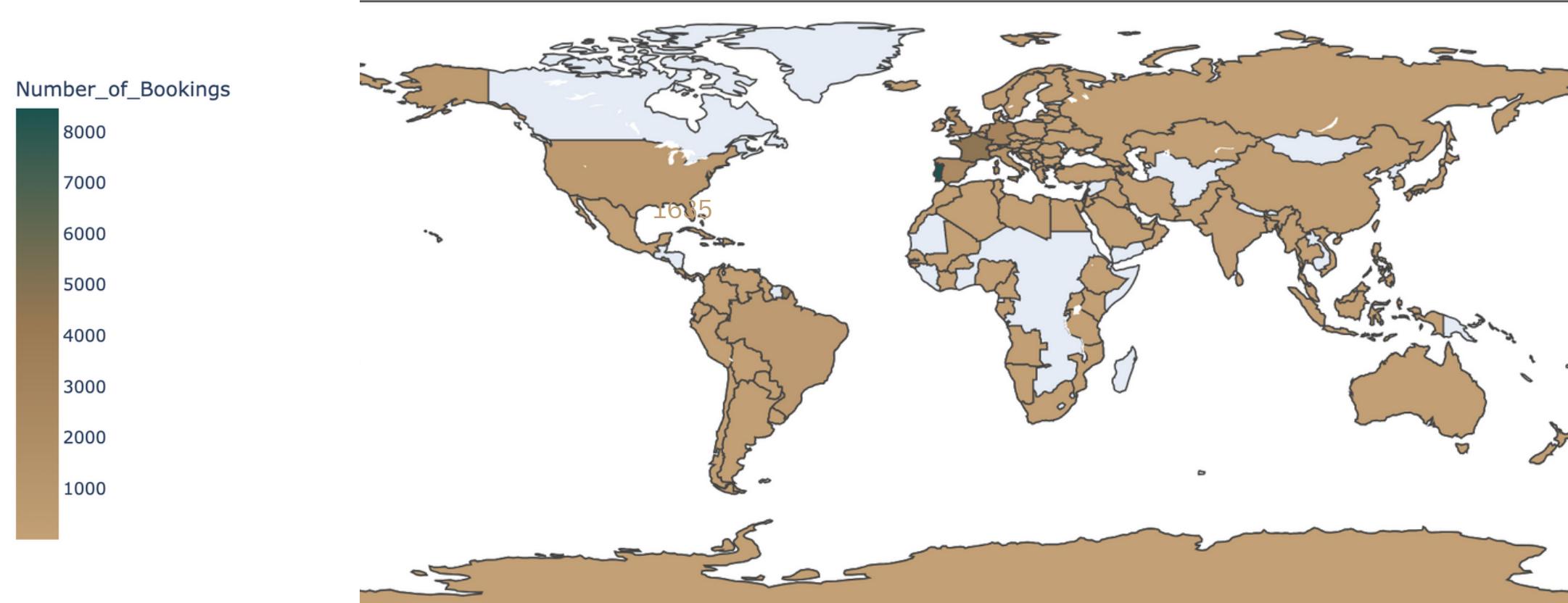
## Top Business Bookings



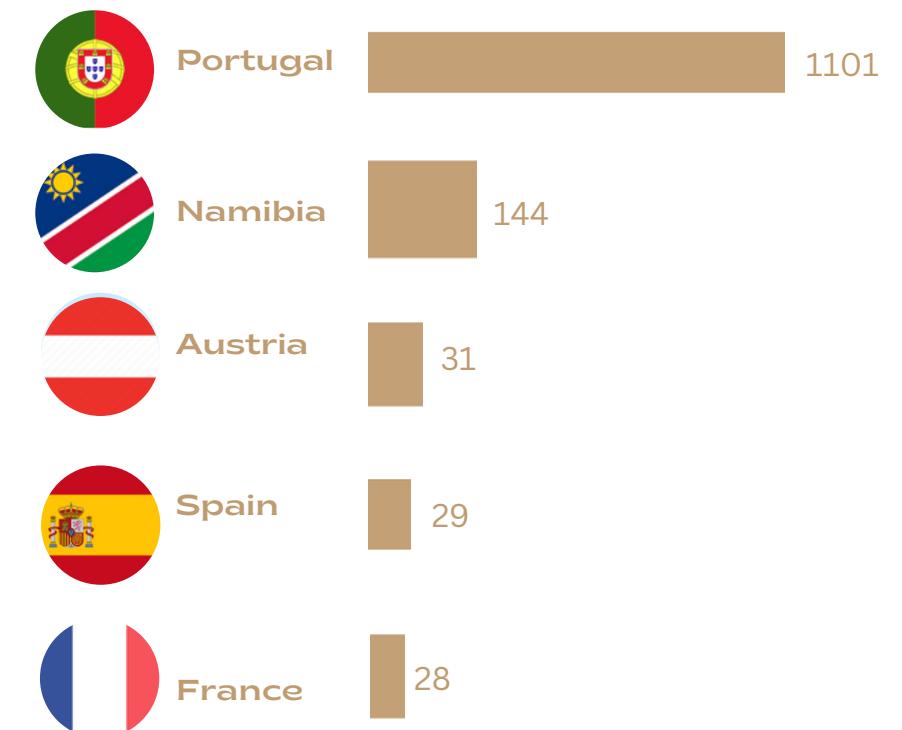
## Top Leisure Bookings



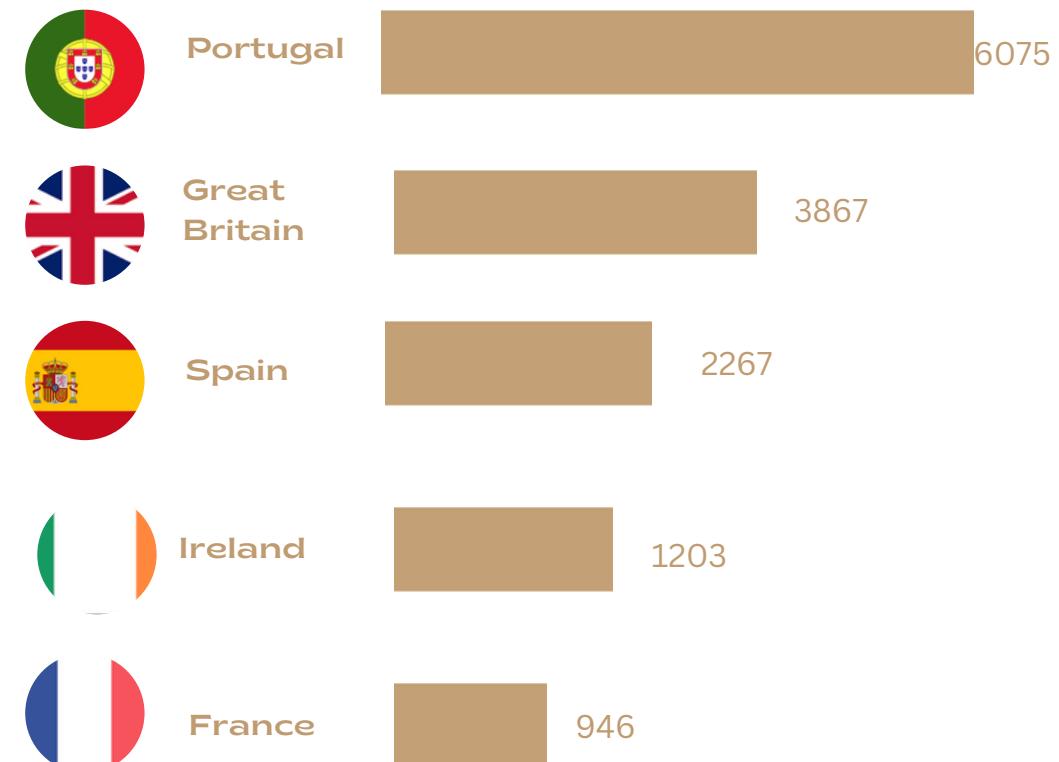
# WHERE ARE YOUR RESORT GUESTS FROM?



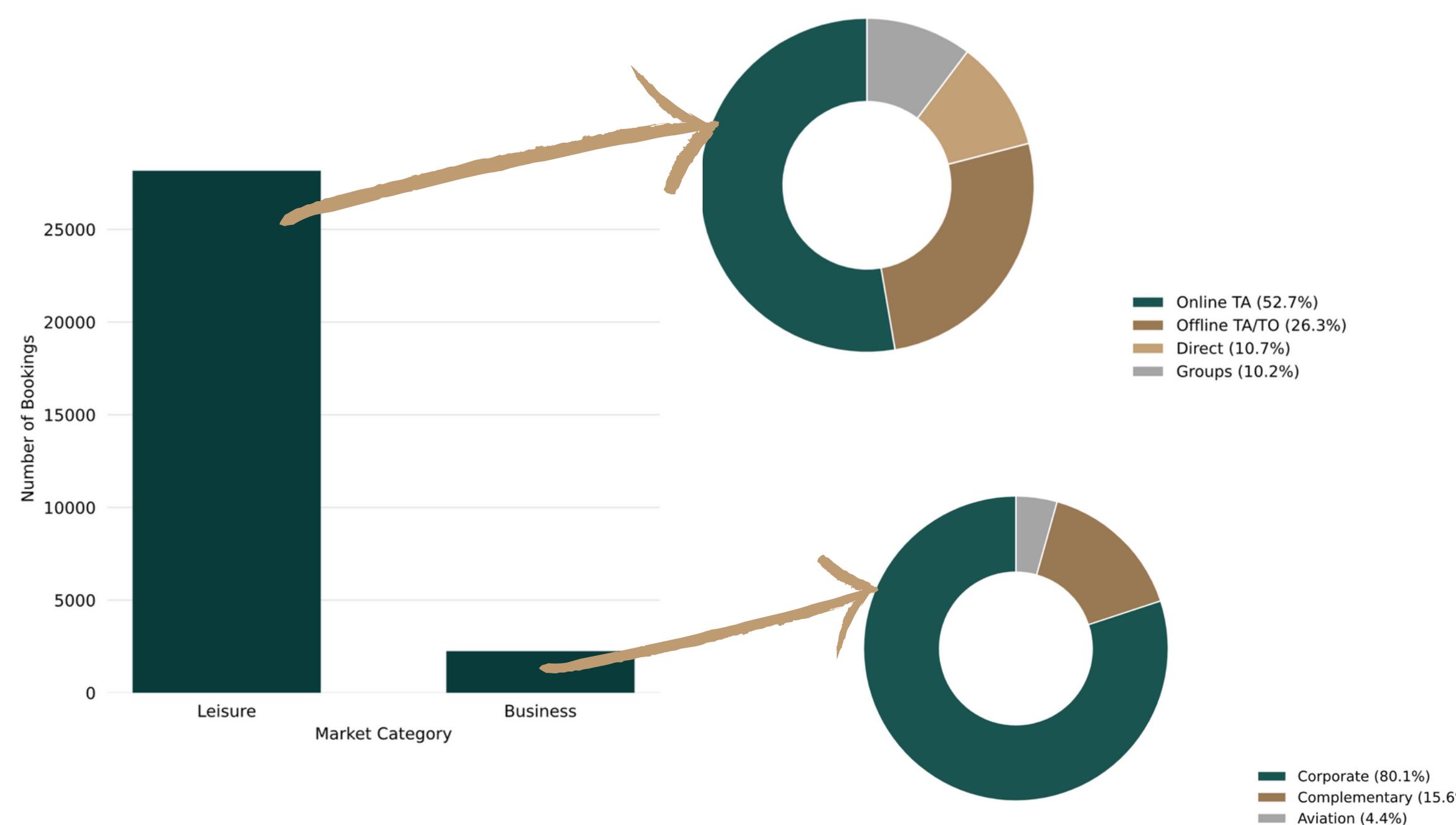
## Top Business Bookings



## Top Leisure Bookings

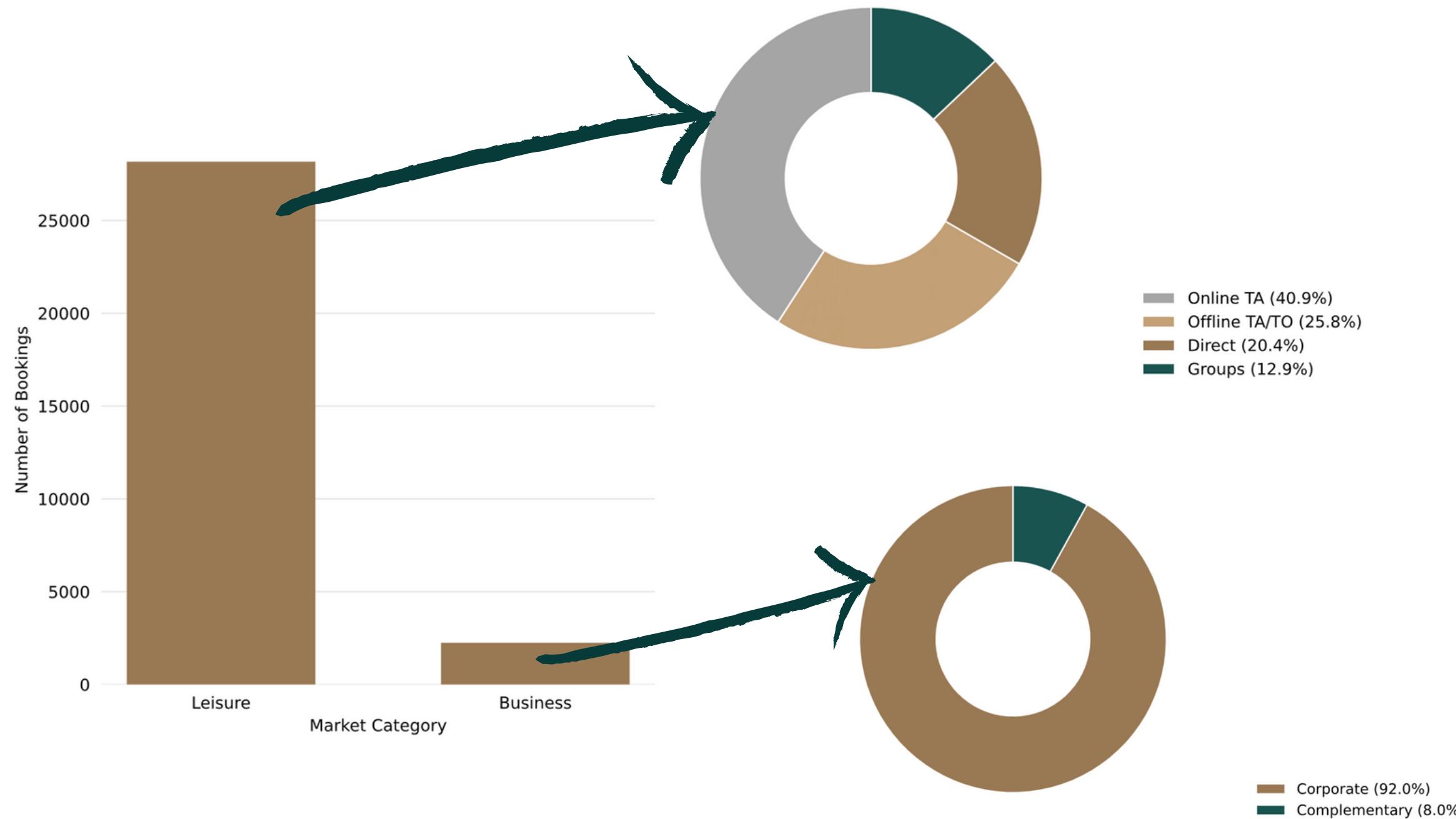


# WHICH MARKET SEGMENT DOMINATES HOTEL BOOKINGS ?

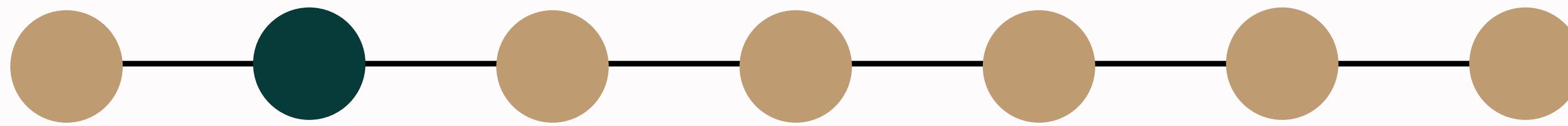


The hotel predominantly serves a leisure-focused clientele, with 92.6% of guests visiting for recreational purposes. Business travelers constitute a smaller segment, making up 7.4% of the overall customer base.

