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Saunders College of Business

2024 SCB Business Analytics Competition
Round 1 Reflections and Results

Dec 8, 2023

Overall:

53 submissions:

- 31 from RIT, 16 from UR, 6 international teams (5 from China, 1 from India)
- 31 undergraduate teams and 22 graduate teams

Wide variety of tools and techniques:

- R, Python, Tableau,JMP, Excel

Reflections from Judges

Overall

The **highest** quality submissions in the competition history.

Things are heating up in year four!

Deep Analysis, Beautiful Storytelling, Evident Professionalism

The competition was VERY VERY close!

A teaching moment

How could these be even better?

Lack of Clarity on Analysis Strategy/Story Telling/Business Logics

- Why you choose to analyze certain variables?
- What is the overall story? (students often have a data-centric rather than a business-centric focus)

Analysis Strategy

Booking Behavior: Analyze **how these factors influence key performance indicators** like occupancy rates, average daily rate (ADR), and overall guest satisfaction.

Customer Segmentation: Identify **distinct customer groups** based on criteria such as demographics, booking patterns, and preferences.

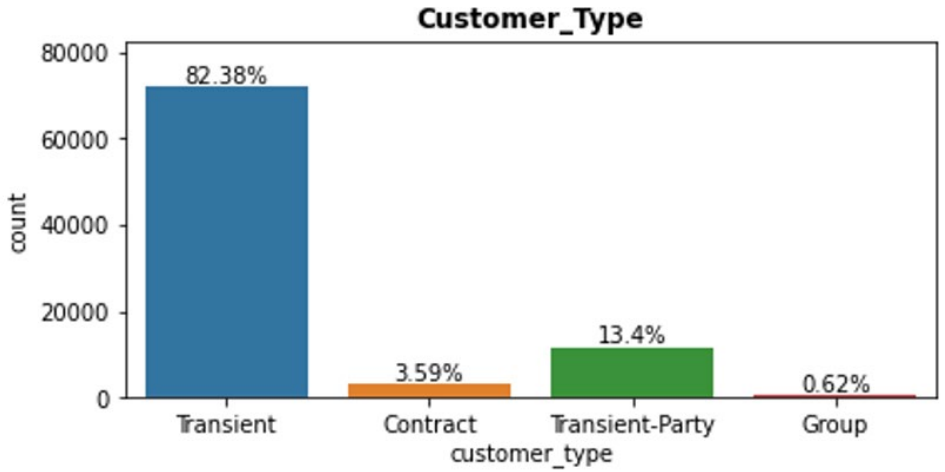
In-Depth Booking Analysis: Understand **the specific needs and behaviors of each segment** to optimize pricing, promotions, and room allocation.

Seasonality Trends: **Compare booking patterns** between the city hotel and the resort across different seasons to identify demand fluctuations and peak periods.

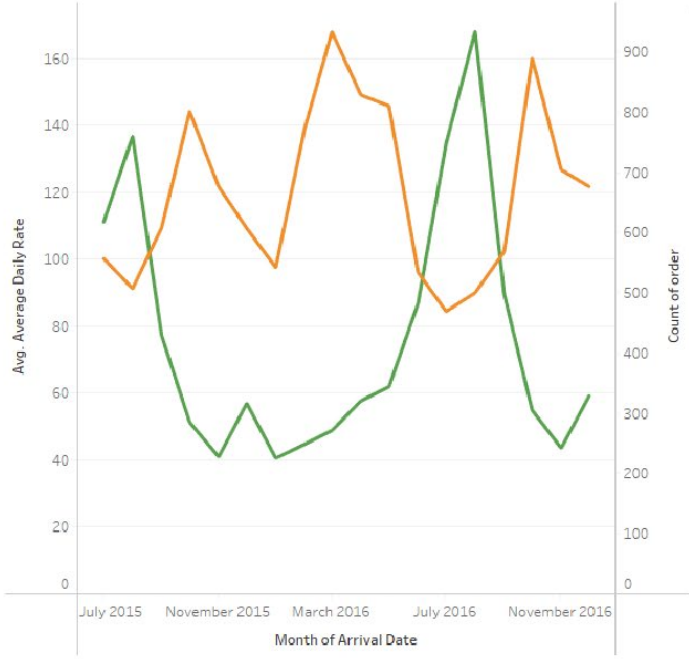
How is your variables related to outcomes of interests? (e.g., ADR, revenue)

Which of the two examples is better for client's objective?

