# MARKETING DATAMART ANALYSIS

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This marketing report and manual was done using RMarkDown.

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#### 1. Problem Statement:

The Marketing datamart is created using the raw data belonging to *Bwin Interactive Entertainment*, *AG* (*bwin*) which is an Internet betting service provider headquartered in Vienna, Austria.

BWin Interactive Entertainment is an online gambling company which offers different kinds of products and services like: Sports betting, Poker games, Casino games, among others.

Our goal is to derive marketing insights from the available customer data and visualizing these insights using *Shiny* Application. This Marketing datamart defines variables and the **key Marketing metrics** per user.

#### 2. Raw Data:

In this report, we will describe the rwa data belonging to the first prospective longitudinal, real-time, Internet sports betting behavior study that took place from February 1, 2005 through September 30, 2005.

- Demographics dataset Includes the demographic information of the different users using several
  variables.
- UserDailyAggregation dataset Shows *UserDailyAggregation* and contains the actual betting information associated with each product for each participant per day.
- PokerChipConversions dataset Contains information on the *pokerchip* and summaries of poker play in terms of poker chip transactions to and from the poker site for each poker session.

# 3. Data Pre-Processing:

The following packages have primarily been used in this project:

- **dplyr** This package is mainly used for data manipulation techniques. The functions used from this packages are filter, select, mutate and summarise.
- lubridate This package is mainly used for treating date-time data.
- ggplot2 This package is mainly used for declaratively creating graphics and visualizations.
- haven This package is used for reading data with SAS extension (SAS files).
- tidyverse This package is used for cleaning and transforming data.

- readxl This package is used for reading excel data into R.
- **gridExtra** This package provides a number of user-level functions to work with "grid" graphics, notably to arrange multiple grid-based plots on a page, and draw tables.
- shiny Dashboard This package is used to publish a group of related data visualizations as a dashboard
- DT This package supports server-side processing and client-side support to render tables
- **Plotly** This package is used for creating interactive web-based graphs via the open source JavaScript graphing library plotly.js
- shiny This package makes it easy to build interactive web apps using R code.

## The following steps were performed while cleaning the Demographics dataset:

- 1. Converted the date type variables into date format.
- 2. The observations (corresponding to customer IDs) with First pay date outside the period from Feb 01,2005 to Sep 30, 2005 were removed.
- 3. Country, language and application files are merged with the demographics dataset.
- 4. Checked for missing values in Gender variable and recode the Gender values 1 as Male and 0 as Female.
- 5. Calculated the number of days since user registration and first interaction by the user.
- 6. Dropped the unnecessary columns for coherency.

### The following steps were performed while cleaning the UserDailyAggregation dataset:

- 1. Converted the date type variables into date format
- 2. The observations (corresponding to customer IDs) where Transact date is earlier than the First pay date were removed.
- 3. Product file is merged with the UserDailyAggregation dataset.
- 4. Date column is renamed for coherency.
- 5. Statistical analysis is carried out for further analysis and insights.
- 6. NA values are filled with zero.

#### The following steps were performed while cleaning the Pokerchips dataset:

- 1. Extracted date,month,day and hour from TransDateTime column which will be used for further analysis.
- 2. The observations (corresponding to customer IDs) where Transact date is earlier than the First pay date were removed.
- 3. Recoded the transaction type values 124 as sell and 24 as buy.
- 4. Statistical analysis is carried out for further analysis and insights.
- 5. Transactions are classified based on time (hour) of day as morning, evening and night transactions to discover time pattern.
- 6. Renamed the necessary columns for coherency.

## 4. Marketing Metrics:

Marketing is the most important word when it comes to making an online casino a lucrative enterprise. The big M is often split into 2 coherent types of activity: player acquisition (through banner advertising, affiliate marketing, etc.) and player retention (regular bonuses to loyal players, VIP programs, etc.). Pivot Wider function is used to format the table as Wider and per product level. Finally the datamart is constructed by merging the data with unique UserID.

