

Capstone Project Summary

CLIENT IMPACT MEASURING FRAMEWORK

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1. Summary of the work done

The Capstone Project was done in collaboration with a multinational technology company headquartered in the USA. The Team I joined is part of a financial center located in Budapest. The mission of my Client is to maximize value for suppliers, its partners and the whole company for source to pay. The Team is providing a financial Service which entails analytical dashboards, the themes of which are grouped around certain KPIs and are to serve for better understanding and follow-up on their progress for the clients. The interest of the Team is to have data on the usage of the dashboards and thus be able to identify a set of key metrics which would help them to understand the impact of their Service and possibly to reduce the service delivery time.

The process consisted of four steps out of which two were qualitative and two were quantitative. After exploring the available data on the Service's BI platform (1), first I conducted 12 interviews (2) with internal team members, which served as a preliminary phase for the third step, which meant scripting and sending out a client satisfaction survey. The 12 interviews lasted between thirty minutes and one and half hours and were recorded. This aided the analysis of the interviews which were done in a MURAL board collecting and grouping ideas.

The next step was to script the survey questions (3). This stage turned out to be as a lengthy one since the survey tool had to be identified along with getting access to it; there was a change in the direction and aim of the project; it was necessary to include compulsory information and consent to the survey and lastly needed to get necessary permissions and approvals from managers. This was an iterative process since after setting the main topics, business justification had to be written to each point and then receive comments, suggestions and finally the approvement by the Product Owner. The goal of the survey was to use clients' feedback so I can assess the strengths and weaknesses of the service and make targeted suggestions accordingly for further improvements. The initial research questions were formulated as:

- How do clients rate their experience overall with the dashboards?
- What parts / aspects do users like the best?
- Who are the end users and what are their specific needs?
- What parts / aspects of the dashboards need to be improved?

The survey was sent out to 151 email addresses and was open for 1 week. Within this timeframe 72 responses arrived - 61 completes and 11 partials – which can be considered as a

good response rate (40% taking the complete ones). I coded the answer options in the survey tool so the .csv file I exported was in an adequate shape for analysis. My intent was to improve on the built-in survey report - which is also downloadable – by adding an additional layer to the analysis: be able to slice the data by job groups. No demographic question was permitted to ask from respondents in the questionnaire, which is rather detrimental, but I added an open-ended question on one's job title.

For the last step (4), I imported the .csv file into a Jupyter notebook and performed all the analysis there in Python 3, which consisted of going over the 16 questions one-by-one and doing visualizations for descriptive analysis and uni- and bivariate analysis of categorical data and word clouds for the open-ended questions as well.

2. Key outcomes

From the survey:

- Overall satisfaction with the Service is quite high, 54 out of 64 responses were above 'Neutral', signaling a positive relationship, which accounts for ~83% of all responses. The average satisfaction seems to be even among job groups.
- Among current respondents 75% do not use any other BI tool. I created a subset of users who have another BI tool and a second set of those who do not have and then compared their average satisfaction with PAaaS: it turned out that those who do not use any other tool besides the BI tool provided by my Client's service, have a slightly higher overall satisfaction compared to those who do.
- Most experienced benefits were named as 'Bring relevant data together' and 'Self-service analytics' (all together ~ 62% of respondents covered these). On the other hand, users do not see taking advantage of predictions as a main benefit. Breaking this question down to job group level it turned out that for instance for Analysts 'Data cleanup and categorization' is the most beneficial and 'Bringing relevant data together' comes second while for Leads it is vice-versa.
- Browsing through the short free text answers it is mentioned by almost all that the Spend report/analytics report is the one bringing the most benefit.
- Several aspects of the analytical dashboards needed to be evaluated and in case of all aspects (functionality, content, design, etc.) 'Very Good' was picked with the majority – all above 40%.
- The Ease-of-Use aspect of the dashboards got the lowest row percentage in the Very Good category (33.3%) and the highest percentage in the Fair category (14.8%) among all aspects. I cross-checked this evaluation with a previous question on whether the respondent uses any other BI tool and found that those who are not using other tool rated the ease of use of the tool provided by my Client lower on average.
- Roughly 50% of survey takers have participated in a BI training by my Client: 77% responded that they are at least Satisfied with the training. Lowest average satisfaction could be seen among Leads and Managers.

From the interviews:

- Vendors' expectation regarding the analytical dashboards are not met mostly because of unclear communication in the beginning of the collaboration on what the tool and the Use Cases are good for and that clients can get the most out of it with additional time investment on their side.
- Data issues coming from external partners – inconsistency and missing data – which prevents the Team to deliver the quality Service they intend to – could be mitigated by a data management strategy or data policy implementation.
- Issues related to data quality result from external clients not having a proper procurement process – this is a typical Garbage-in-Garbage-out flow, which could only be improved, if necessary time and investment on their side would be promoted.
- Most misunderstandings and problems are related to the categorization and to data understanding. More precisely, vendors do not understand the spend categorization process and its outcome.
- Acceptance and utilization of the provided BI Tool in a partner's organization should be a top-down approach and is likely to happen if trust is high and the Client has Cognos as a single-source of truth for their procurement data.

3. Benefits to the client

So far, the Team did not have any feedback on the service and more precisely on the utilization and on the design-related aspects of the dashboards they provide. This survey and its results are detail-oriented and tailored to specific problems and pain points. The survey is on one hand a satisfaction survey on the other hand part a product development project, which intends to fill knowledge gaps. The results of the survey and the interviews will enable the Team to brainstorm and to choose focus areas and directions to take their Service. Besides having answers related to usage data they can further design and tailor this work, upgrade on it and carry out the next survey with the original target group – with some experience behind them.

4. Experience and lessons learnt

I really enjoyed working on this project and I felt part of the Team all along. This Capstone gave me the opportunity to get a glimpse into survey data analysis, which was not explicitly part of the curriculum. I also gained more experience with Python, which is my preferred tool over R. I managed to apply the same concepts in Python which we have learnt in R. Lastly, survey data analysis has many more opportunities in it to learn (regression, clustering) and interestingly it not only contains numerical fields but also text analysis can be performed on it, which is a nice mix of techniques.

What this project thought me is basically how a full surveying process is done outside of academia. On one hand it was great to be there from the very beginning and taking care and responsibility for every part of the project on the other hand it made me realize how hard is to get or create the data, which was so far not something I had to care much about because it was always given. Besides this I have familiarized myself with a new survey tool and I witnessed how the corporate approval system works and how hard it is to balance expectations and time with constraints given.