Example 1



Example 2



A

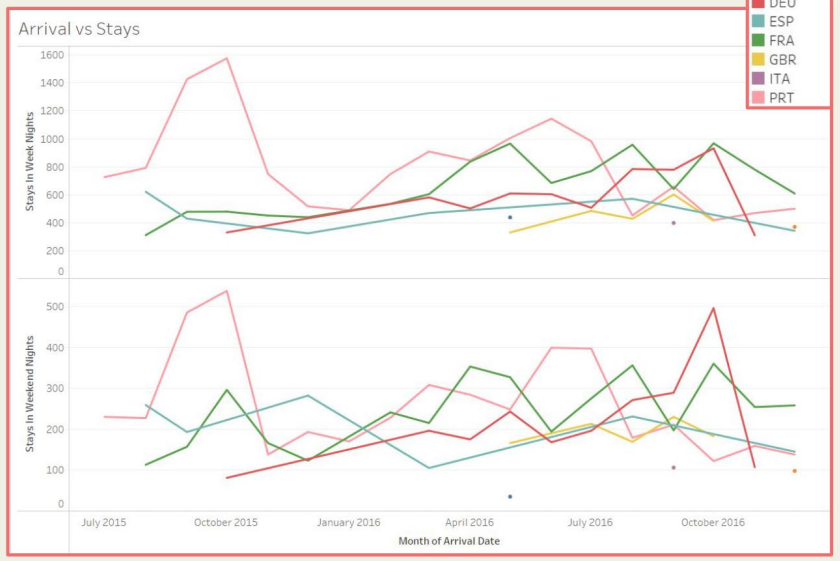
D

Lack In-depth Analysis

For example, if you find out Brazil guests peak in certain months, you need to find out why then suggest a strategy to leverage the reason

Arrival Times (pt. 2)

Comparing the data with countries, it is clear we have improved with building our business outside of **Portugal** and it seems **Germany & France** caught on in 2016.
On the other hand, an issue to address could be the odd single points that signify **Austria, Italy, and Brazil**'s stays. It means we didn't get any stays from them outside of the designated months...
We can also assume that we might not have native speakers to assist customer from other countries. This will be something we can tackle when considering the other countries.



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Suggestions are too generic or not grounded in analyses

Which of the two examples would you prefer as a client?

Example 1

- Only around 3% of customers return to the hotel, so hotels can increase repeat bookings by offering the right repeat booking incentives.
- Can we offer packages and promotions to promote bookings for the resort?

Example 2

Dynamic Pricing and Promotions for Room Type A:

- Implement a dynamic pricing model to adjust rates for Room Type A during summer, potentially offering competitive pricing to attract budget-conscious travelers.
- Promote off-peak season deals for Room Type A to maximize occupancy when prices are lower.

Lack Clarity on Data Preparation

- How you handle missing values? Duplicates? Low-quality data?
- How you calculate revenue?
- Do you combine datasets?

Leaving them in an appendix is sufficient, but you need to include those details

Appendix - Data Cleaning

- Conver ArrivalDate and CheckoutDate to standard date format.
- TotalPeople = 0: Delete as bad records.
- Country code connot match to continent: Due to ISO 3166-3 update, delete to avoid inaccurate mapping.

Screenshots of the code or results without organizing the findings for the client

```
Call:
lm(formula = Revenue ~ HasChildren + BookingMeal, data = data)

Residuals:
   Min     1Q Median     3Q    Max
-426.4 -135.4  -43.1   85.7 3624.6

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)      224.756      3.415  65.813   <2e-16 ***
HasChildrenYes   131.470      4.667  28.171   <2e-16 ***
BookingMealHB     70.213      5.115  13.726   <2e-16 ***
BookingMealBB     60.601      3.660  16.560   <2e-16 ***
BookingMealFB   -154.506     82.502  -1.873   0.0611 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 201.9 on 30404 degrees of freedom
Multiple R-squared:  0.03645,   Adjusted R-squared:  0.03632
F-statistic: 287.5 on 4 and 30404 DF,  p-value: < 2.2e-16
```

VS.