#### RFM:

RFM Score was calculated for each customer to analyse the customer gaming patterns and behaviour.

#### Segregation criteria

- a. Loyalists These are the CHAMPION customers who love to often come to BWIN. BWIN needs to reward these customers so they remain promoters for BWIN.
- b. Potential Loyalists These customers spend considerable amount on betting activities, have played more than once and are recent customer. BWIN needs to incentivize these customers with attractive offers and discounts.
- c. Promising These customers have a good transaction / betting history but in decline over the recent times. BWIN needs to provide personalized digital marketing to better engage with these customers.
- d. Hesitant These customers are passive customers i.e., these customers have below average recency, frequency and monetary values.BWIN should try to understand these customers' expectations and to emphasize on these to retain them.
- e. **Need attention** If no suitable action is taken, these customers have a risk of becoming the detractors.**BWIN** needs to prevent this by understanding the requirements of these customers and attract them with **tailor made offers/discounts**.
- f. **Detractors** These customers are **disappointed** with BWIN in the past and no longer want to engage. These customers have Lowest recency, frequency and monetary scores. Detractors have a **high probability to churn** and **BWIN** needs to strategize its actions to retain detractors.

Density plot is used to visualize the distribution of recency, frequency and monetary value.

# Gross Gaming Revenue (GGR) / Profitability:

**GGR** / **Profitability** also known as gaming yield or the gross game win, is a true measure of the economic value of gambling. It is used to determine what a casino or other gaming operation earns before taxes, salaries and other expenses are paid.

 $Profitability = Total\_Stakes - Total\_Winnings$ 

### Customer LOR (Length of Relationship):

Length of Relationship variable denotes how long the user has been in active with the organization since the first active date. It's calculated by finding the difference between Last\_Active\_Date and First\_Pay date.

 $LOR = Last\_Active\_Date - FirstPay$ 

#### Customer LTV (Lifetime Value):

Customer lifetime value is the revenue a user generates over the course of the entire time they play a game. It's calculated by taking the profitability divided by the total no of active days by multiplying it with LOR.

Customer LTV = (ProfitabilityinEUR) / (Total Active Days\*LOR)

#### ARPU:

Average Revenue per User is a measure of the revenue generated by one player per unit time.

```
ARPU = Total\_Stakes/Total\_Active\_Days
```

LTV (together with ARPU) helps to evaluate the total revenue, or value, of a game or user.

# DepositperBet:

Deposit/Bet ratio shows you the average deposit per each bet.

```
DepositPerBet = Total\_Stakes/Total\_No\_of\_Bets
```

#### Customer Tier:

Customer Tier was created to understand the spending patterns of the user. The segregation is done based on the quartile distribution based on stake amount as seen below,

```
Gold tier - Top Quartile Customers - If the Stake Amount is between 805 - 1127196 euros Silver tier - Median Customers - If the Stake Amount is between 226 - 805 euros Bronze tier -Last Quartile Customers - If the Stake Amount is between 0 - 226 euros
```

# 5. Summary Statistics and Insights using Shiny:

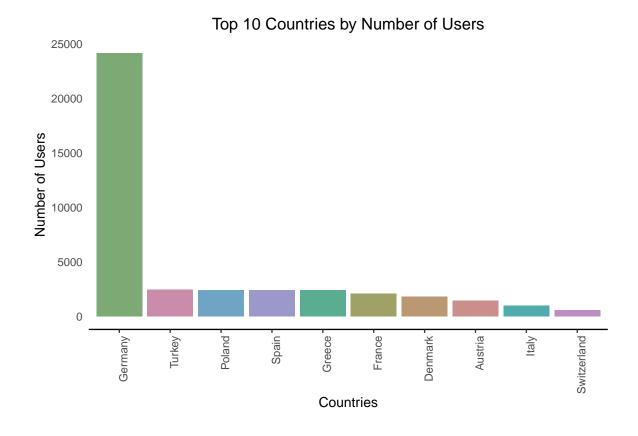
Shiny Application is developed for user interactivity and the detailed Analysis of users