# WHICH MARKET SEGMENT DOMINATES RESORT BOOKINGS ?

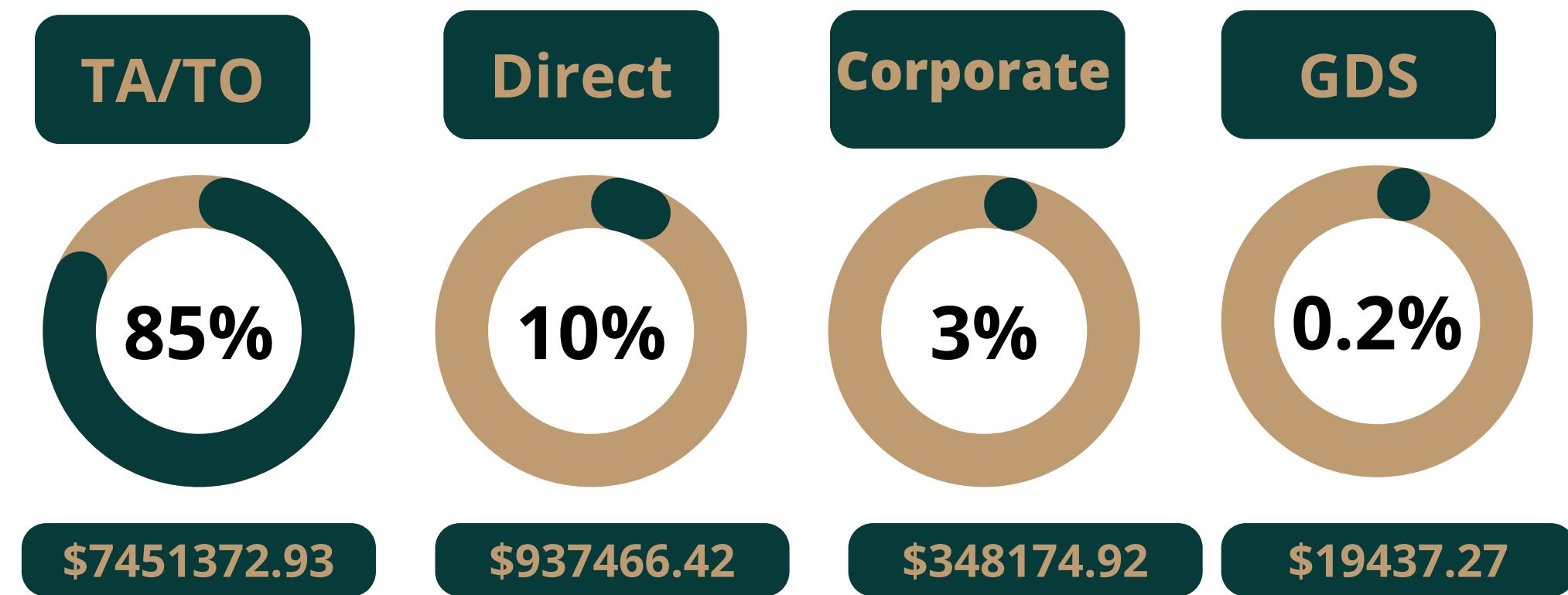
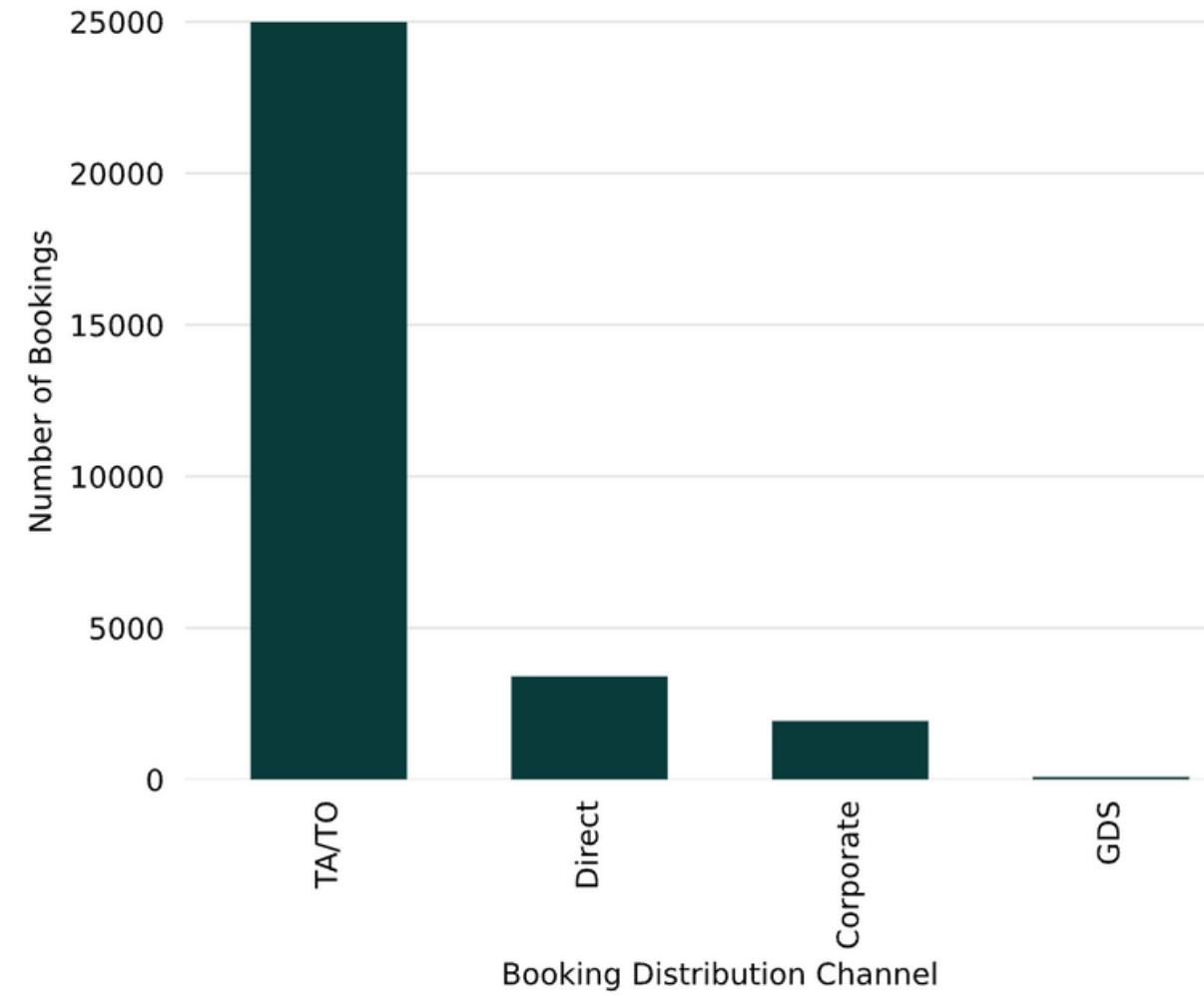


The resort predominantly serves a leisure-focused clientele, with 92.6% of guests visiting for recreational purposes. Business travelers constitute a smaller segment, making up 7.4% of the overall customer base.



# Booking Insights: Unraveling Guest Preferences

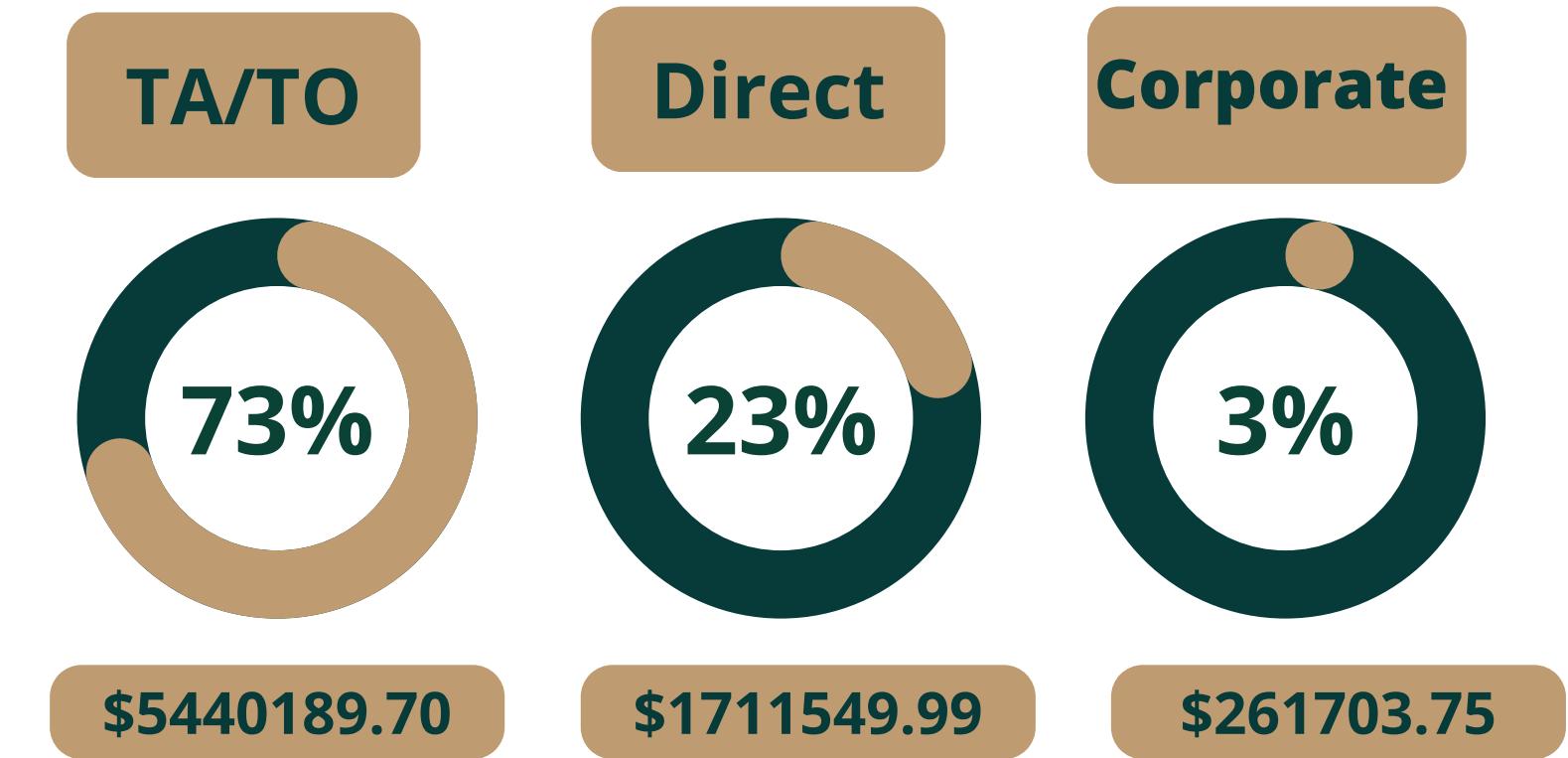
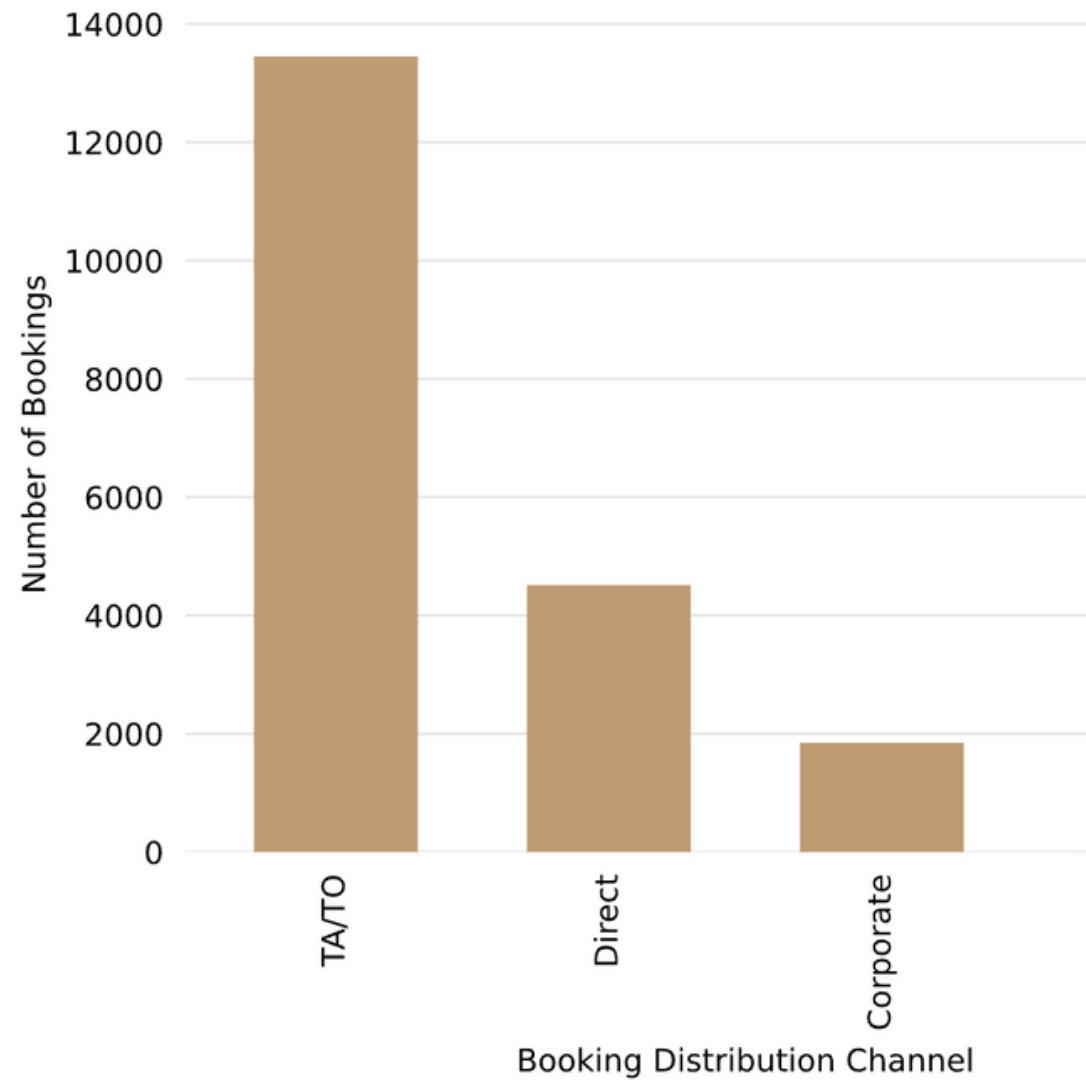
# HOW GUESTS PREFER TO BOOK HOTEL?



Travel Agencies/Tour Operators (TA/TO) are the most preferred booking distribution channel among customers for hotel reservations.

Revenue Breakdown by Booking Channels

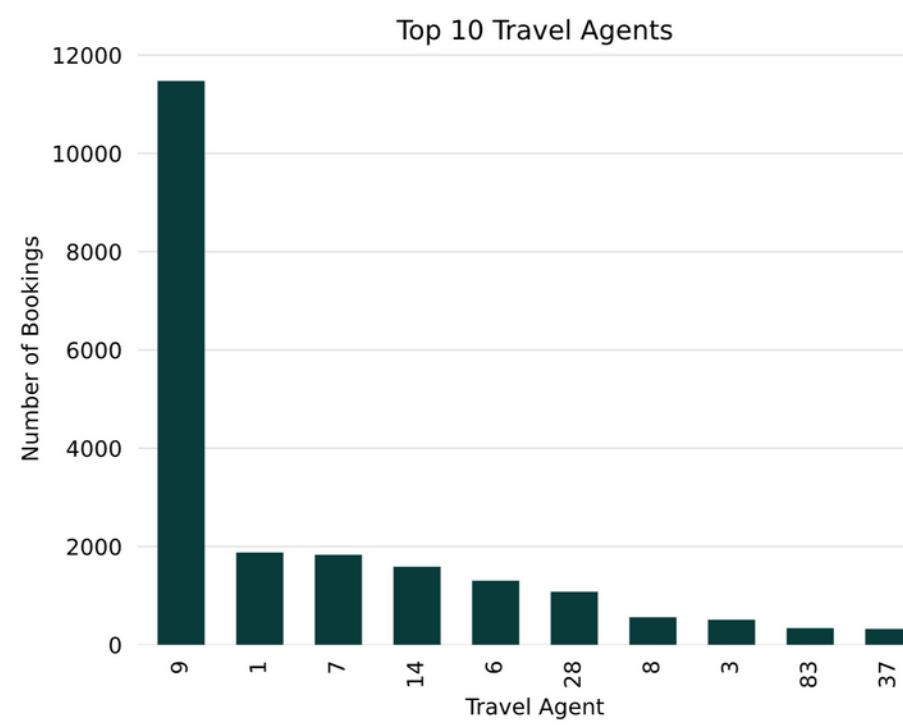
# HOW GUESTS PREFER TO BOOK RESORT?



Travel Agencies/Tour Operators (TA/TO) are the most preferred booking distribution channel among customers for resort reservations.

Revenue Breakdown by Booking Channels

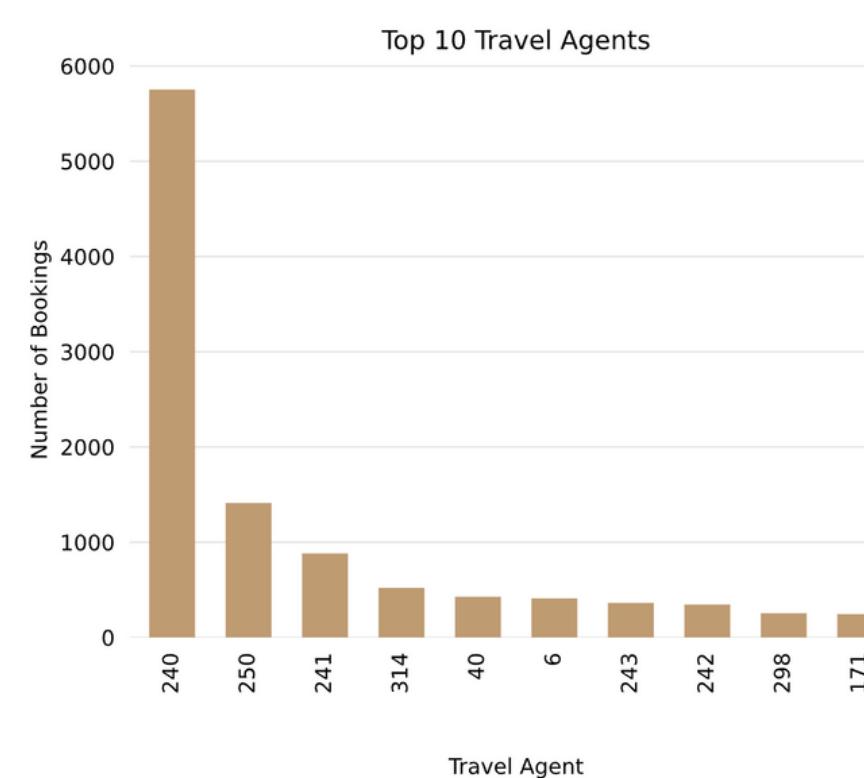
# WHICH TRAVEL AGENCY/TOUR OPERATOR SHOULD HOTELS PRIORITIZE THEIR EFFORTS ON?



Country	Booking Company	Travel Agent
Portugal	40	99
France	68	98
Germany	333	9
Spain	62	98
Great Britain	233	95
Italy	153	99
Belgium	153	9
Netherlands	233	95
USA	174	90
Brazil	158	9

**Top Booking Companies and Travel agents across Top 10 Countries**

# WHICH TRAVEL AGENCY/TOUR OPERATOR SHOULD RESORT PRIORITIZE THEIR EFFORTS ON?



Country	Booking Company	Travel Agent
Portugal	154	468
Great Britain	223	469
Spain	281	468
Ireland	110	434
France	281	464
Germany	343	336
Namibia	204	446
Netherlands	223	334
China	59	314
USA	360	360

**Top Booking Companies and Travel agents across Top 10 Countries**

# • Recommendations •

Based on Booking Channel Distribution Analysis



## Direct Booking Optimization

Direct bookings via the GHR's website or phone are not only the most profitable but also present prime opportunities for upselling. To boost this revenue stream, prioritize user-friendly website and mobile booking experiences. Optimize content for search engines, including location-specific terms for enhanced discoverability.



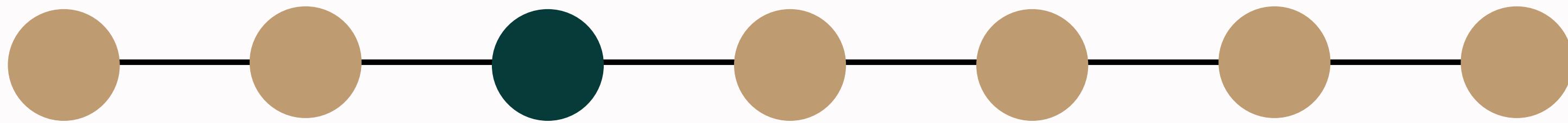
## OTA Reach Maximization

Online Travel Agencies (OTAs), though less profitable than direct bookings, provide access to a wide audience. While control over messaging is limited, strategically optimize listing photos and offer enticing prices for the OTA audience. Targeting OTAs helps expand market reach while managing costs effectively.



