Deal Machine v4

Deal Machine v4 is a tool to be used to optimize and evaluate deals that we have at the moment for some of our top operators, based on historical data. A user can customize the test deal (**Revshare**, **CPA**), the number of incoming players (**New Monthly Players**, **Monthly NDCs**) as well as the Month the Deal Changes (**Month Deal Changes**), whether Older Players are influenced (**Older Players Influenced?**), **Fixed Fees** and the **Number of Months Considered**. Below are some images where cells that can be edited are marked with a red line. This allows us to

- Identify deals that need to be optimized
- Helps us understand the sources of revenue better and identify where and how we can optimize our strategy
- Which customers are our most valuable to us
- Keep track of the evolution of customer value coming from various operators

IMPORTANT: The Deal Machine cannot predict what will happen in the future. What it can tell us is what can be expected to happen based on what has already happened. It should be used as guidance to understand operator performance better.

Stakeholders

- **Data Team** - Responsible for updating the sheet with data and making any optimization or fixes to the machine
- **Sales Team** - To be used as a guide to evaluate current operator performance, any future deals and any optimizations necessary. Also required to update the data team with any deal changes that occur so as to update the sheet.
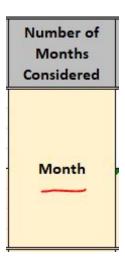
Timeline

- Data is to be updated on a monthly basis by the Data Team
- Sales team are available to use the report at any time period
- Should an operator be required to be added, it must have player data available and also contribute (or be projected to contribute) a sufficient amount of revenue

About the Machine

- **Operator**
- **Current/Test Split**
- **Input**
  - **Revshare** - Input RS deal
  - **CPA** - Input CPA deal
  - **New Monthly Players** - Used to calculate retention rates
  - **Monthly NDCs** - Used to calculate CPA
  - **Month Deal Changes** - Input Month
  - **Older Players Influenced** - Yes/No

Operator	Deal	Revshare	CPA	New Monthly Players	Monthly NDCs	Month Deal Changes	Older Players Influenced?
10bet	Current	45%	€ 75.00	21	21		
	Test	45%	€ 75.00	21	21	Month	Older Players Influenced?

  - **Number of Months Considered** - Enter the number of months that you want to evaluate the deal over **(MUST BE SET)**

Number of Months Considered
Month

  - **Fixed Fees**

Revenue Sources	1	2	3
2018	€ 46.68	€ 30.24	€ 18.97
Legacy	€ 256.36	€ 256.36	€ 256.36
2019	€ 2,377.85	€ 3,010.77	€ 3,132.74
Fixed Fees	~	—	—
2018	€ 46.68	€ 30.24	€ 18.97
Legacy	€ 256.36	€ 256.36	€ 256.36
2019	€ 2,377.85	€ 3,010.77	€ 3,132.74
Fixed Fees	~	—	—

- **Revenue Sources**
  - **2018 Players** - Players that joined in the year of 2018
  - **Legacy Players** - Players that joined before 2018
  - **2019 Players** - Players that will join in the coming year
  - **Fixed Fees**
- **Commission**
  - Expected Commission is split over next 12 months
  - The longer the period taken, the less accurate this will be
  - All 4 Revenue Sources are calculated differently
    - **2018 Player** - Commission calculated by cohort, each cohort is on their n^{th} month, we consider lifetime periods for which we have no data (e.g. month 13) by calculating player value based on the last 3 months available (adjusted for some operators). Retention rates are modelled by fitting the reciprocal of an exponential function ($\frac{1}{e^x}$). As mentioned previously, keep in mind that the more you extend the time period the less accurate the model becomes (working on just 10 months of data).

$$\textbf{\textit{Exp Comm}}^{2018}_{\textit{Month j 2019}} = \sum_i \left(RR_{(no\ of\ months-i+1)+j} * Players_{i0} * Avg\ MPV_{most\ recent\ 3\ months} \right)$$

where i is the customer cohort. When i > Months Available: *let* $RR_{(no\ of\ months-i+1)+j} = RR_{expreg\ ((no\ of\ months-i+1)+j)}$

- **Legacy Player** Commission calculated by considering the retention of the past three months and averaging (since legacy players tend to 'stick' more and multiplying that by the player value of past 3 months

$$Exp\ Comm^{Legacy}_{Month\ j\ 2019} = Avg\ Players_{past\ 3\ months} * Avg\ MPV_{past\ 3\ months}$$

- **2019 Player** Commission calculated by assuming average retention rate of 2018 as well as average player value 2018 for each of the first 6 months, for final 6 months take average. User is allowed to change expected number of new monthly players and NDCs to be able to consider expected growth. Seasonality not a factor here as 2018 data is not enough to provide us with reliable seasonality (some operators drop due to less exposure or outside factors, World Cup influence)

$$Exp\ Comm^{2019}_{Month\ j} = \sum_i (RR_{2018} * Players_i * MPV_{2018})$$

where i is the customer cohort

- **Month Deal Changes** - Set month at which the deal will change
- **Older Players Influenced** - Set whether the deal affects only incoming players or all players
- **Number of Months Considered** - Set Number of Months to consider when comparing deals
- **Months -** Show expected revenue per month. Keep in mind that the further time we try and predict, the less accurate this exercise is going to become.
- **% Change** - % difference between test and current deal
- **% Revenue** - Shows revenue distribution amongst our revenue sources. Will be able to give an idea on how the deal should be optimized

Using the Machine

- Select which operator you'd like to use
- Use the test row to adjust the RevShare or CPA

Operator	Deal	Revshare	CPA
10bet	**Current**	45%	€ 75.00
	Test	40%	€ 120.00

- Select the number of **New Monthly Players** you expect to join (these are **NOT** NDCs)
- Select the number of **Monthly NDCs** you expect to join

Operator	Deal	Revshare	CPA	New Monthly Players	Monthly NDCs
10bet	**Current**	45%	€ 75.00	20	20
	Test	40%	€ 120.00	21	21

- Select which **month the deal will change** (drop down choice from 1 to 12)
- Select if **older players are influenced by the deal** (i.e. RS remains the same as originally (No) or changes to new (Yes))

Operator	Deal	Revshare	CPA	New Monthly Players	Monthly NDCs	Month Deal Changes	Older Players Influenced?
10bet	**Current**	45%	€ 75.00	20	20		
	Test	40%	€ 120.00	21	21	3	No

- Add **Monthly Fixed Fees** (if any)

- Select the Number of Months Considered (number of months for which you want

- The **Total Commission**, **% Change** and **Change** show the gain/loss the machine expects to be made, based on historical data
- The **% Revenue** shows the distribution of our revenue, according to 2018 Players, 2019 Players, Legacy Players and Fixed Fees

Updating the Machine

Machine is to be updated monthly
Estimated Duration - Around 1 day (excl. Data extraction)

Tracker Report data - Obtained from tracker report, simply need to add month in question

Player data - Require monthly data from all operator backends in the report. This data is to be inputted into a [sheet](#) that will contain the operator data in each tab. The Python script will then be used to obtain, manipulate and consolidate this data into our format. Once this is done, the data is inputted into our Player Database - Top 25 workbook.

Consolidated Dashboard - Update with updated data source

DEUK Sports - Update with updated data source

DEUK Casino - Update with updated data source

Player Database - Update with updated data source

2019 Cohort Analysis - Update with new month data