# Top Ranking overview

# **Top Country**

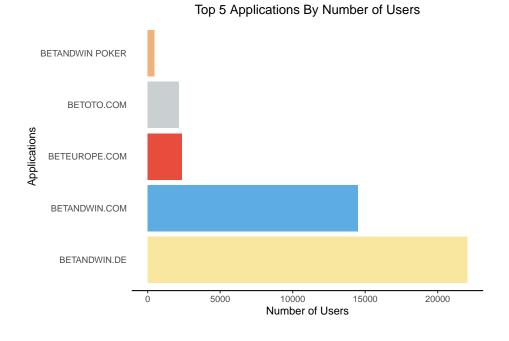
- Analysing the Top 10 Countries by most number of Users.
- Germany has the highest number of users followed by Turkey and Poland .

```
## # A tibble: 10 x 2
               Country.Name [10]
## # Groups:
      Country.Name Counts
##
      <chr>
##
                    <int>
                    24165
##
   1 Germany
   2 Turkey
                     2476
##
##
   3 Poland
                     2417
##
   4 Spain
                     2404
## 5 Greece
                     2390
##
   6 France
                     2084
##
   7 Denmark
                     1825
##
  8 Austria
                     1458
## 9 Italy
                     1006
## 10 Switzerland
                      577
```



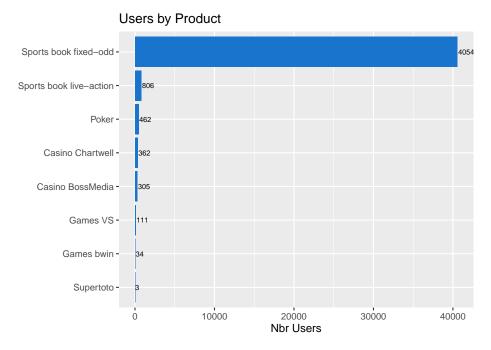
# Top Application

The following visual shows the top 5 Applications by number of users. The most preferred by users is  ${\bf BETANDWIN.DE}$  application as compared to others which has over 20,000 users.



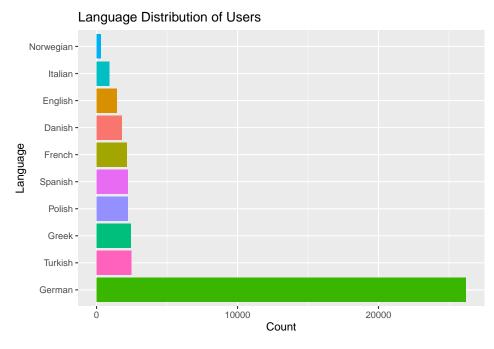
# Number of Users by Product

The below graph shows the number of users by product. There is a remarkable preference by the product Sports book fixed-odd compared to other products.



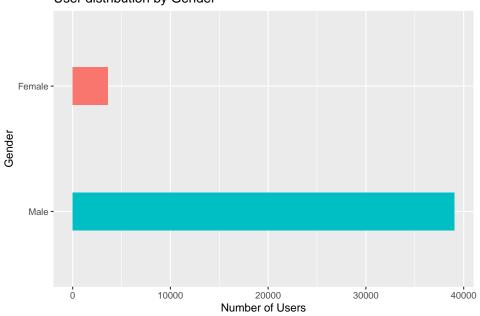
# Customer profiling using language and gender distribution

Most of the Users speak German and majority of the users are male. Women are not very representative in BWin's gamblers, since only 8% of customers are women.



## # A tibble: 2 x 2
## Gender count
## <chr> <int>
## 1 Female 3587
## 2 Male 39043

# User distribution by Gender



# User Map

The following graph shows the number of customers in each of the country.