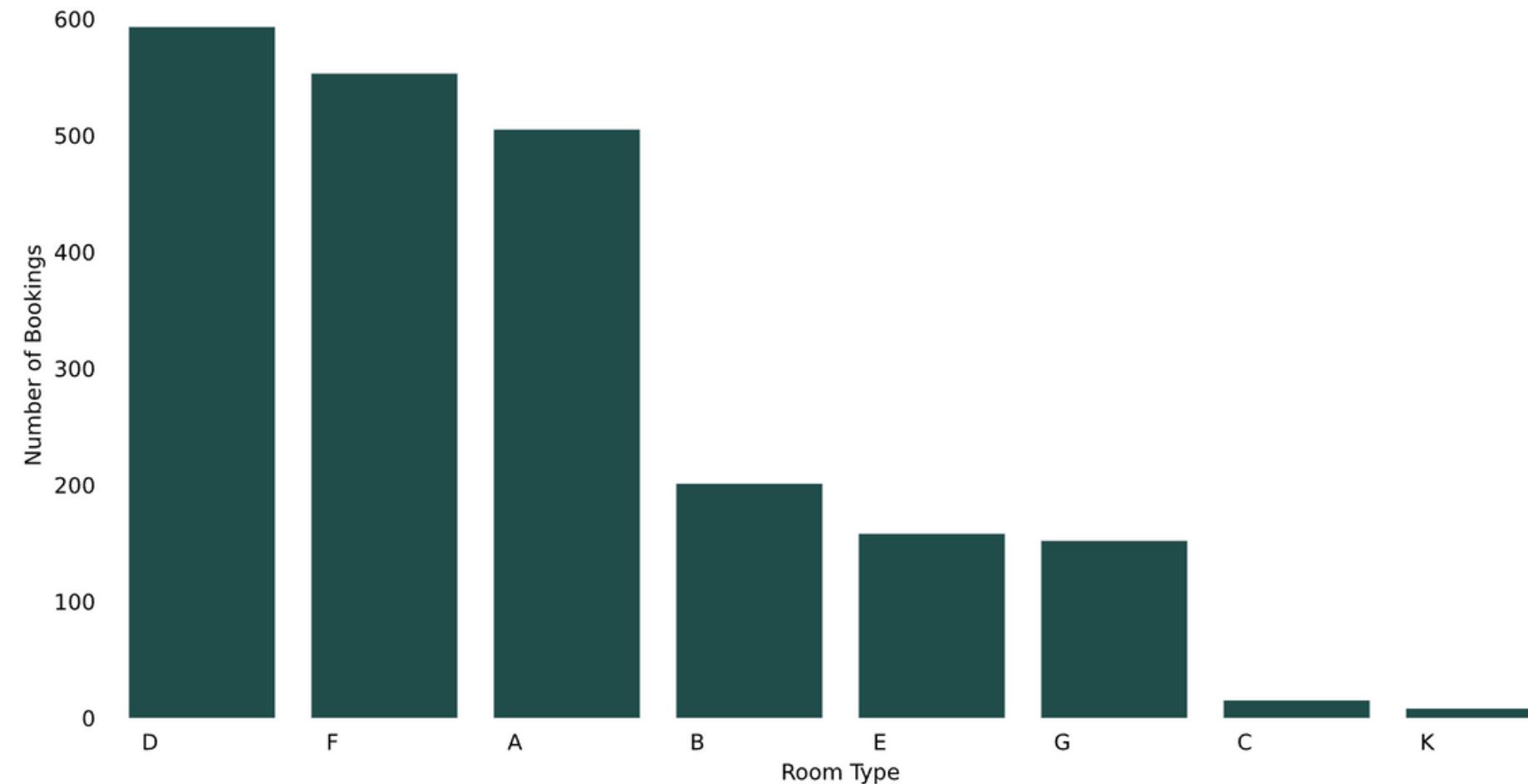
## Corporate Discounts for Steady Revenue

Despite lower numbers, corporate bookings contribute to revenue stability. Offering exclusive discounts to this segment ensures a consistent income flow and fosters annual contract renewals. Implement targeted efforts to retain and incentivize corporate bookings for long-term financial stability.



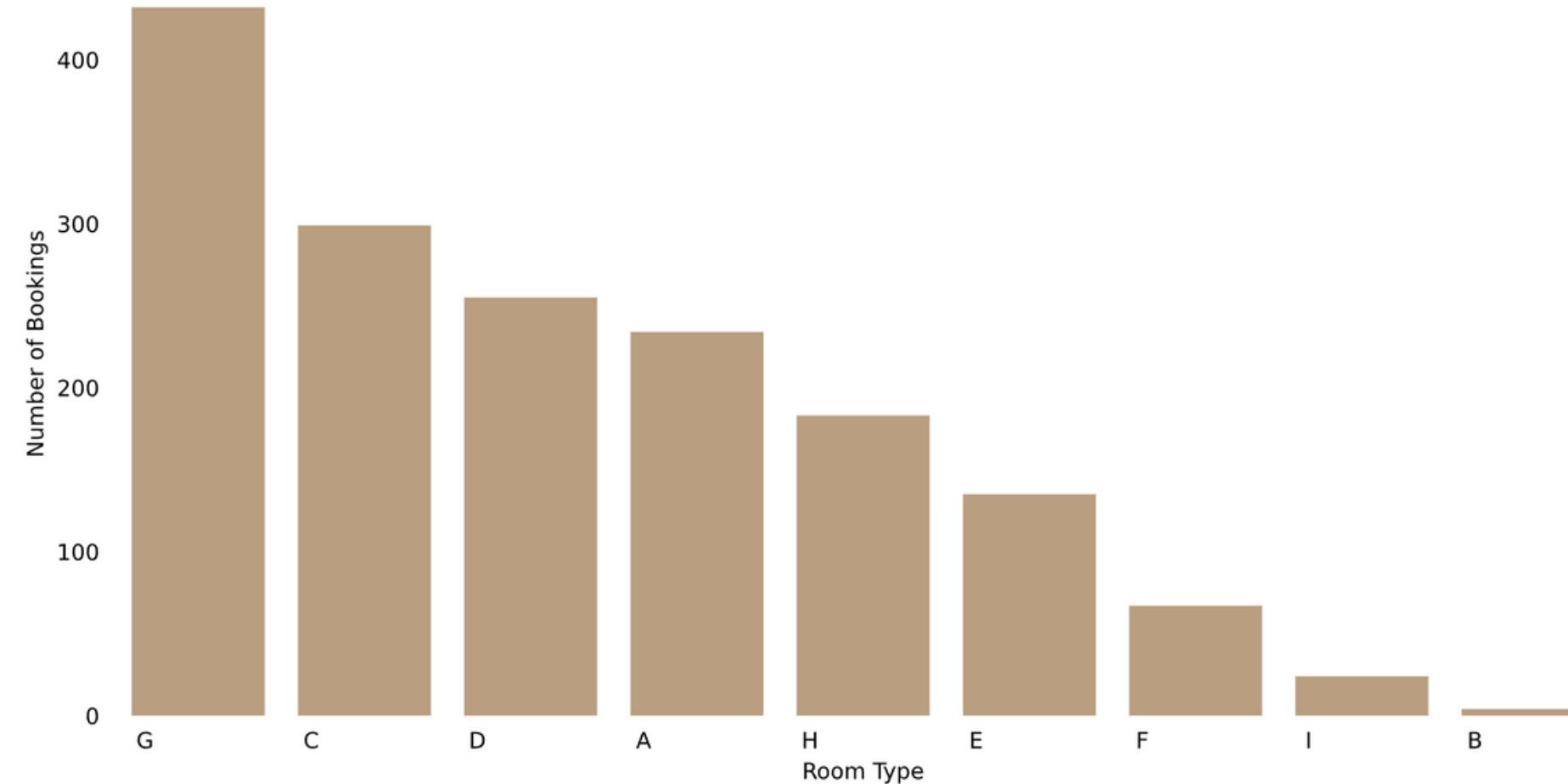
**Enhancing Family  
Experiences**

# WHICH ROOMS ARE MOST POPULAR AMONG FAMILIES AT YOUR HOTEL?



Room Type D, F, and A are top choices for families, indicating a strong preference.

# WHICH ROOMS ARE MOST POPULAR AMONG FAMILIES AT YOUR RESORT?

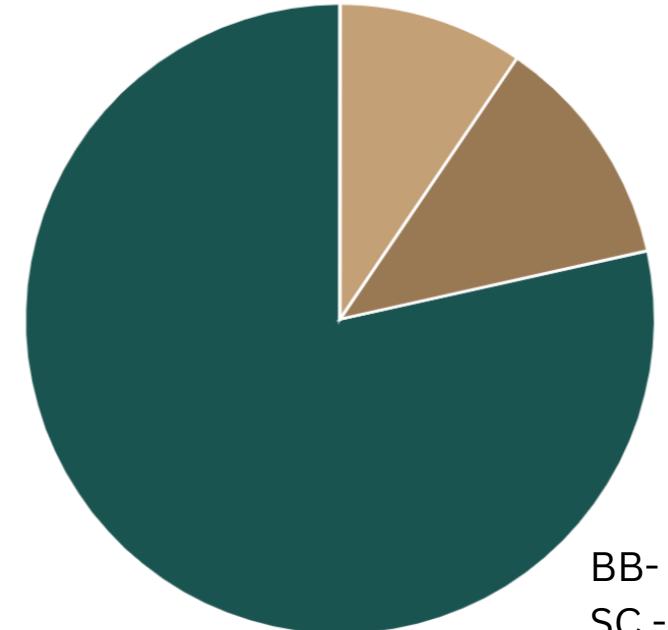


Room Type G is the top choice for families, indicating a strong preference.

# MEAL PLAN ANALYSIS - HOTEL

HOW ARE ONLY  
ADULTS CHOOSING  
THEIR MEAL  
PLANS?

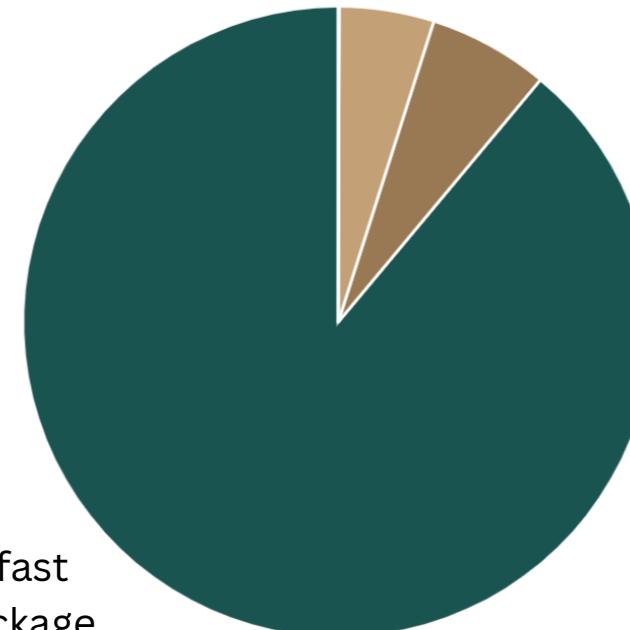
BB	(78.5%)
SC	(12.0%)
HB	(9.5%)
FB	(0.0%)



BB- Bed & Breakfast  
SC - No Meal Package  
HB - Half Board  
FB - Full Board

HOW ARE FAMILIES  
CHOOSING THEIR  
MEAL PLANS?

BB	(88.9%)
HB	(6.2%)
SC	(4.9%)
FB	(0.0%)



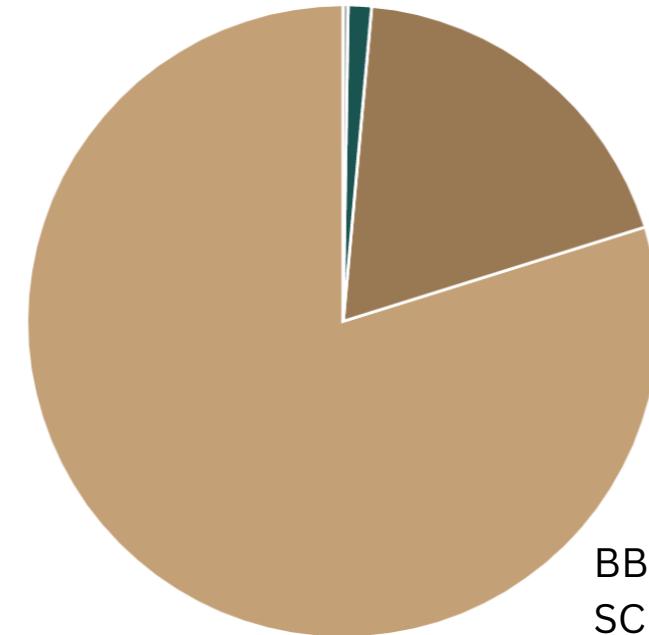
Insight

Guests with children or babies prefer to book a meal plan more than not having a meal plan at all.

# MEAL PLAN ANALYSIS - RESORT

HOW ARE ONLY  
ADULTS CHOOSING  
THEIR MEAL  
PLANS?

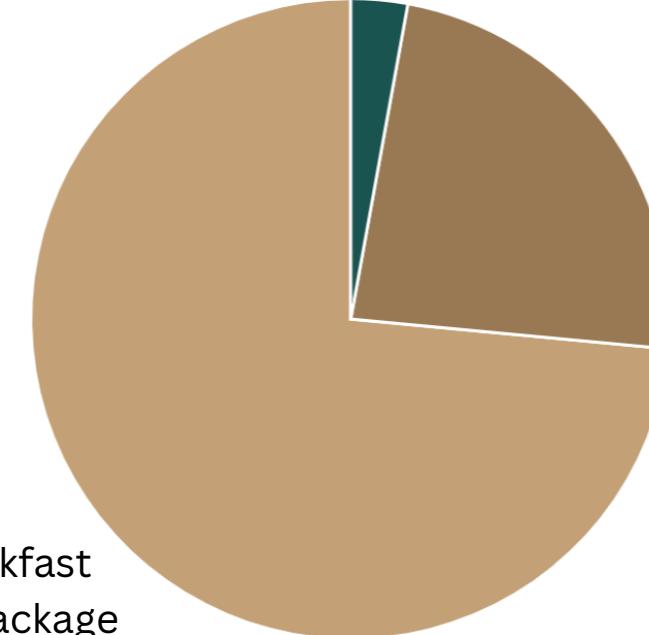
BB	(79.8%)
HB	(18.7%)
FB	(1.2%)
SC	(0.2%)



BB- Bed & Breakfast  
SC - No Meal Package  
HB - Half Board  
FB - Full Board

HOW ARE FAMILIES  
CHOOSING THEIR  
MEAL PLANS?

BB	(73.5%)
HB	(23.6%)
FB	(2.9%)



Insight

Guests with children or babies prefer to book a meal plan more than not having a meal plan at all.

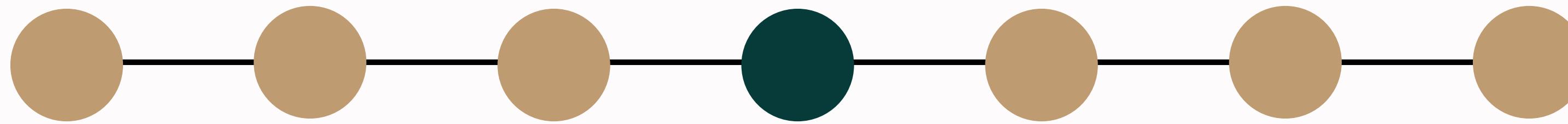
# • Recommendation •

To Improve Family Experience



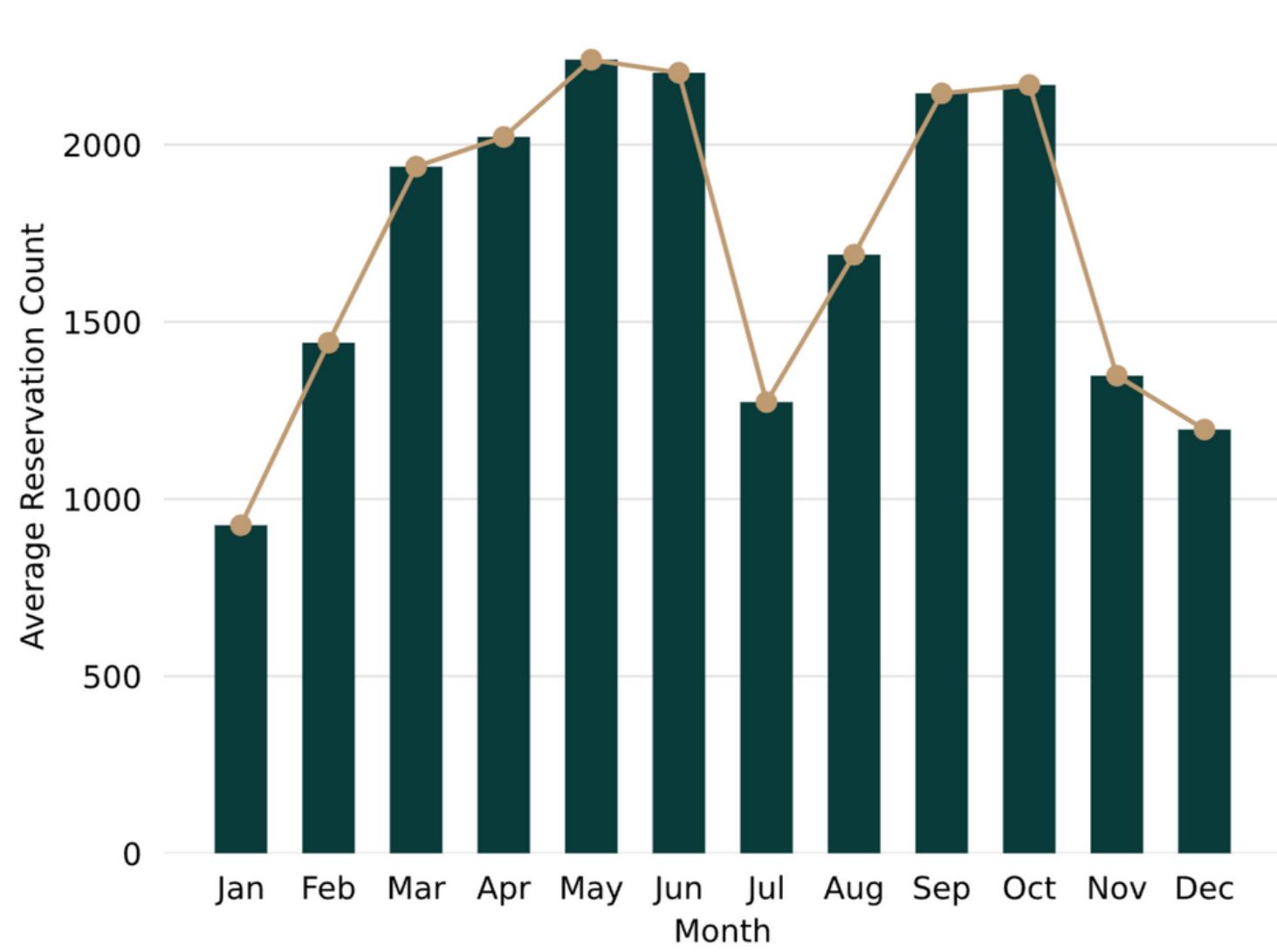
## Enhancing Family Experiences

Discounted meal plans make it more appealing for families. They prefer the convenience of pre-booked meals, reducing stress and ensuring a hassle-free dining experience during their vacation.