Factors Influencing The Count Of Days Stayed

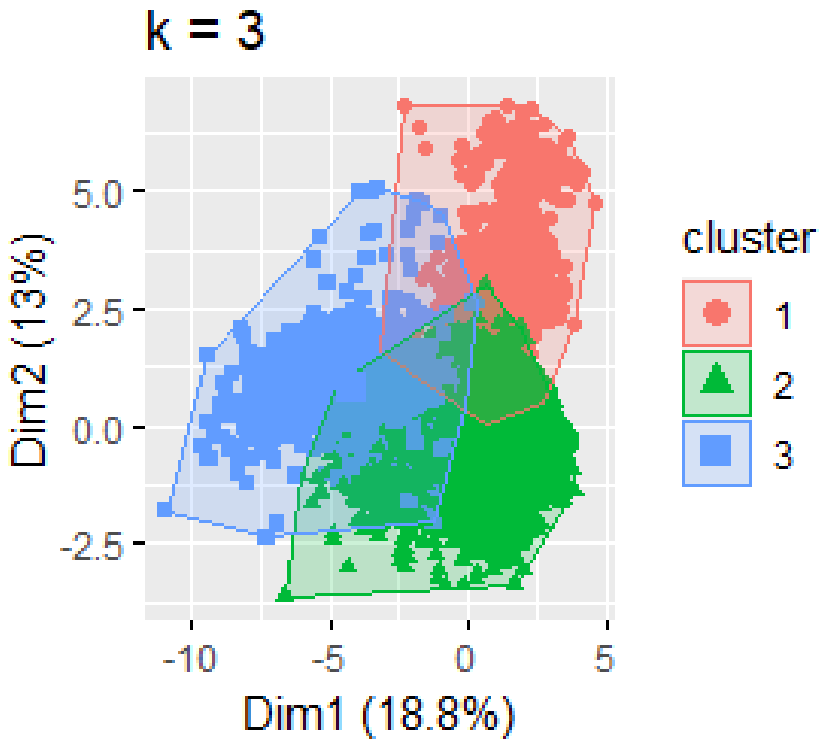
The regression model analyzes the factors influencing the count of days stayed.

1.93	Estimated average count of days stayed
+0.34	To the count of days stayed with an increase in Booking Changes
+0.002	To the count of days stayed with an increase in Lead Time
+0.47	To the count of days stayed with choosing direct channel booking
+0.77	To the count of days stayed with choosing TA/TO channel booking

Missing Opportunities: Moving Beyond Visual Analytics

Consider other analyses to further improve the quality of your suggestions:

- Cluster analysis
- Regression
- ANOVA
- Interaction analyses



Other issues

- Missing executive summary
- Missing the recap summary after an analysis section
- Burying the summary too late in the PPT
- Not providing evidence to support the conclusions
- Leaving the interpretations to the readers
- Inconsistent design elements
- Counterintuitive designs