# Countries by Number of Users



Europe is the region with the most number of Bets

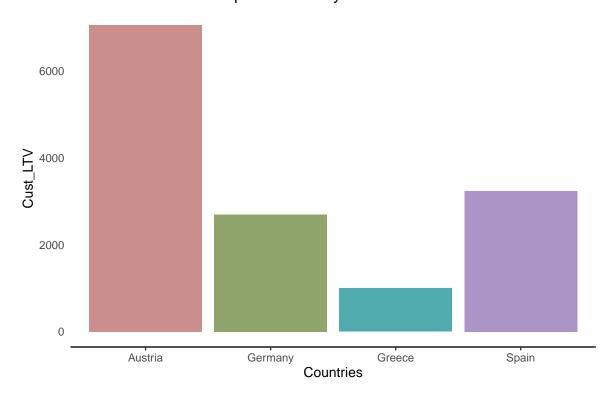
# Countries by Number of Bets



Top Countries based on Customer LTV

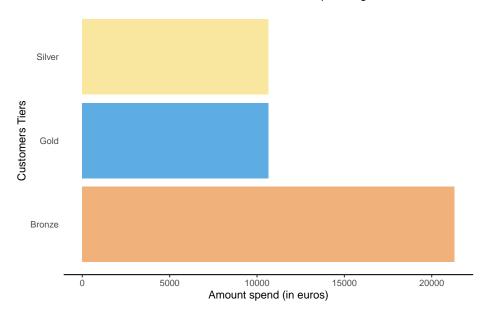
The customer who is from  ${\bf Austria}$  has the highest Life Time Value.

Top Countries By Customer LTV



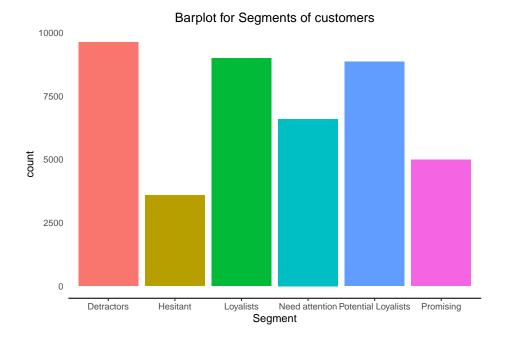
# Customer Tier

# Customer tiers based on spending



# Segment of Customers based on RFM Score

##				
##	Detractors	Hesitant	Loyalists	Need attention
##	9623	3580	8995	6594
## P	otential Loyalists	Promising		
##	8849	4989		



### Overall Insights:

- There are 42,646 qualified users (Male 39,043 & Female 3,587)
- Germany has the most number of users (24,165), followed by Turkey (2,476) and Poland (2,417)
- The most preferred by users is **BETANDWIN.DE** application as compared to others which has over 20,000 users
- The most played product is **Sports book fixed odd** with high number of users (40,547)
- Most of the Users speak **German** and majority of the users are **male**. Women are not very representative in BWin's gamblers, since only **8% of customers are women**.
- The customers from **Austria** have the highest Life Time Value (3,000).
- BWIN needs to focus on customers in **Potential Loyalists**, **Promising and Need Attention** segments to maximize profits.
- Majority of the customers belonging to the above mentioned customer segments are from **Germany** and majorly play **Sports book fixed odd**.

# Variable Description:

The datamart was created by merging 3 differents files: Demographics, UserDailyAggregation and Poker-ChipConversions. This datamart is a user centric datamart. (i.e., one observation per UserID)