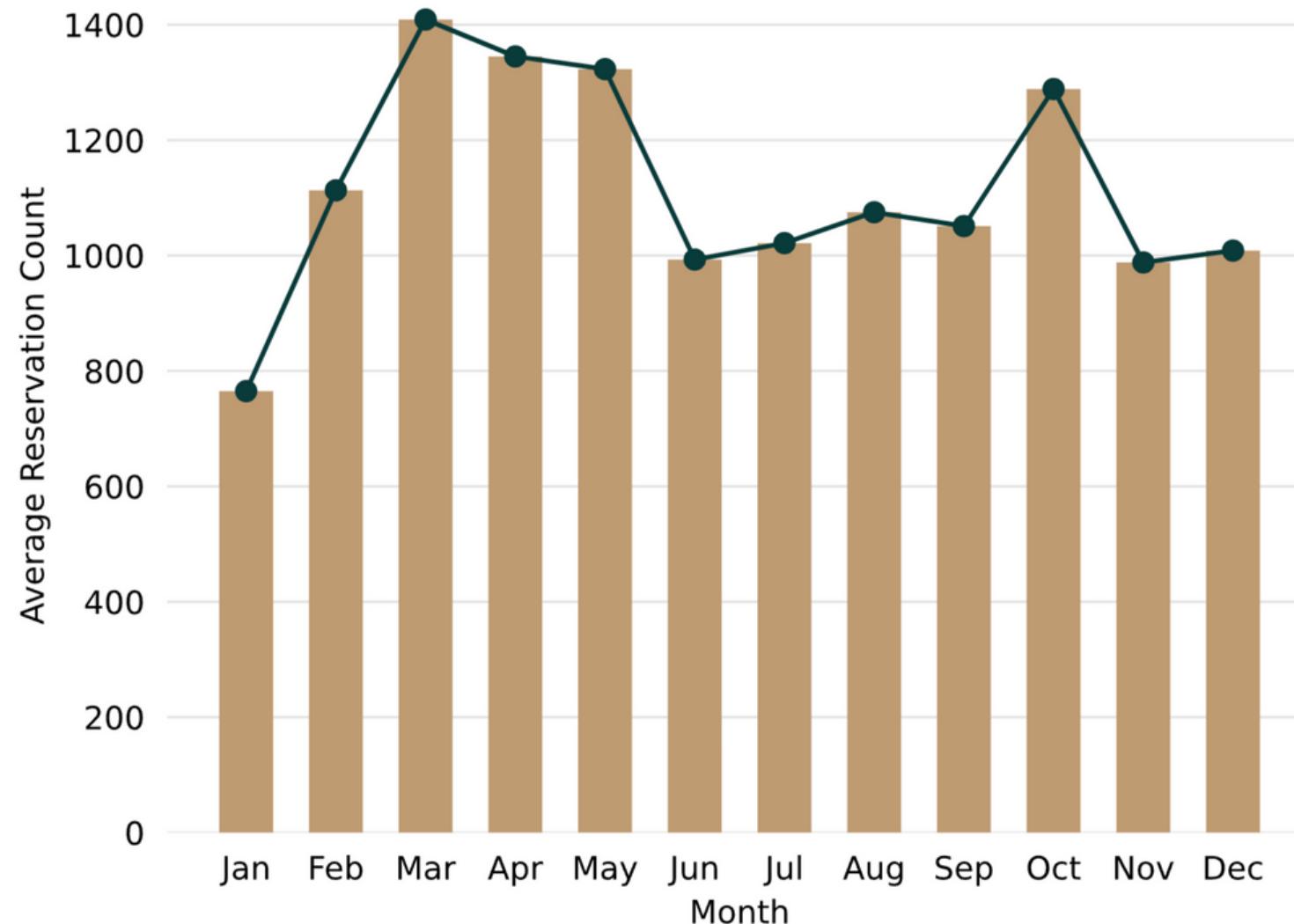
**Understanding  
Seasonal Fluctuations and  
Lead Times**

# UNDERSTANDING SEASONALITY - HOTEL



- The hotel thrives during **peak seasons** from **March to June**, attracting guests with the allure of blooming spring and post-winter rejuvenation.
- Another **peak** occurs from **September to October**, when the weather is still warm and sunny.
- A **dip** in visitors is noted from **July to August**, coinciding with the exceptionally hot weather during the summer months. The **off-season** from **November to February** sees a decline, attributed to cooler temperatures.

# UNDERSTANDING SEASONALITY - RESORT



- The hotel experiences its **peak seasons** during the months of **March to May**, attracting a surge of visitors who seek the vibrant ambiance of spring.
- Conversely, the **off-season** spans from **November to February**, characterized by fewer guests due to colder weather during the winter months.
- Interestingly, the period from **June to September** sees a **consistent** flow of visitors.

# • Recommendations •

Based on Seasonality Analysis



## Cost Management

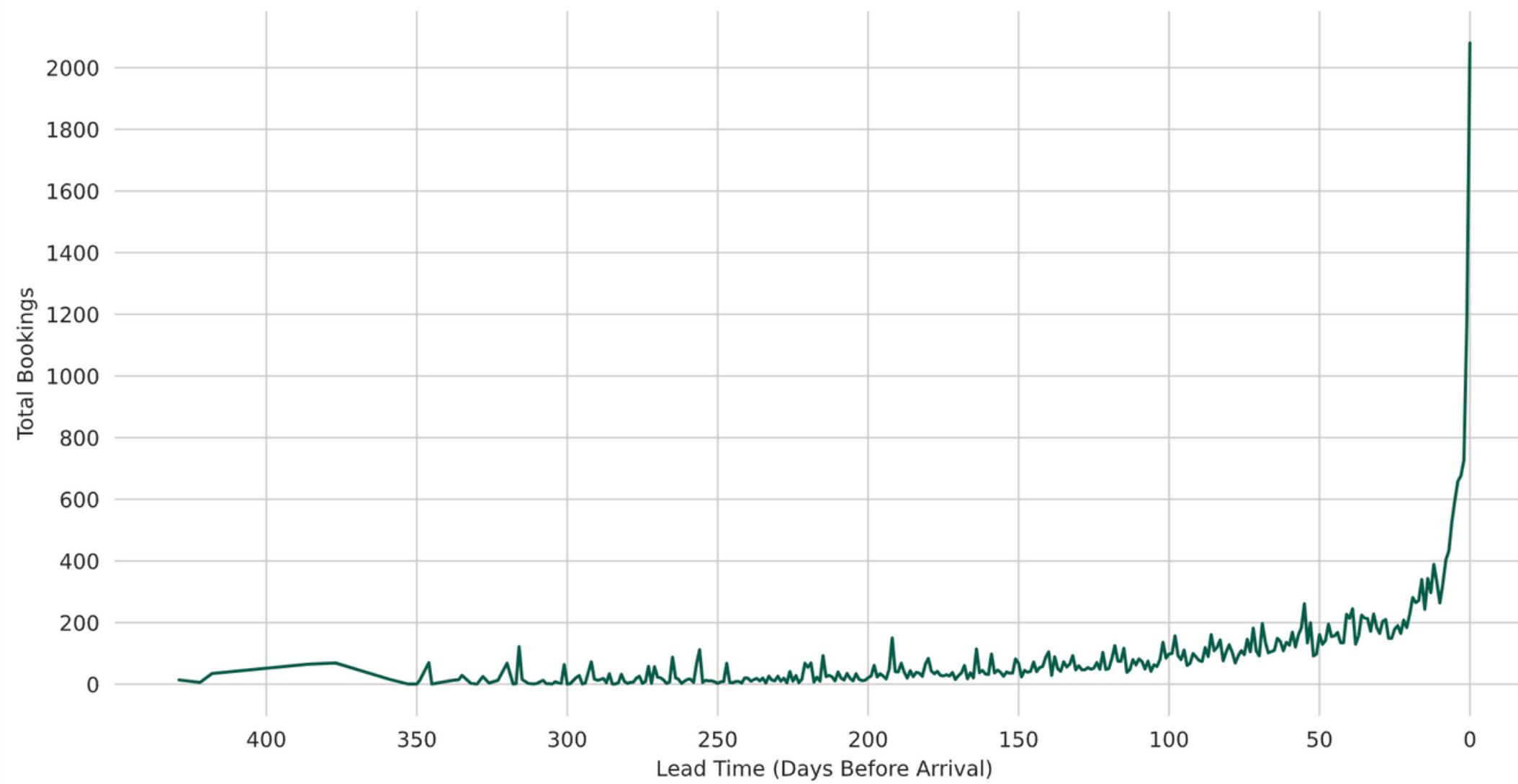
GHR can adjust staff scheduling, reduce inventory levels or temporarily close certain services during the off season to save cost.



## Resource Allocation

Ensure that staff levels are sufficient to handle increased demand during this busy period. It might also be a good time for renovations or other improvements to enhance guest experiences in order to establish customer loyalty.

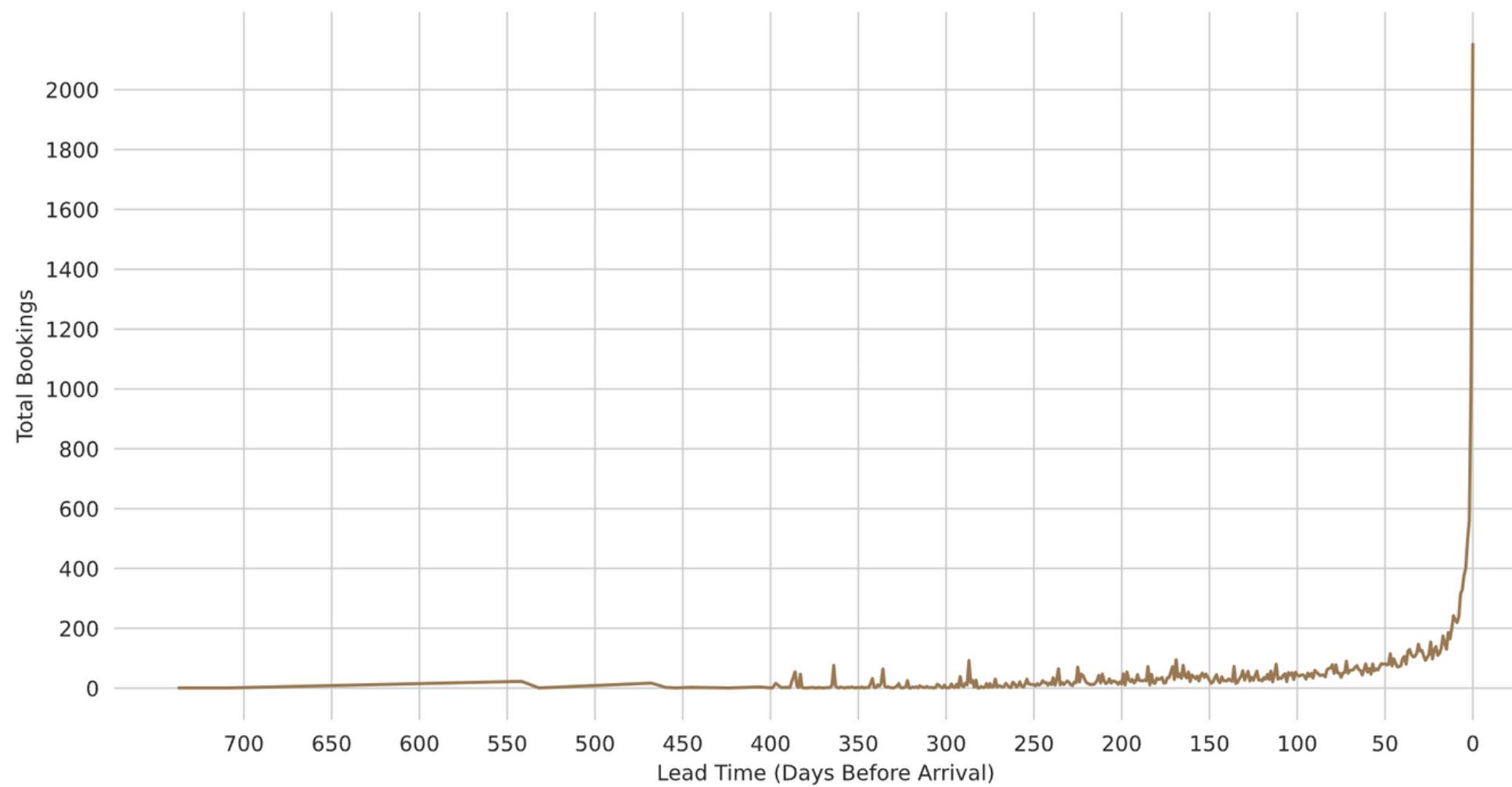
# LEAD TIME : UNDERSTANDING HOW EARLY GUESTS RESERVE AT THE HOTEL



Insight 

**Looking at the graph, we can say that guests are booking closer to their actual arrival date.**

# LEAD TIME : UNDERSTANDING HOW EARLY GUESTS RESERVE AT THE RESORT



Insight 

**Looking at the graph, we can say that guests are booking closer to their actual arrival date.**

# • Recommendations •

## To Optimize Lead Time



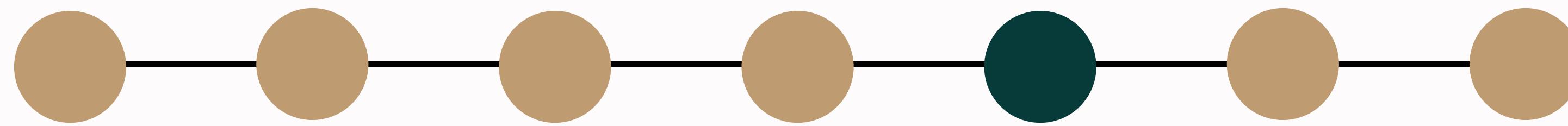
### Early Booking Discounts

Offering early booking discounts allows the hotel to anticipate revenues and streamline resource costs. This ensures each department, from kitchens to housekeeping, to proactively prepare for guest arrivals.



### Lead Time Monitoring for Competitiveness

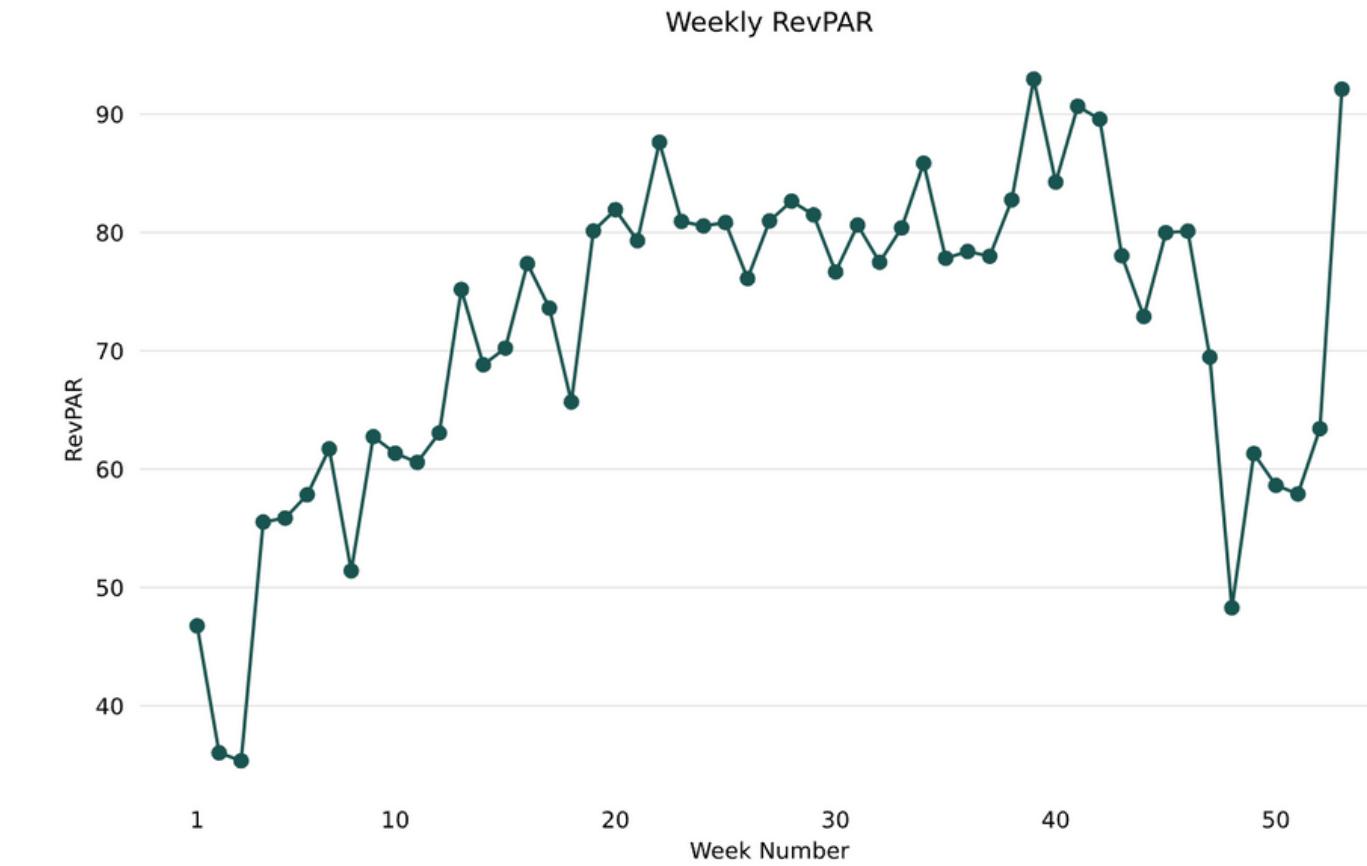
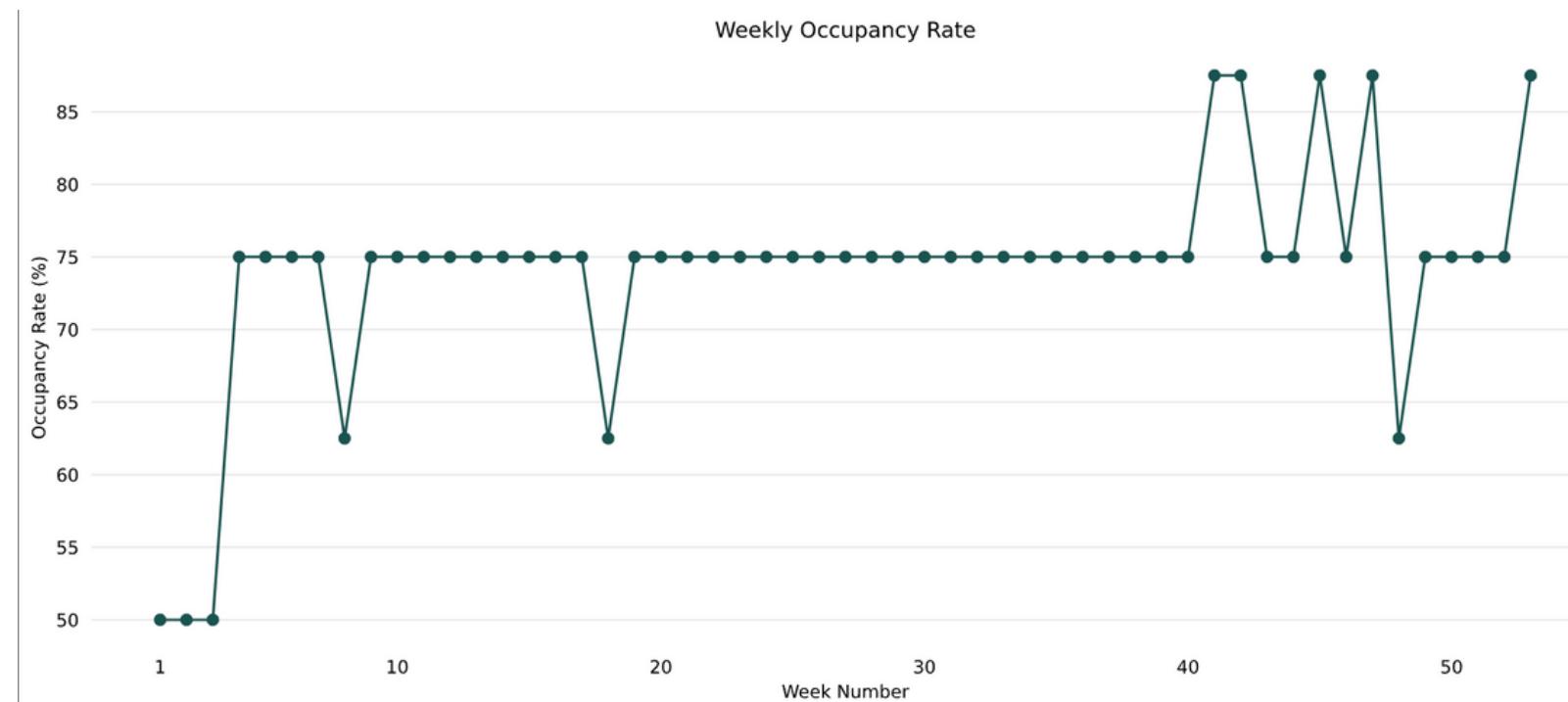
Regularly monitoring lead time is crucial for staying competitive. It helps strike a balance—efficient room filling without compromising on market value.