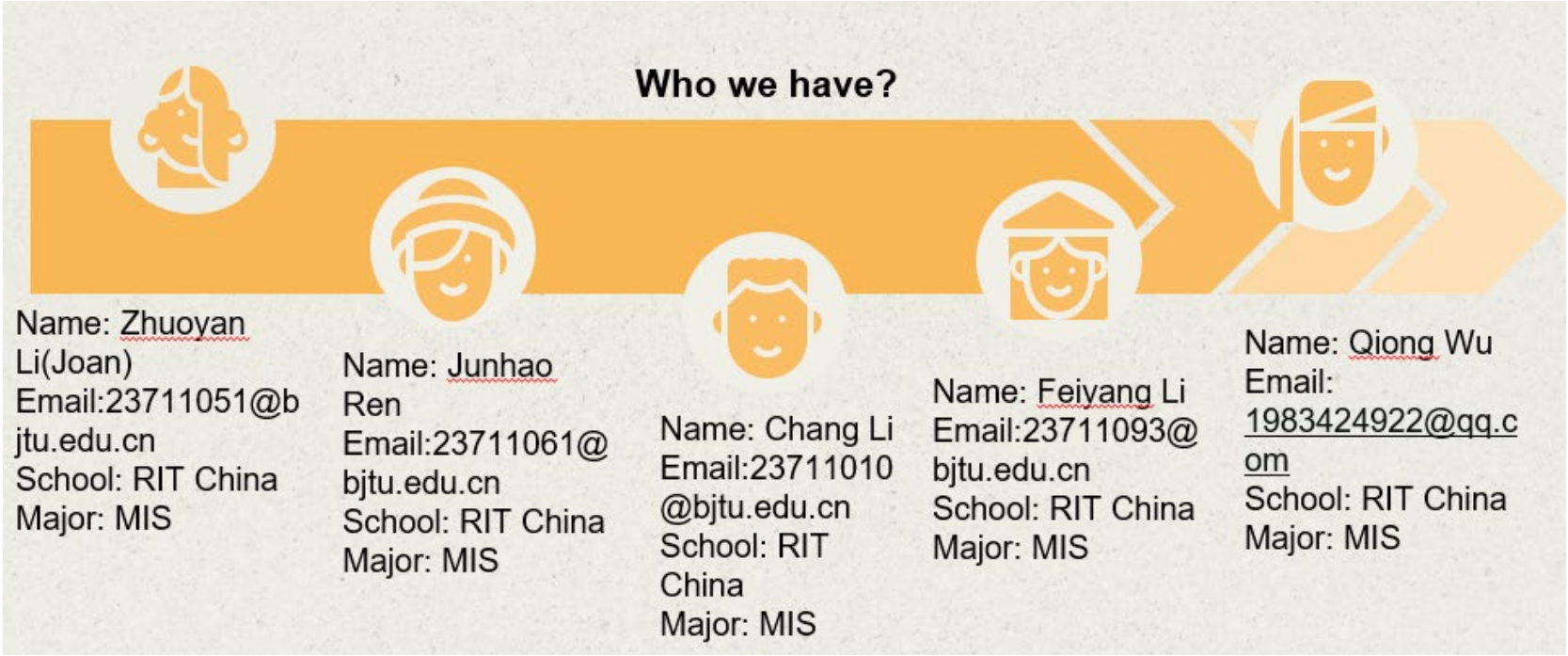
Winner Announcements

First, a Special thanks to all Judges

- Ali Tosyali
- Jing Tang
- Vic Perotti
- Quang Neo Bui
- Matthew Vollmer
- Debanjana Dey
- Mark Palmer

And Second, Good News:

Because we have such a large number of high quality submissions, we an additional award:TOP INTERNATIONAL TEAM: Gold Medal Analysis Team from BJTU in China, a $250 prize



And finally

Second Runner UP:
Team “Transfer to RIT”

$250 Prize

Presenter | Team Transfer to RIT

Yuxuan Qian	yqian21@simon.rochester.edu
Beining Wang	bwang26@simon.rochester.edu
Chenya Wang	cwang119@simon.rochester.edu
Haoyu Hu	hhu29@simon.rochester.edu
Yongshen Yi	yyi12@simon.rochester.edu

Second Place: “B&Y”

$250 prize

First Place: “Business as Usual”

$500 prize

Get READY for Round 2!

Round 2

A challenge focused on predictive analytics and business problem solving. Suitable for students who want a harder challenge. Completion of Round 1 is not a requirement for Round 2. (Note: Dates for Round 2 are tentative.)

Kick-off Event
Jan 26, 2024

Technical Workshop
Feb 16, 2024

Submission Deadline
March 8, 2024

Results Announced
Round 2
March 20, 2024

Final Presentation
March 29, 2024

https://www.rit.edu/business/business-analytics-competition