Variable Name	Description	Data Type
UserID	Record identifier of each user (User ID)	Numeric
MaxBettingAmt_Sports book fixed-odd	Maximum Betting Amount of each user for Sports book fixed-odd	Numeric
MaxBettingAmt_Sports book live-action	Maximum Betting Amount of each user for Sports book live-action	Numeric
MaxBettingAmt_Casino Chartwell	Maximum Betting Amount of each user for Casino Chartwell	Numeric
MaxBettingAmt_Games VS	Maximum Betting Amount of each user for Games VS	Numeric
MaxBettingAmt_Games bwin	Maximum Betting Amount of each user for Games bwin	Numeric
${\bf MaxBettingAmt\_Casino~BossMedia}$	Maximum Betting Amount of each user for Casino BossMedia	Numeric
$MaxBettingAmt\_Supertoto$	Maximum Betting Amount of each user for Supertoto	Numeric
MinBettingAmt_Sports book fixed-odd	Minimum Betting Amount of each user for Sports book fixed-odd	Numeric
MinBettingAmt_Sports book live-action	Minimum Betting Amount of each user for Sports book live-action	Numeric
MinBettingAmt_Casino Chartwell	Minimum Betting Amount of each user for Casino Chartwell	Numeric
MinBettingAmt_Games VS	Minimum Betting Amount of each user for Games VS	Numeric
MinBettingAmt_Games bwin	Minimum Betting Amount of each user for Games bwin	Numeric
MinBettingAmt_Casino BossMedia	Minimum Betting Amount of each user for Casino BossMedia	Numeric
$MinBettingAmt\_Supertoto$	Minimum Betting Amount of each user for Supertoto	Numeric
TotalBettingAmt_Sports book	Total Betting Amount of each user for Sports book	Numeric
fixed-odd	fixed-odd	
TotalBettingAmt_Sports book	Total Betting Amount of each user for Sports book	Numeric
live-action Total Potting Amt. Casing Chartwell	live-action Total Potting Amount of each user for Casino	Numeric
TotalBettingAmt_Casino Chartwell	Total Betting Amount of each user for Casino Chartwell	Numeric
$Total Betting Amt\_Games\ VS$	Total Betting Amount of each user for Games VS	Numeric
TotalBettingAmt_Games bwin	Total Betting Amount of each user for Games bwin	Numeric
TotalBettingAmt_Casino BossMedia	Total Betting Amount of each user for Casino BossMedia	Numeric
$Total Betting Amt\_Superto to$	Total Betting Amount of each user for Supertoto	Numeric
AvgBettingAmt_Sports book fixed-odd	Average Betting Amount of each user for Sports book fixed-odd	Numeric
AvgBettingAmt_Sports book live-action	Average Betting Amount of each user for Sports book live-action	Numeric
AvgBettingAmt_Casino Chartwell	Average Betting Amount of each user for Casino Chartwell	Numeric
AvgBettingAmt_Games VS	Average Betting Amount of each user for Games VS	Numeric
AvgBettingAmt_Games bwin	Average Betting Amount of each user for Games bwin	Numeric
AvgBettingAmt_Casino BossMedia	Average Betting Amount of each user for Casino BossMedia	Numeric