**Key GHR Metrics**

# THE BIG THREE : OCCUPANCY, ADR AND REVPAR

## HOTEL



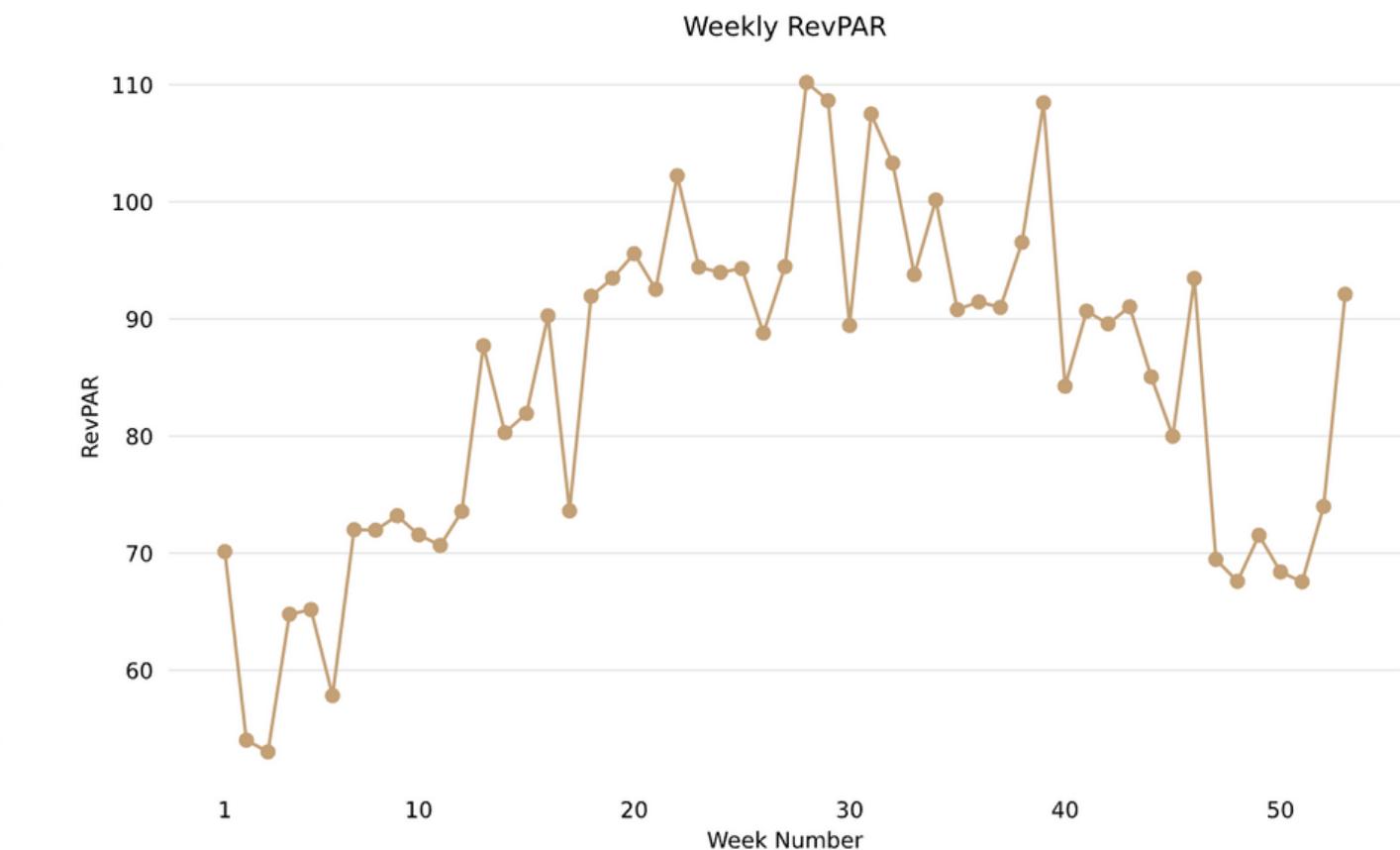
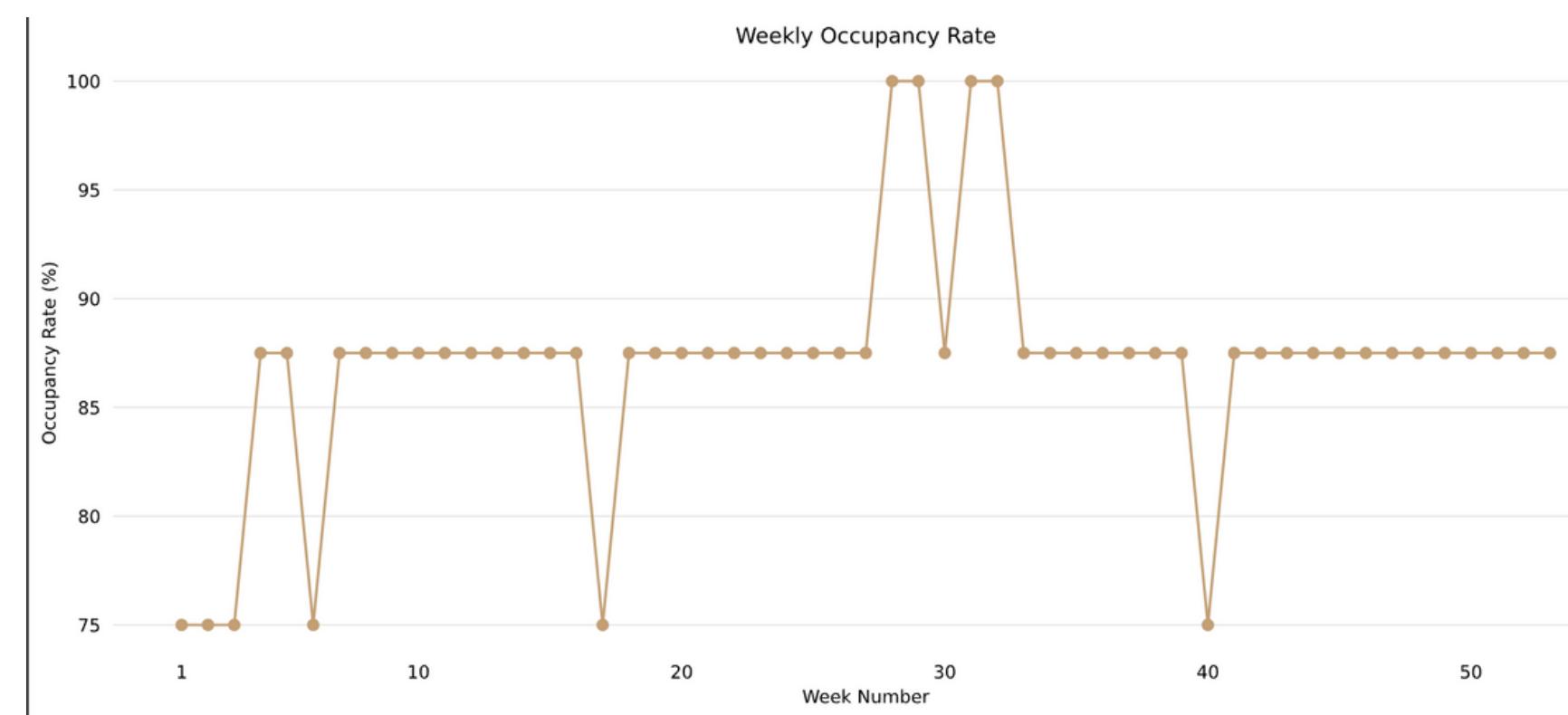
Insight

75% of Rooms are occupied at most of the times in any given week.

$\text{RevPAR(weekly)}^* = \text{ADR(weekly)} \times \text{OccupancyRate(weekly)}$

\*RevPAR is a metric used in the hospitality industry to assess a property's ability to fill its available rooms at an average rate. An increase in a property's RevPAR means that its average room rate or its occupancy rate is improving.

# THE BIG THREE : OCCUPANCY, ADR AND REVPAR RESORT



Insight

87% of Rooms are occupied at most of the times in any given week.

$\text{RevPAR(weekly)}^* = \text{ADR(weekly)} \times \text{OccupancyRate(weekly)}$

\*RevPAR is a metric used in the hospitality industry to assess a property's ability to fill its available rooms at an average rate. An increase in a property's RevPAR means that its average room rate or its occupancy rate is improving.

# • Recommendations •

To Maximize RevPAR



## Demand Forecasting for Pricing Strategy

GHR must accurately track demand trends which will not only allow them to charge higher prices during peak demand and lower price during slower seasons but also will help in offering strategic discounts which will decrease the number of unoccupied rooms which will lead to increased revenue.

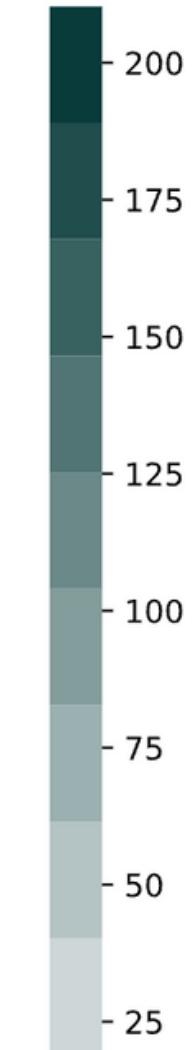
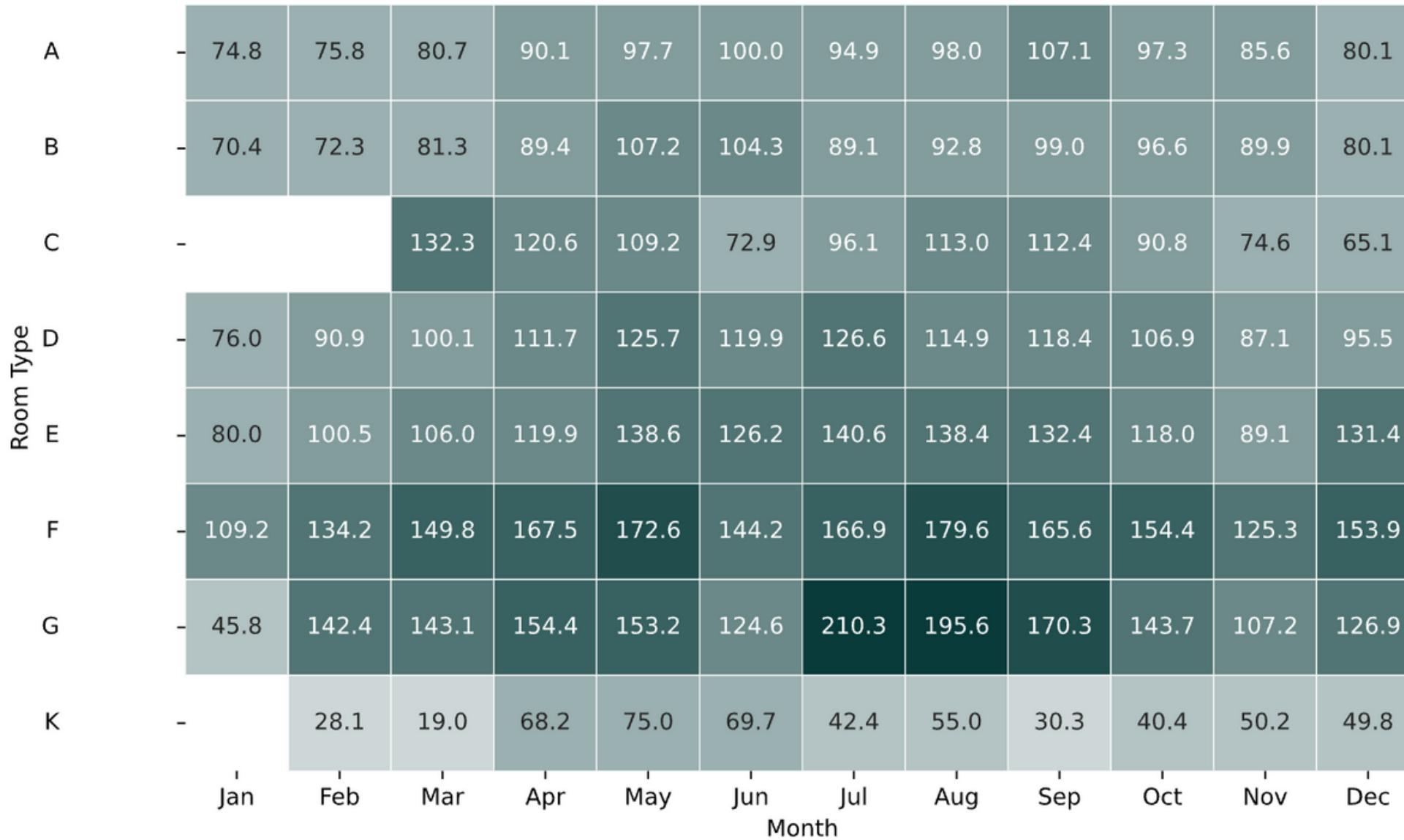


## Encouraging Longer Stays with Incentives

GHR Hotels can incentivize longer guest stays by setting minimum-night requirements. While this strategy involves the risk of losing flexible bookings, it also creates the opportunity to secure business that might not have occurred otherwise. Guests who prefer flexibility can be charged an additional fee. This is very similar to what we see in the travel industry.

# ADR OF ROOM TYPES OVER MONTHS

## HOTEL

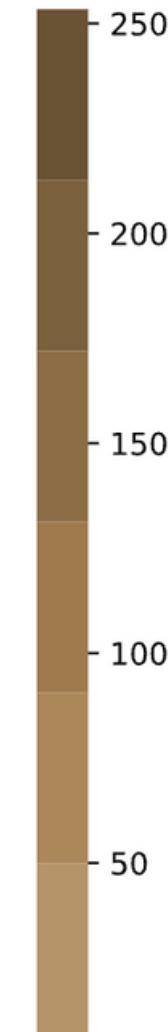
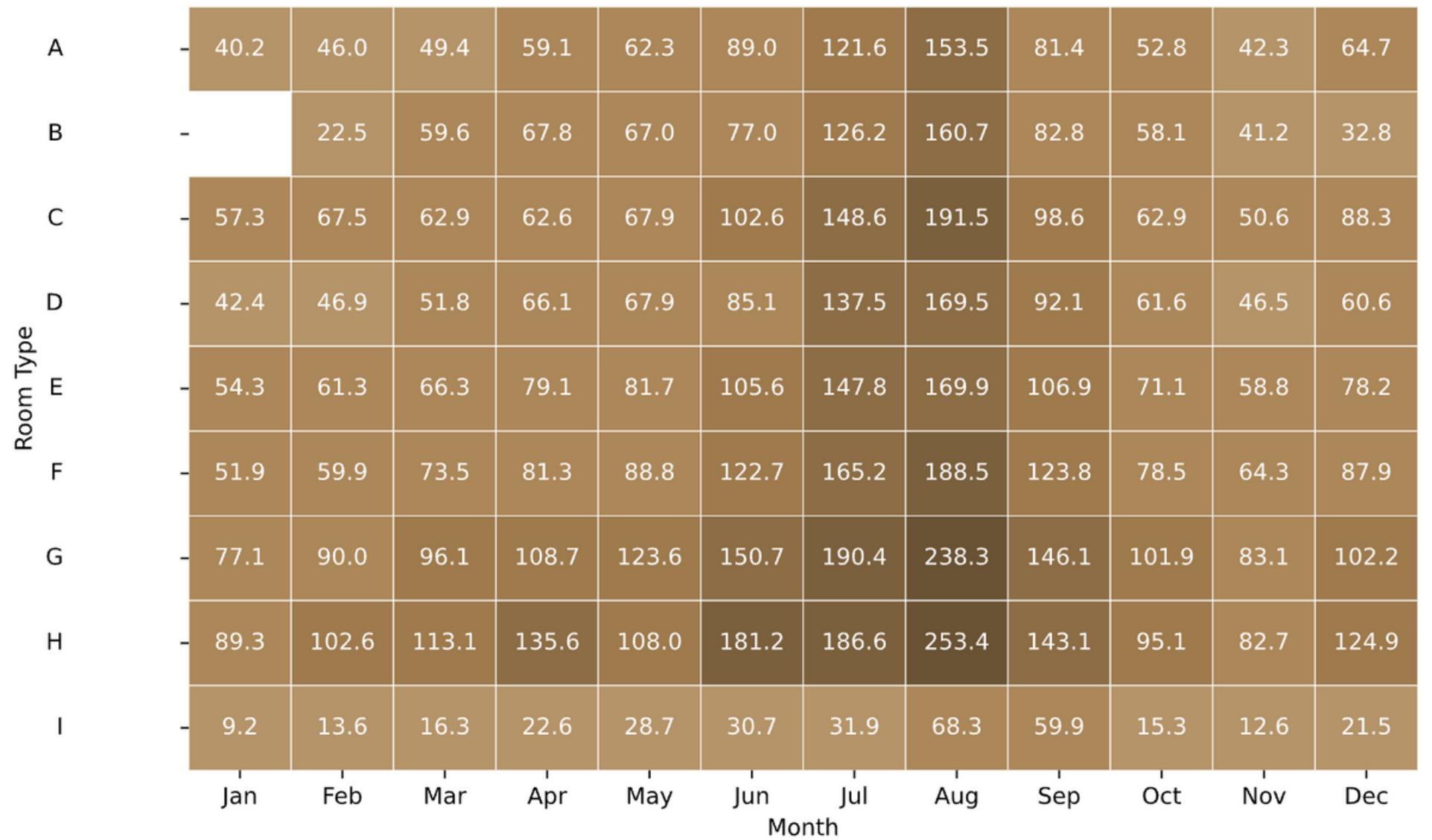


