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Wrap-Up, Final Insights, and Recommendations

**What is this document about?**

This document will serve to recap all the steps taken to complete this project, what I learned along the way, and any final insights/recommendations I took away after creating the final dashboard.

**Tools used**: Python (Pandas package), Tableau, Microsoft Excel, Jupyter Notebook, Microsoft Word

**Personal Goal**: To build my business intuition by understanding how the goals and questions of a business/team translate to their choices in using a dashboard.

**Project Goal**: Make a dashboard that helps sales managers of a tech company measure their team’s quarterly performance. The catch: I also played the part of a sales managers and worked my way from high-level business goals to define key areas and meaningful questions about overall “performance” that managers may be interested in (the key areas I came up with included revenue generation, team efficiency, and ensuring customer satisfaction).

**General Process:** Below is a visual representation of the steps taken for this project.

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I will spare in-depth explanations of each step but if you are curious, I highly recommend taking a peek at the various project files to get a glimpse of my thought process during this project. However, I will provide a few general statistics about each step below:

**Measurement Planning**: Identified 5 key business goals / areas of focus. Defined 10-20 relevant questions for sales managers. Outlined 10 key performance indicators and 12 supporting metrics that would need to be calculated to facilitate answering those questions.

**Conceptual Dashboard Planning:** Specified 35 metrics and information needs for the dashboard specifically along with levels of details/filters, targets of each metric, and descriptions of what each represents. Examples include Net Revenue of the team and individual sales agents with Quarter-over-Quarter and Year-over-Year comparisons, utilization rate of the team to measure efficiency, and average net-promoter-score rating of the team to measure customer satisfaction.

**Data Quality Assurance (Validation):** Used Python to validate and clean 5 tables (from CSV files). This process included meticulously reporting on around 24 columns across the tables, checking for typos, incorrect data types, missing values, logical expectations of values, and understanding the information stored in each table. The Pandas package was used extensively during this stage.

**Data Aggregation:** Used Python to combine the tables to facilitate the calculation of the 35 pre-defined metrics. Made initial ERD diagrams based on the assumed relationships between the tables. Joined three tables and performed sanity checks before and after each join to ensure quality of the data (at this stage, not ALL of the pre-defined metrics could actually be calculated with the data we had so that leaves extra opportunity as an analyst to recommend collecting that data in the future).

**Dashboard Construction:** Created the [final dashboard](https://public.tableau.com/app/profile/avinash.bisram/viz/CRMSalesDashboard_17252277791160/RevenueDashboard) in Tableau consisting of two views (revenue and efficiency). This required creating around 30 calculated fields, 3 parameters, 14 sheets, and getting a little creative with LOD expressions and reference lines.

**Final Insights and Recommendations:** There is always room to improve and I am well aware that this dashboard could have been expanded in multiple different directions but I chose to conclude this project for now as I believed it met the original goal of providing sales managers with an easy-to-digest yet informative visualization of metrics that can help them plan the next steps for improving their team’s performance.

The main recommendation to be made is that the team would greatly benefit from starting to track customer satisfaction ratings after closed deals. They currently have no data that supports that, and it is an integral part of understanding overall performance relative to the goals of the business as well as identifying trends that can be used to improve long-term revenue generation and brand reputation. We can’t optimize what we aren’t tracking! Furthermore, we can’t properly calculate utilization rate and revenue margin per deal length without the time spent prospecting deals. The data currently only tracks engagement and close dates however it is possible we have agents that are fast closers but spend very long prospecting deals beforehand. To optimize how well they spend their time, we want to understand how much revenue they make from total time spent on a deal (not just time spent engaging).

Demoing the dashboard as Dustin Brinkmann in Q3 of 2017:

Revenue:

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Right away we can see a big issue of negative net revenue. The overall profit margin is also far below the ideal of 10-20% (if not more). The cause? All team members lost money on their closed deals this quarter. Some are improving and some are not. Cecily Lampkin in particular lost significantly more than the rest of the team as seen in the chart on the left. As we look on the right, we can explain this loss of money by the sales agents closing on unprofitable deals the majority of the time (profitable deal rate is below 50% for all). Comparing the average net revenue to the medians, we see that the averages are typically much lower than the median suggesting a negative skew or the fact that team members such as Cecily tend to have a few VERY unprofitable deals that really bring that overall revenue within the quarter.

Recommendations: Advise team members to AVOID selling at a loss so often and be more aggressive with negotiations to avoid big losses in revenue for some deals. Ideally look to be profitable next quarter and reach at least a 50% profitability rate.

Efficiency:

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The previous view was just about deals that the agents closed but this view illustrates an overall perspective on deals they lose as well. Anna Snelling won the most deals this quarter and surprisingly, all sales agents (except one) WIN more deals than they lose. However, this may be explained by them consistently selling at a loss so it may be no wonder why they are able to close a lot of those deals (businesses are getting really good value from them). Lajuana is falling below the pack in her win percentage so we can work with her to implement new tactics for closing deals and learn from the more successful team members.

Now looking at Q4 2017 and measuring progress:

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On the revenue side, the team made profit this quarter! Cecily Lampkin was negative again this quarter however most of the members made profit and ALL the team members improved QoQ. Also, compared to last quarter, three team members now have >50% profitability rate. We still have a long ways to go to our ideal 90-100% but this is definitely a start. Moses and Lajuana actually decreased in this area so we definitely want to have a meeting and see why that is. On the efficiency side, the team won more deals this quarter. All team members are winning the majority of their deals and the average did not decrease now that the team is being more aggressive with their profit margins. If this trend continues, we should be on track to make even more revenue next quarter and this supports that our current strategies implemented after analyzing team performance last quarter is benefiting the company! This would not have been possible without the ability to visualize the data properly.

Once again though, customer satisfaction data is missing and is of very high importance to start collecting. That may be a big reason why agents are losing deals or selling for a loss sometimes not to mention the potential of losing returning customers due to bad interactions. Revenue only tells one side of the story but brand reputation is also important and an aspect of the business that the sales team plays a big role in.