Variable Name	Description	Data Type
AvgBettingAmt_Supertoto MaxWinningAmt_Sports book	Average Betting Amount of each user for Supertoto Maximum Winning Amount of each user for Sports	Numeric Numeric
fixed-odd MaxWinningAmt_Sports book	book fixed-odd Maximum Winning Amount of each user for Sports	Numeric
live-action MaxWinningAmt_Casino Chartwell	book live-action Maximum Winning Amount of each user for Casino	Numeric
$MaxWinningAmt\_Games~VS$	Chartwell Maximum Winning Amount of each user for Games	Numeric
${\bf MaxWinningAmt\_Games~bwin}$	VS Maximum Winning Amount of each user for Games bwin	Numeric
$MaxWinningAmt\_Casino\ BossMedia$	Maximum Winning Amount of each user for Casino BossMedia	Numeric
MaxWinningAmt Supertoto	Maximum Winning Amount of each user for Supertoto	Numeric
MinWinningAmt_Sports book	Minimum Winning Amount of each user for Sports	Numeric
fixed-odd	book fixed-odd	
MinWinningAmt_Sports book live-action	Minimum Winning Amount of each user for Sports book live-action	Numeric
${\bf MinWinningAmt\_Casino~Chartwell}$	Minimum Winning Amount of each user for Casino Chartwell	Numeric
MinWinningAmt_Games VS	Minimum Winning Amount of each user for Games VS	Numeric
MinWinningAmt_Games bwin	Minimum Winning Amount of each user for Games bwin	Numeric
$\label{lem:minWinningAmt} {\bf MinWinningAmt\_Casino~BossMedia}$	Minimum Winning Amount of each user for Casino BossMedia	Numeric
MinWinningAmt_Supertoto	Minimum Winning Amount of each user for Supertoto	Numeric
TotWinningAmt_Sports book fixed-odd	Total Winning Amount of each user for Sports book fixed-odd	Numeric
TotWinningAmt_Sports book	Total Winning Amount of each user for Sports book	Numeric
live-action	live-action	
TotWinningAmt_Casino Chartwell	Total Winning Amount of each user for Casino Chartwell	Numeric
TotWinningAmt_Games VS	Total Winning Amount of each user for Games VS	Numeric
TotWinningAmt_Games bwin	Total Winning Amount of each user for Games bwin	Numeric
TotWinningAmt_Casino BossMedia	Total Winning Amount of each user for Casino BossMedia	Numeric
$TotWinningAmt\_Supertoto$	Total Winning Amount of each user for Supertoto	Numeric
AvgWinningAmt_Sports book	Average Winning Amount of each user for Sports book	Numeric
fixed-odd	fixed-odd	3.7
AvgWinningAmt_Sports book	Average Winning Amount of each user for Sports book	Numeric
live-action	live-action	NT
AvgWinningAmt_Casino Chartwell	Average Winning Amount of each user for Casino Chartwell	Numeric
AvgWinningAmt_Games VS	Average Winning Amount of each user for Games VS	Numeric
AvgWinningAmt_Games bwin AvgWinningAmt_Casino BossMedia	Average Winning Amount of each user for Games bwin Average Winning Amount of each user for Casino	Numeric Numeric
AvgWinning Amt Supertote	BossMedia Average Winning Amount of each user for Supertote	Numeric
AvgWinningAmt_Supertoto TotalBets_Sports book fixed-odd	Average Winning Amount of each user for Supertoto Total Bets of each user for Sports book fixed-odd	Numeric
TotalBets_Sports book live-action TotalBets_Casino Chartwell	Total Bets of each user for Sports book live-action Total Bets of each user for Casino Chartwell	Numeric Numeric