Insight

**Room Types F and G  
consistently have the  
highest Average ADR.**

# ADR OF ROOM TYPES OVER MONTHS

## - RESORT



Insight

**Room Types G and H  
consistently have the  
highest Average ADR.**

# • Recommendations •

## To Upsell Premium Room Types



### Promotional Packages

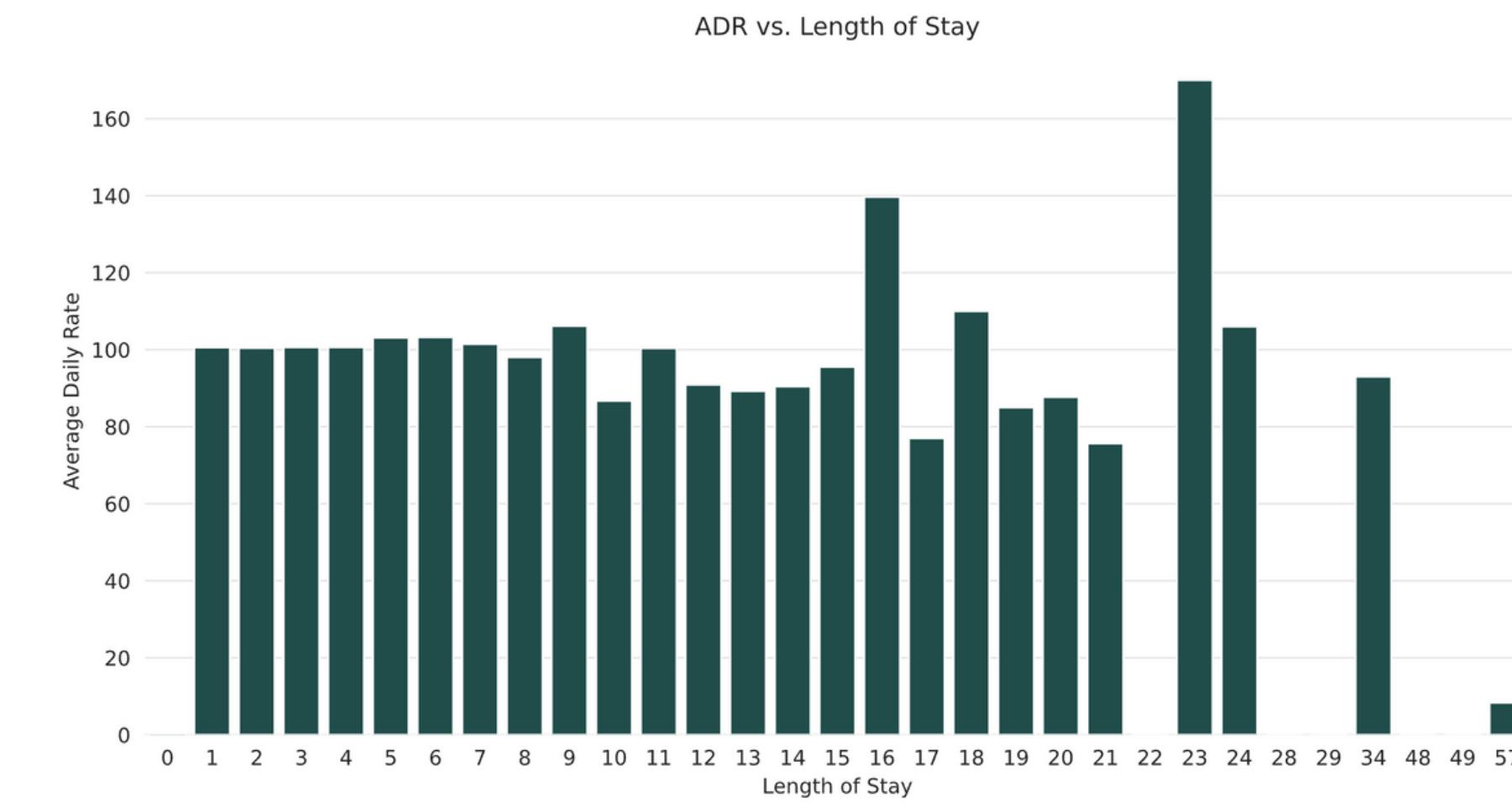
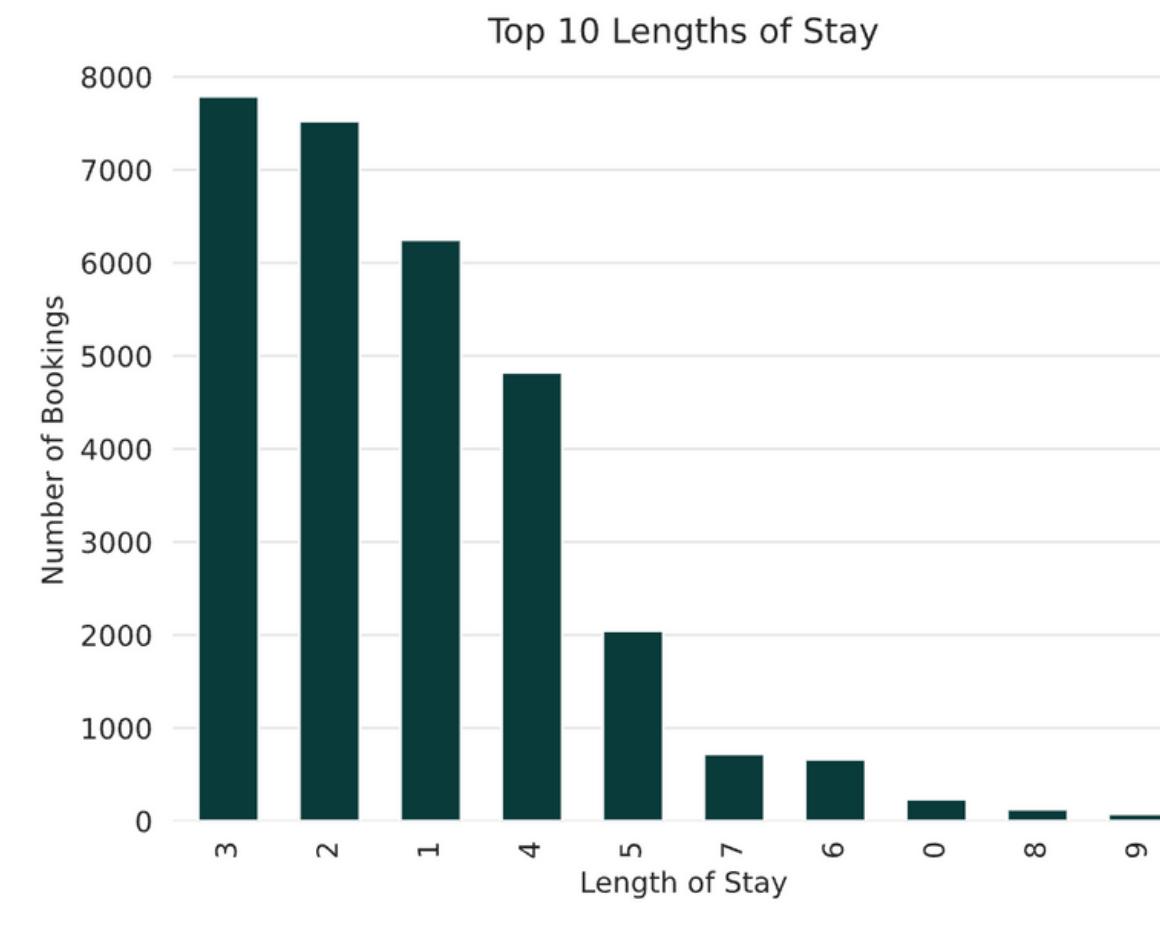
Create exclusive promotional packages for Room Types with higher ADR highlighting their premium features or additional amenities. Emphasize the value proposition to attract guests willing to pay higher rates.



### Marketing Emphasis

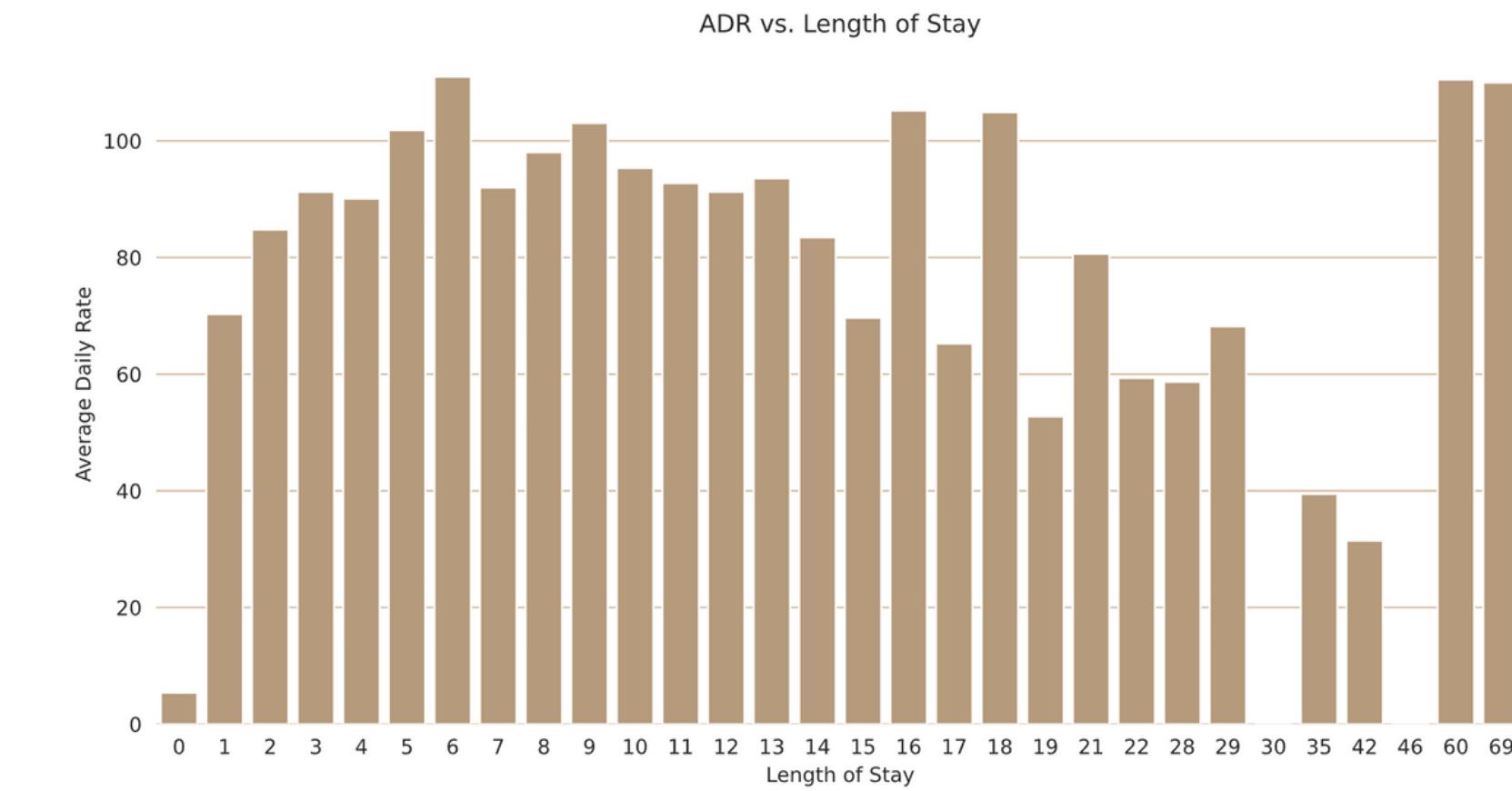
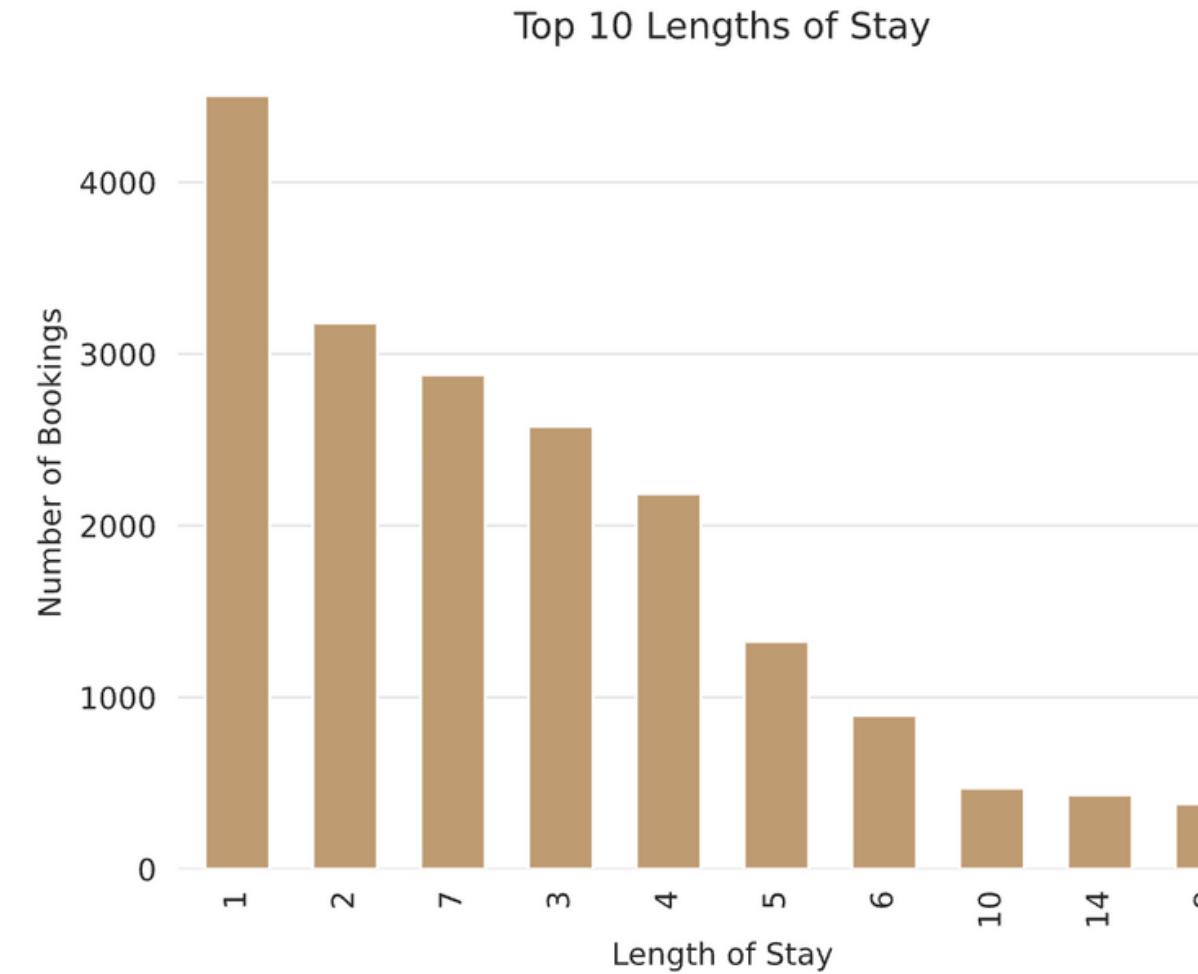
Allocate a higher proportion of marketing efforts towards Room Types with higher ADR. Showcase their unique qualities through targeted advertising, both online and offline, to attract guests seeking a luxurious experience.

# SHOULD GHR OFFER EXTENDED HOTEL STAY DISCOUNTS?



The graphs indicate a tendency among guests to opt for stays ranging from 1-4 days. Interestingly, despite the inclination towards longer durations, there is no provision for long-term discounts.

# SHOULD GHR OFFER EXTENDED RESORT STAY DISCOUNTS?



Insight

The graphs indicate a tendency among guests to opt for stay only for 1 day.  
There is no provision for long-term discounts.

