Business Intelligence

Business Case Challenge Solution

[1] We just launched the credit card to market. As you might be aware, everyone was extremely busy planning and developing the product, but no one thought of coming up nor monitoring the key performance indicators of the business.

What would be the key performance indicators you would come up as the most important to monitor a credit card business?

I think it is important to pay attention of **5 indicators categories** of our product to understand our customers behavior and have a clear view of the expenses-revenue relation.

1 Customer acquisition

- Accounts created
- Registered Cards (Digital-Physical)
- Client Acquisition Cost

2 Card Activation

- Active cards
- Growth rate

3 Customer Retention

- Active accounts
- Retention rate

4 Customer Feedback

- Recommendations (Promoter index)

5 Revenue

- Transactions
- Deposits
- Current credit/Debt amount
- Revenue

How often would you suggest such indicators must be monitored?

As the credit product just launched, I suggest some indicators (customer acquisition and card activation indicators) must be monitored on **weekly** basis, switching to **monthly** basis after a 2-4 months period.

For Customer retention, customer feedback and revenue, I recommend to analyze indicators on **monthly basis.**

[2] Dealing with diverse stakeholders is difficult. Where one might interpret a concept in a way, another one might differ from such interpretation. Let's take for example the concept 'dormant': some stakeholders might interpret the dormant customer as one that has not done any transactions in 6 months, where another one might say it takes only 4 months to reach this state.

Propose a problem resolution strategy with the stakeholders.

1. Call a meeting with involved stakeholders
2. Explain how we are gathering the information needed to build this metric
3. Propose 2 options:
    - to unify the way they work with the metric (Maybe one of them is not affected to change it)
    - To maintain 'dormant' as a concept but include 2 different dimensions of the metric based on each one necessity.

How would you deal with this issue?

I would deal with it from the way we are storing and calculating this metric, trying to store granulated data that let us measure the concept from a day or week, to 4 or 6 months

Use Separate 'Customer' and 'Transaction' dimension tables to create a 'days_since_last_transaction' measure

Then identifying the reports visualizations that include this concept and ensuring clear design and explanation of the results.

Which facts would you present?

Depending on the analysis it can include

- Total Dormant customers of the period
- Dormant vs Active customers on the period and compare that rate for previous periods
- Dormant customers compared to last period
- Dormant debt (actual period)
- Total Dormant customers->accounts->cards

Also, we can cross 'dormant customer information' to analyze other product areas

e.g.

Measuring dormant customers with Customer service interaction

Dormant vs active customers before and after a promotion or marketing campaign.

[3] It is a common practice to have many systems scattered all over: where one might be hosting the app, others might be hosting models needed for daily operations. This usually benefits usability over scalability. Nevertheless, data centralization is crucial for data exploitation. For simplicity, imagine there are 4 systems:

- The first system hosts the app. It generates data that is stored in an internal database (ignore the database's architecture for now). Every time the user interacts with a screen, clicks a button, or opens the app, this is stored as an event.

- The second system hosts the risk model. Every time a customer asks for a credit, the system retrieves the risk data from the credit bureau and evaluates whether the customer is prone to be a defaulter.
- The third system hosts the customers information. Here, unrestricted information is hosted. This database contains the name, address, email, etc... - Finally, the fourth and last system hosts all the payments information, this means, all the information related to the usage of the credit card: swipes, payments, recurrent payments, credit line, etc...

All systems share a unique identifier for all of our customers. This is the key that allows data to be joined on other databases.

What should we do to centralize the data in order to display it in charts for KPI monitoring?

We should follow the next steps:

1. Define the information necessities from business and functional teams.
2. Identify relevant data available in each platform
3. Create views or exports of each platform database with relevant information (always including unique identifier)
4. Consume this views or exports to store/update information in a centralized data source (Data Modeling based on business behavior and information requirements)
5. Once the data is centralized, we have to calculate and summarize some values based on business necessities
6. Design and create KPI reports/visualizations that consume calculated information from centralized data source.

What would you propose the data governance strategy should be?

I think data governance strategy must include all functional areas of the business.

It should give priority to help business to achieve its objectives.

Should include all the organization explaining what 'Data governance' means and how everyone plays an important role on it.

Should verify the correct way of data stored in each platform.

Should ensure all sensitive data treatment respects the law and customer agreements

Should create a trusted centralized data source

Should build useful analysis for the business and functional areas

Should be constantly monitoring the impact and utility of the Data Process.

[4] Download the attached .csv file.

YOUR TASK IS TO exploit the information contained in the aforementioned file **as you find fit**. Some things to take into consideration:

[1] This database contains credit card information and transactions from multiple customers. Use your favorite data visualization tool / programming language to explore the data and present the results [R, Python, PowerBI, Spotfire, etc...].

[2] Display and plot the information you consider to be the most relevant for a Credit card business. You could consider the following departments: Operations, Growth (Marketing), Finance, Customer Service, and Product.

[3] Use your imagination to best describe the data with charts and tables. Select those key performance indicators you consider that drive the business. **Present recommendations on those indicators that, to the best of your knowledge, might be low or could be boosted.**

[4] Think outside the box. If you feel that, extra information might be needed to support your arguments, include it in the folder: Power Point presentations, word documents, etc...

[5] Uploading your results to a git repo is desired but not mandatory.