Variable Name	Description	Data Type
TotalBets Games VS	Total Bets of each user for Games VS	Numeric
TotalBets_Games bwin	Total Bets of each user for Games bwin	Numeric
TotalBets_Casino BossMedia	Total Bets of each user for Casino BossMedia	Numeric
TotalBets_Supertoto	Total Bets of each user for Supertoto	Numeric
AvgBets_Sports book fixed-odd	Average Bets of each user for Sports book fixed-odd	Numeric
AvgBets_Sports book live-action	Average Bets of each user for Sports book fixed-odd	Numeric
AvgBets_Casino Chartwell	Average Bets of each user for Casino Chartwell	Numeric
AvgBets_Games VS	Average Bets of each user for Games VS	Numeric
AvgBets_Games bwin	Average Bets of each user for Games bwin	Numeric
AvgBets_Casino BossMedia	Average Bets of each user for Casino BossMedia	Numeric
AvgBets_Supertoto	Average Bets of each user for Supertoto	Numeric
freq_of_visit_Sports book fixed-odd	Frequency of visits for Sports book fixed-odd	Numeric
freq_of_visit_Sports book live-action	Frequency of visits for Sports book live-action	Numeric
freq_of_visit_Casino Chartwell	Frequency of visits for Casino Chartwell	Numeric
freq_of_visit_Games VS	Frequency of visits for games vs	Numeric
freq_of_visit_Games bwin	Frequency of visits for games bwin	Numeric
freq_of_visit_Casino BossMedia	Frequency of visits for Casino Bossmedia	Numeric
freq_of_visit_Supertoto	Frequency of visits for Supertoto Bvisit_supertoto	Numeric
Profitability_Sports book fixed-odd	Profitability for book fixed-odd	Numeric
Profitability_Sports book live-action	Profitability for Sports book live-action	Numeric
Profitability_Casino Chartwell	Profitability for Casino Chartwell	Numeric
Profitability_Games VS	Profitability for Games VS	Numeric
Profitability_Games bwin	Profitability for Games bwin	Numeric
Profitability_Casino BossMedia	Profitability for Casino BossMedia	Numeric
Profitability_Supertoto	Profitability for Supertoto	Numeric
Gain_Loss_Cust_Ratio_Sports book fixed-odd	Gains and loss customer ratio for sports book fixed-odd	Numeric
Gain_Loss_Cust_Ratio_Sports book live-action	Gains and loss customer ratio for sports book live action	Numeric
Gain_Loss_Cust_Ratio_Casino Chartwell	Gains and loss customer ratio for casino chartwell	Numeric
Gain Loss Cust Ratio Games VS	Gains and loss customer ratio for games vs	Numeric
Gain_Loss_Cust_Ratio_Games bwin	Gains and loss customer ratio for games bwin	Numeric
Gain_Loss_Cust_Ratio_Casino BossMedia	Gains and loss customer ratio for casino bossmedia	Numeric
Gain_Loss_Cust_Ratio_Supertoto	Gains and loss customer ratio for super toto	Numeric
No_ActiveDays_Sports book	No of active days of users for sports book fixed-odd	Numeric
fixed-odd	v	
No ActiveDays Sports book	No of active days of users for sports book live action	Numeric
live-action	•	
No_ActiveDays_Casino Chartwell	No of active days of users for casino chartwell	Numeric
No_ActiveDays_Games VS	No of active days of users for games vs	Numeric
No_ActiveDays_Games bwin	No of active days of users for games bwin	Numeric
No_ActiveDays_Casino BossMedia	No of active days of users for casino bossmedia	Numeric
No_ActiveDays_Supertoto	No of active days of users for supertoto	Numeric
$Tot Trans Amt\_Buy\_Poker Boss Media$	Total transaction amount while buying poker bossmedia	Numeric
$Tot Trans Amt\_Sell\_Poker Boss Media$	Total transaction amount while selling poker bossmedia	Numeric
$AvgTransAmt\_Buy\_PokerBossMedia$	Average transaction amount while buying poker bossmedia	Numeric