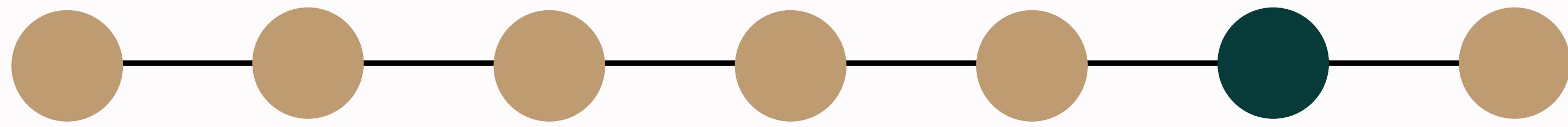
# • Recommendation •

Based on Length Of Stay Analysis



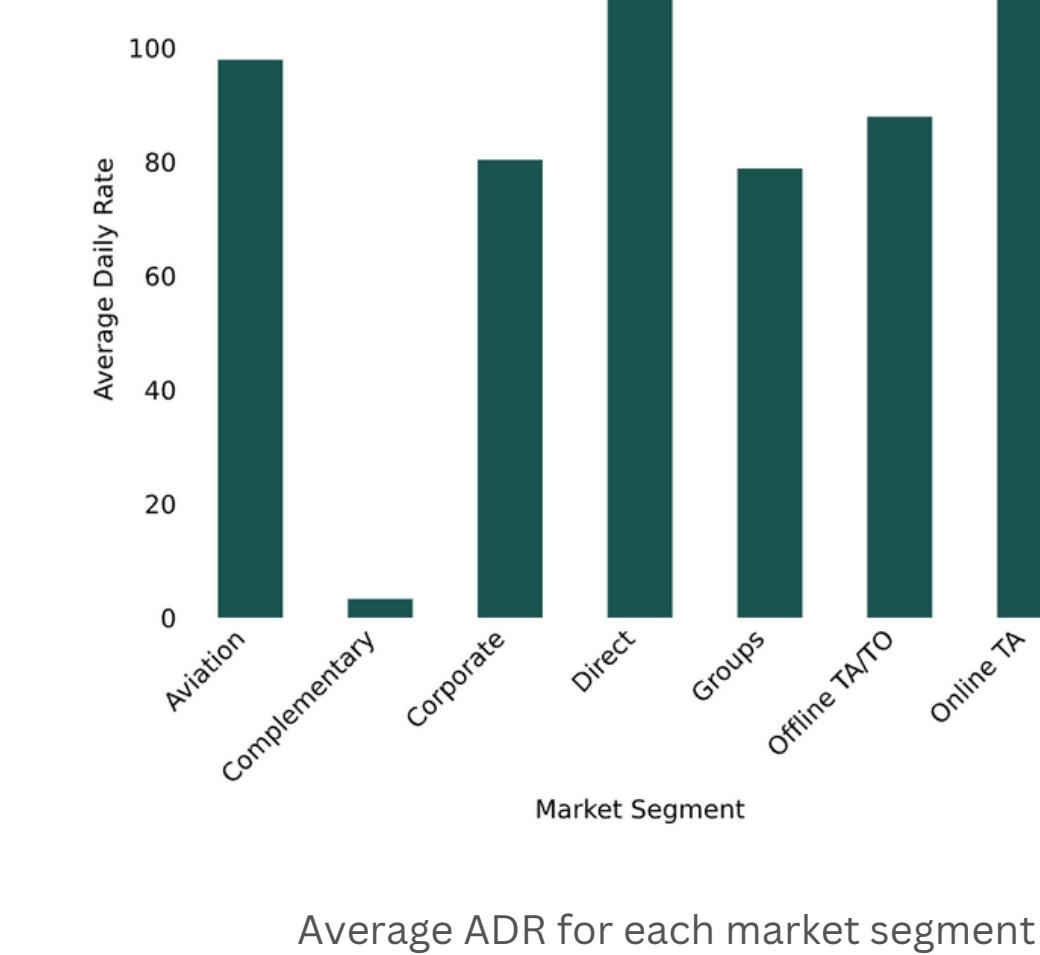
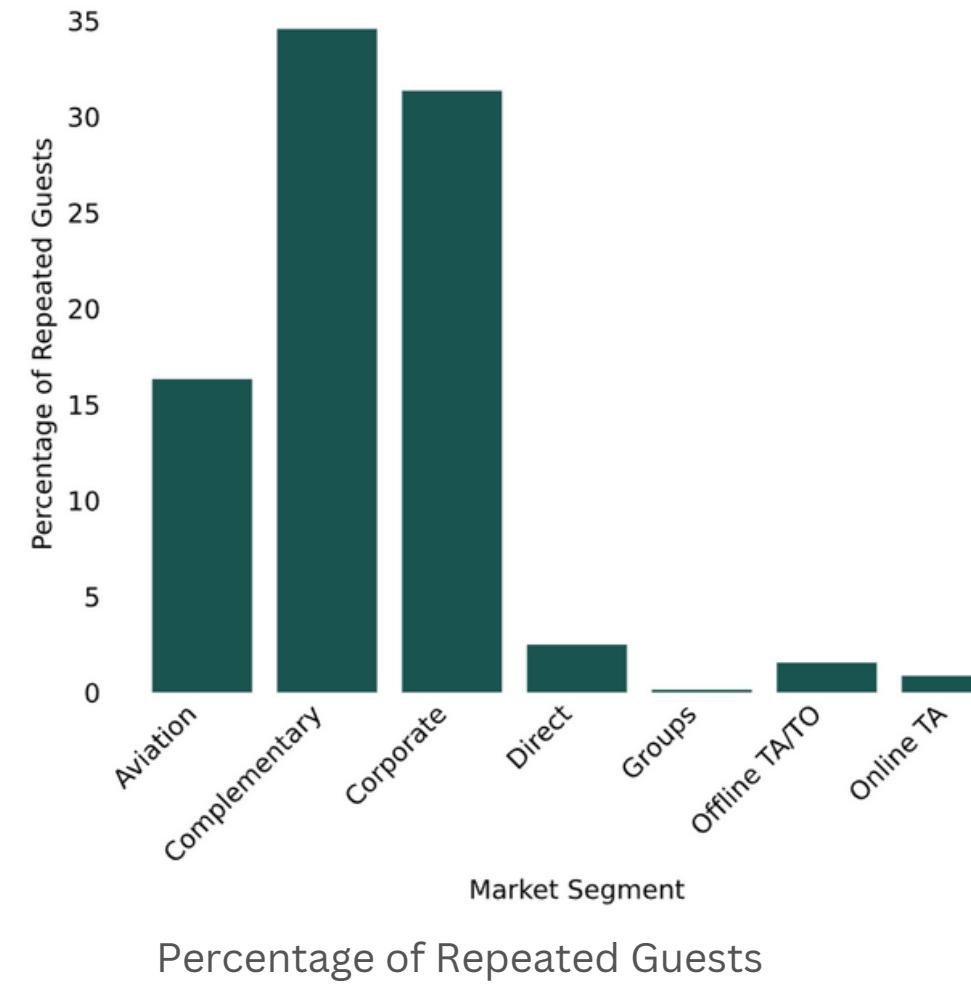
## The Power of Extended Stay Discounts

Offering discounts for longer stays attracts travelers who want to explore the area. Guests appreciate these discounts for extended visits, and it helps GHR increase revenue per guest and also helps increase occupancy numbers over need dates.



**Capitalizing  
Corporate and Group  
Bookings**

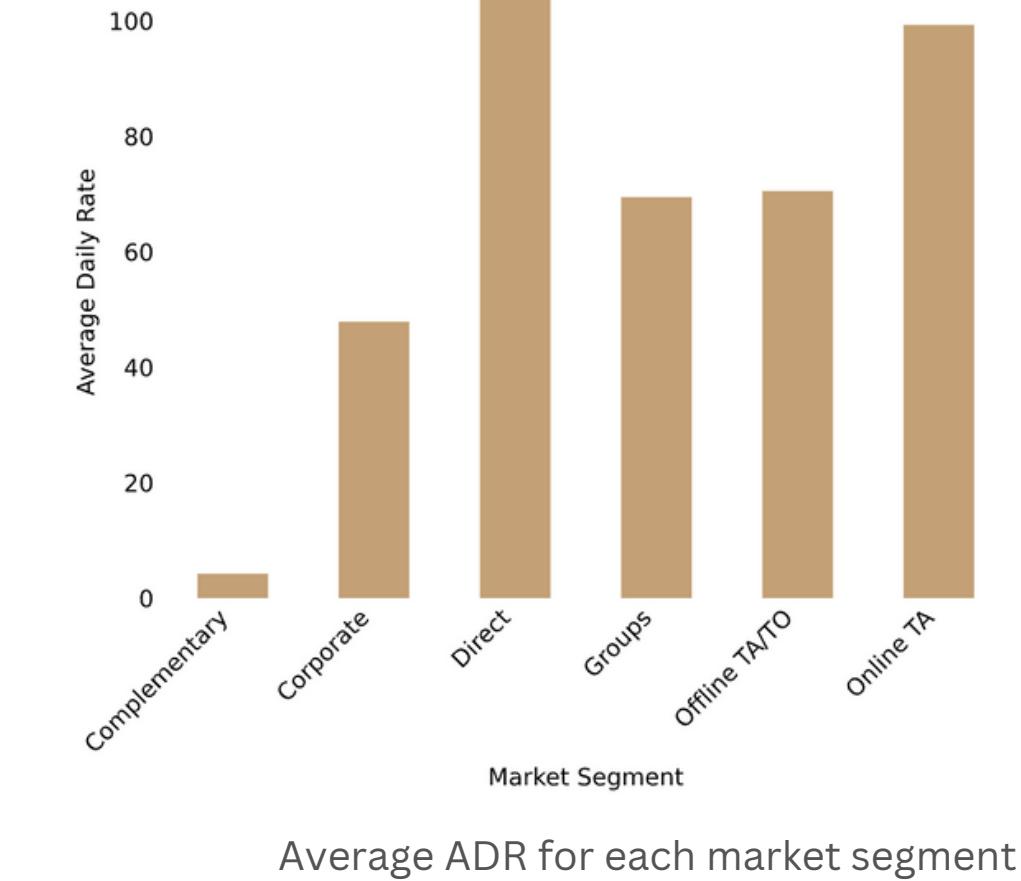
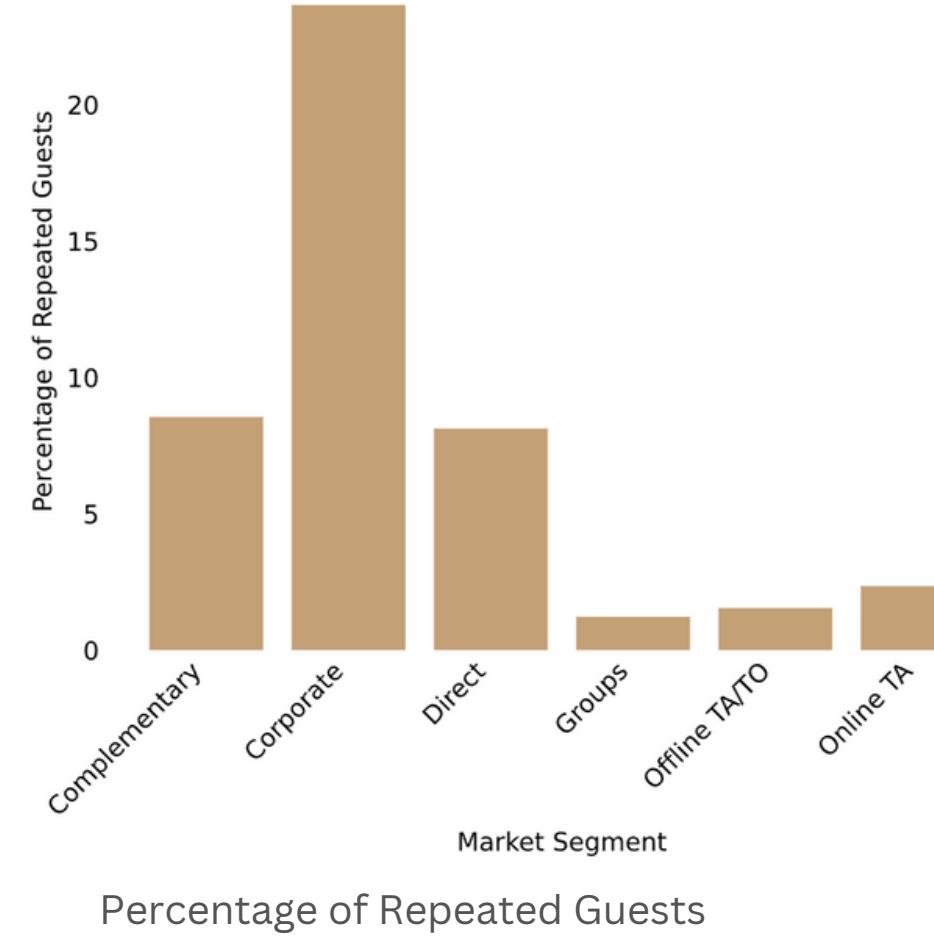
# UNLOCKING LOYALTY: THE IMPACT OF CORPORATE DISCOUNTS ON HOTEL'S GUEST RETENTION



Insight 

**Corporate discounts drive guest loyalty, with 31.4% of corporate guests and 34.6% of Complementary guests returning. In contrast, only 0.1% of group bookings are repeat customers. This highlights the effectiveness of Corporate discounts in fostering guest retention and suggests potential for long-term partnerships as corporate contracts are renewed**

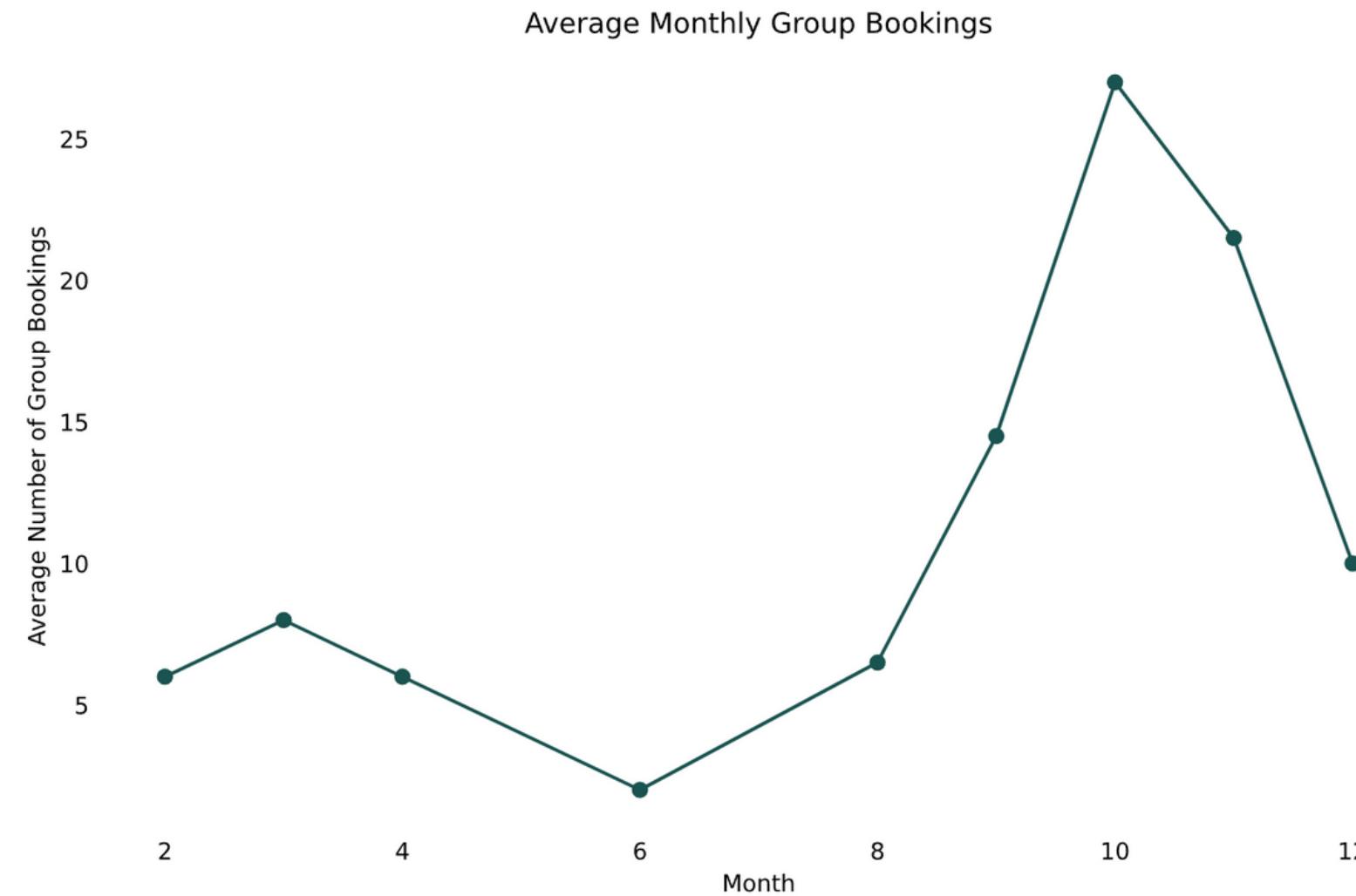
# UNLOCKING LOYALTY: THE IMPACT OF CORPORATE DISCOUNTS ON RESORT'S GUEST RETENTION



Insight

Corporate discounts drive guest loyalty, with 23.7% of corporate guests and 8.5% of Complementary guests returning. This highlights the effectiveness of Corporate discounts in fostering guest retention and suggests potential for long-term partnerships as corporate contracts are renewed.

# PEAK SEASON FOR HOTEL GROUP BOOKINGS

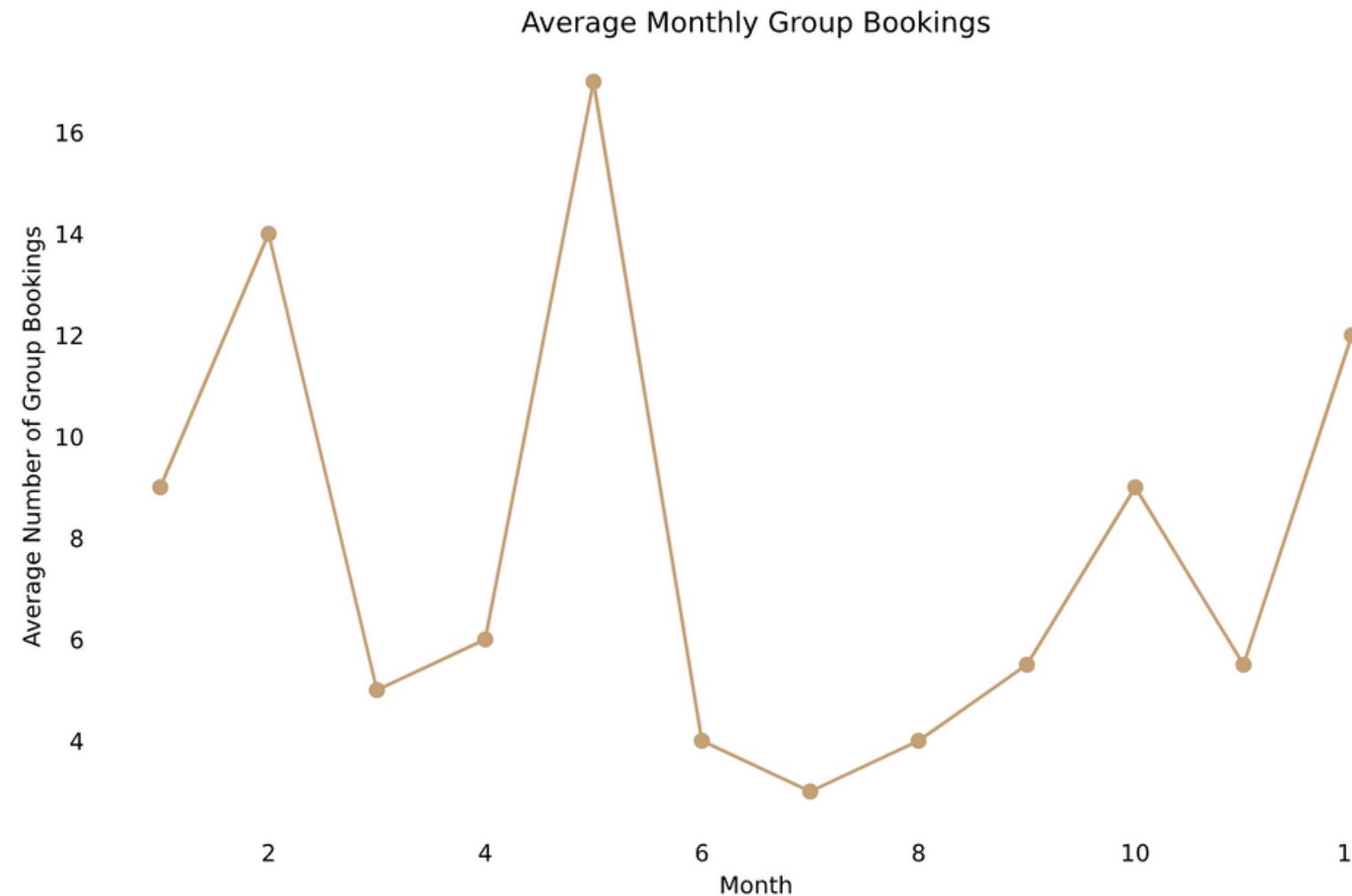


**Group Customers** are part of larger group reservation. The entire group is booked together and the reservation may involve multiple rooms. This is usually for events, conferences and weddings where group of people are travelling together.