Variable Name	Description	Data Type
AvgTransAmt_Sell_PokerBossMedia	Average transaction amount while selling poker bossmedia	Numeric
${\bf MaxTransAmt\_Buy\_PokerBossMedia}$	Maximum transaction amount while buying pokerbossmedia	Numeric
${\bf MaxTransAmt\_Sell\_PokerBossMedia}$	Maximum transaction amount while selling pokerbossmedia	Numeric
lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:	Minimum transaction amount while buying pokerbossmedia	Numeric
$\label{lem:minTransAmt_Sell_PokerBossMedia} \\ \operatorname{MinTransAmt\_Sell\_PokerBossMedia}$	Minimum transaction amount while selling pokerbossmedia	Numeric
No_of_Transations_Buy_PokerBossMe	edNamber of transactions while buying poker bossmedia	Numeric
· ·	dNumber of transactions while selling poker bossmedia	Numeric
	Number of active days while buying poker bossmedia	Numeric
No_ActiveDays_Sell_PokerBossMedia	Number of active days while selling poker bossmedia	Numeric
morning trans PokerBossMedia	Morning transactions for poker bossmedia	Numeric
evening_trans_PokerBossMedia	Evening transactions for poker bossmedia	Numeric
night trans PokerBossMedia	Night transactions for poker bossmedia	Numeric
LOR	Length of relationship	Numeric
Total_Winnings_in_EUR	Total winning in euros	Numeric
Total Stakes in EUR	Total stakes in euros	Numeric
Total_No_of_Bets	Total Number of Bets placed by each user	Numeric
ProfitabilityinEUR	Profitability in euros	Numeric
Total_Active_Days	Total no of active days of the users	Numeric
Cust LTV	Customer life time value	Numeric
Tot_transactions	Total no of transactions	Numeric
ARPU	Average revenue per user	Numeric
DepositperBet	Deposit Per Bet	Numeric
recency	Recency	Numeric
frequency	frequency	Numeric
monetary_value	Monetary value	Numeric
Recency_score	Recency score	Numeric
Freq_score	Frequency score	Numeric
Monetary_score	Monetary score	Numeric
RFM_score	Recency frequency monetary score	Numeric
Gender	Gender	Characte
Country Name	Country name	Characte
Language Description	Language description	Characte
Application Description	Application description	Characte
ProfitLoss_Sports book fixed-odd	Profit and Loss status for sports book fixed-odd	Characte
ProfitLoss_Sports book live-action	Profit and Loss status for sports book fixed live action	Characte
ProfitLoss_Casino Chartwell	Profit and Loss status for casino chartwell	Characte
ProfitLoss_Games VS	Profit and Loss status for games vs	Characte
ProfitLoss_Games bwin	Profit and Loss status for games bwin	Characte
ProfitLoss_Casino BossMedia	Profit and Loss status for casino bossmedia	Characte
ProfitLoss_Supertoto	Profit and Loss status for supertoto	Characte
Status	Profit and Loss status	Characte
Cust_tier	Customer tiers according to their spending	Characte
D D 1 /	Favourite Product	Characte
FavProduct	ravourite rioduct	CIICICCO
Segment	Segmentation of the users using RFM analysis	
		Characte Date

		Data
Variable Name	Description	Type
FirstAct	First active date	Date
FirstSp	First sports book play date	Date
FirstCa	First casino play date	Date
FirstGa	First games play date	Date
FirstPo	First poker play date	Date
LatestBetDate_Sports book fixed-odd	Latest betting date for sports book fixed odd	Date
LatestBetDate_Sports book	Latest betting date for sports book live action	Date
live-action		
LatestBetDate_Casino Chartwell	Latest betting date for casino chartwell	Date
$LatestBetDate\_Games\ VS$	Latest betting date for games vs	Date
LatestBetDate_Games bwin	Latest betting date for games bwin	Date
LatestBetDate_Casino BossMedia	Latest betting date for casino bossmedia	Date
LatestBetDate_Supertoto	Latest betting date for supertoto	Date
FirstBetDate_Sports book fixed-odd	First Betting Date for sports book fixed-odd	Date
FirstBetDate_Sports book live-action	First Betting Date for sports live action	Date
FirstBetDate_Casino Chartwell	First Betting Date for casino chartwell	Date
FirstBetDate_Games VS	First Betting Date for games vs	Date
FirstBetDate_Games bwin	First Betting Date for games bwin	Date
FirstBetDate_Casino BossMedia	First Betting Date for casino bossmedia	Date
FirstBetDate_Supertoto	First Betting Date for supertoto	Date
FirstTransDate_Buy_PokerBossMedia	First transaction date while buying pokerbossmedia	Date
FirstTransDate_Sell_PokerBossMedia	First transaction date while selling pokerbossmedia	Date
LatestTransDate_Buy_PokerBossMedia	a Latest Transaction Date while Buying	Date
	PokerBossMedia	
$LatestTransDate\_Sell\_PokerBossMedia$	Latest Transaction Date while Selling PokerBossMedia	Date
Last_Active_Date	Last Active Date of the user	Date

# References

- 1. Logo Source
- 2. KPI Gambling Source
- 3. Customer Lifetime Value
- $4.\ \,$  Customer Segmentation using RFM Score
- 5. R and Shiny Package Documentations