Insight

October witnesses a peak in Group bookings.

# PEAK SEASON FOR RESORT GROUP BOOKINGS



Group Customers are part of larger group reservation. The entire group is booked together and the reservation may involve multiple rooms. This is usually for events, conferences and weddings where group of people are travelling together.

Insight 

February and May witnesses a peak in Group bookings.

# • Recommendations •

## To attract Group Bookings



### Strategic Room Rate Offerings

Encourage group bookings by implementing competitive Average Daily Rates (ADRs). Attractive pricing not only boosts occupancy rates but also fosters potential customer loyalty within the group segment.



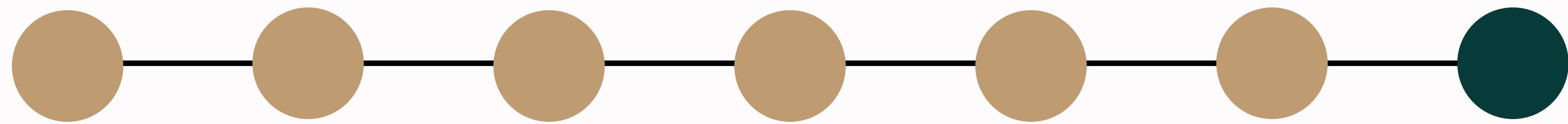
### Optimize Reservation Software

Opt for a reservation software tailored for seamless management of group bookings. Leverage smart automation features encompassing room lists, tentative reservations, group billing, and bulk updates. Consolidating these functions in one platform is crucial for efficient preparation and execution at GHR.



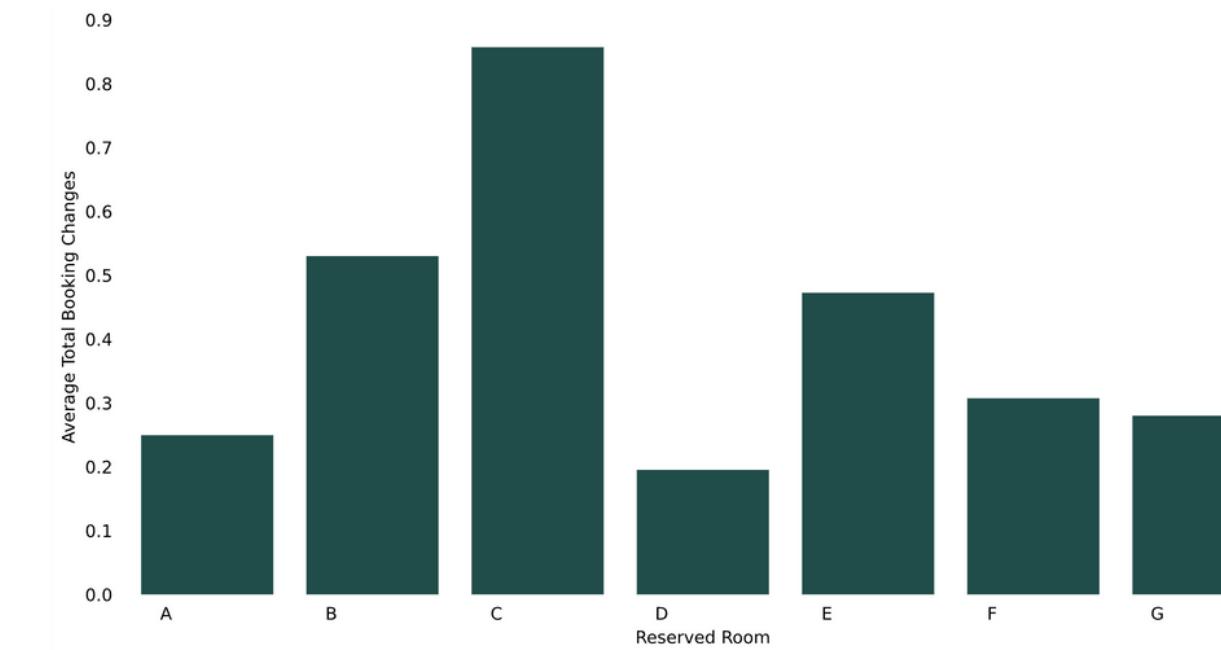
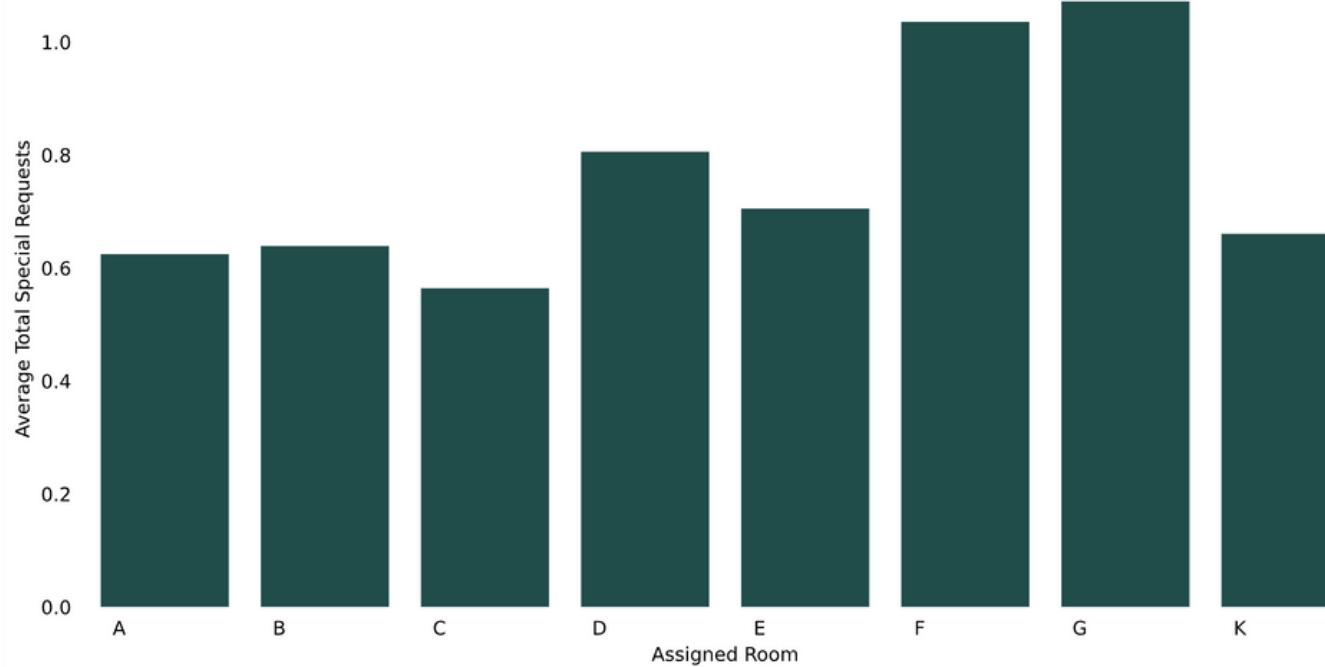
### Design a list of services

Prioritize organization when catering to large groups. Develop a comprehensive list of services offered, including food and beverage options, meeting rooms, transportation, laundry services, a dedicated concierge, or banqueting facilities. These services not only distinguish GHR but also present opportunities for upselling, thereby increasing ancillary revenue and the average spend per booking.



**Other Potential  
Revenue Opportunities**

# AVERAGE FREQUENCY OF SPECIAL REQUESTS AND BOOKING CHANGES IN HOTEL

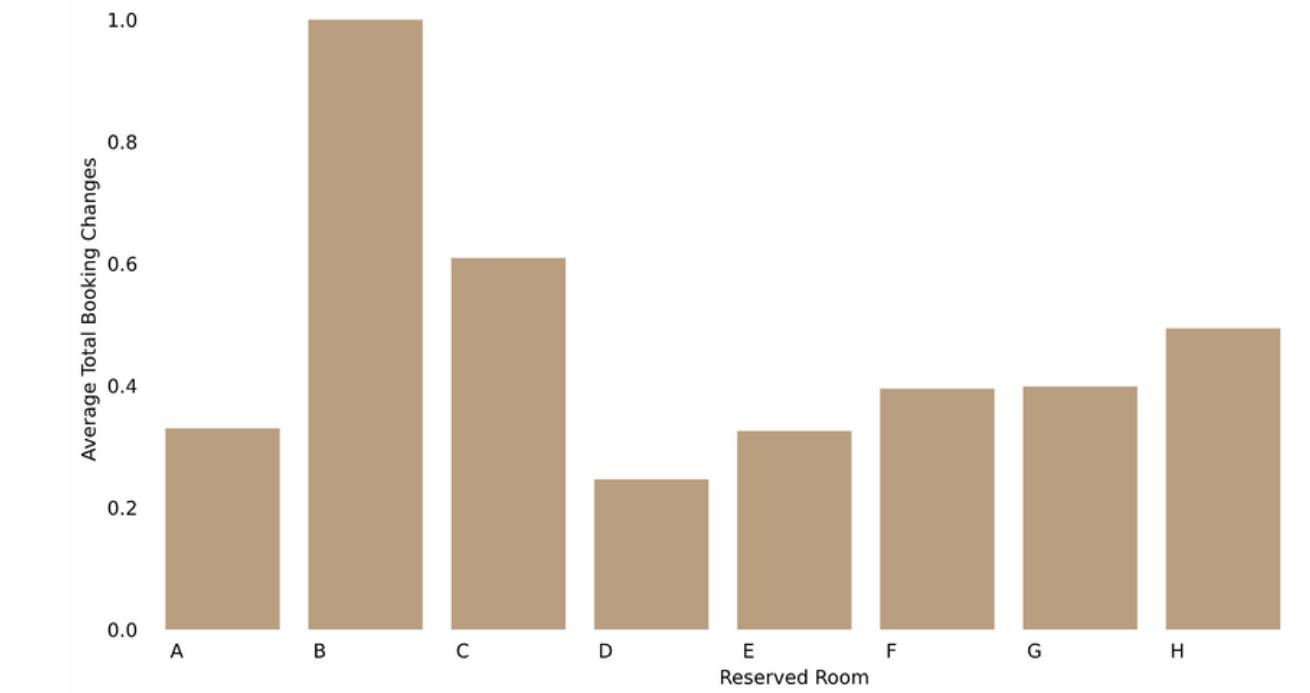
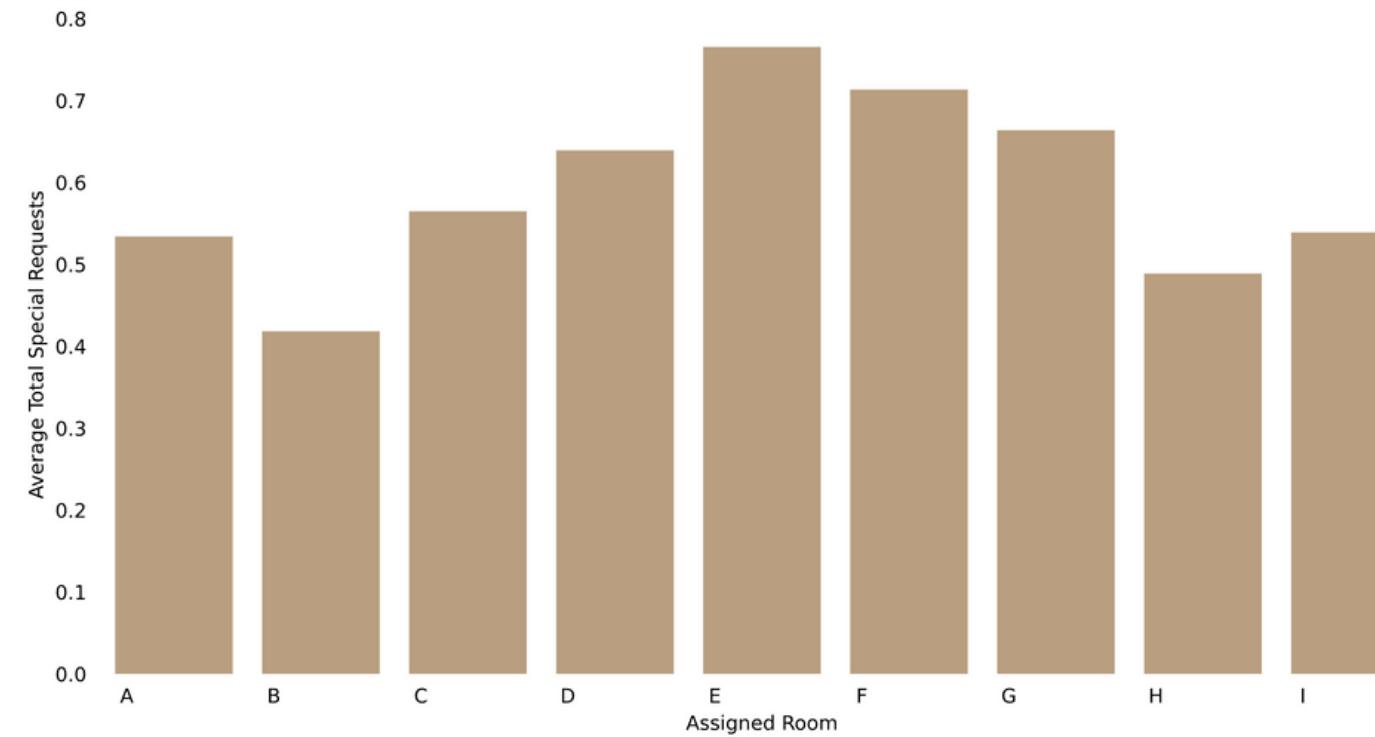


Insight 

**People who are assigned to Room Type F and G tend to make at least 1 special request on average.**

**People who reserve Room C tend to make more booking changes.**

# AVERAGE FREQUENCY OF SPECIAL REQUESTS AND BOOKING CHANGES IN RESORT



Average number of Special Requests

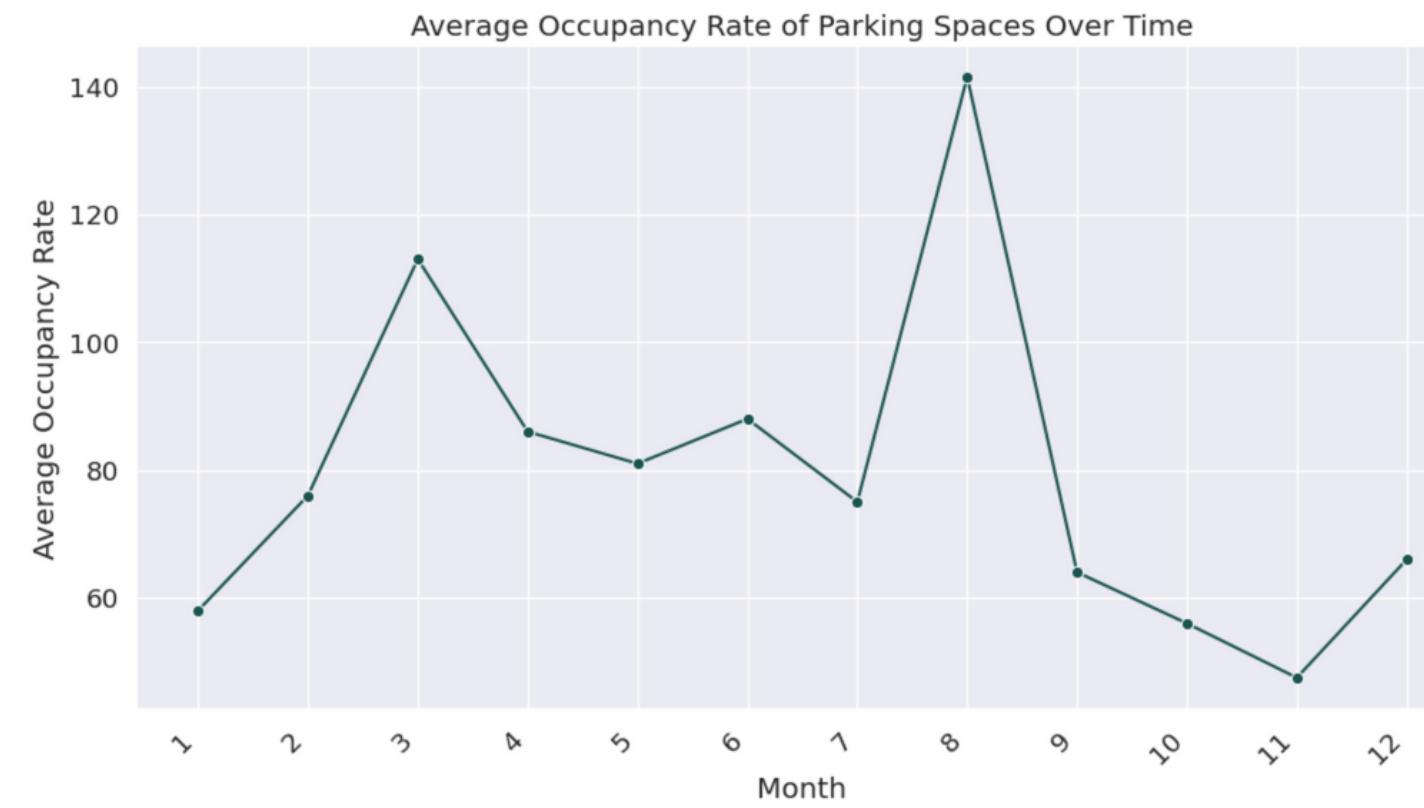
Average number of Booking Changes

Insight 

On Average, people assigned to room types E and G tend to make more special requests.

People who reserve Room B tend to make more booking changes.

# FLEXIBLE PARKING MANAGEMENT FOR GHR: UNLOCKING REVENUE POTENTIAL



Recommendation 

GHR has the flexibility to optimize parking spaces based on demand. During slower periods, additional spaces can be rented to non-guests, while during peak times, prioritizing these spaces for GHR guests enhances customer satisfaction. If GHR owns surplus parking, year-round rental opportunities further contribute to sustained revenue.

Thank you!

For  
checking in  
on our  
findings