Design and Implementation of a Quota Tracker for a Pharmaceutical Sales Team

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Abstract — The pharmaceutical industry has undergone significant change in recent decades and has adapted to new social, economic, and technological structures. Thinking about the commercial area of pharma sales, one thing that hasn't changed over time is that salespeople have always been motivated by incentive compensation. Having a tool that allows high-level analysis of sales progress was a must. After successfully researching the advantages of the DMADV method, the Ouota Tracker 2022 was designed and implemented to track sales quotas in A- Business Unit, starting in January 2022. This tracker allows the sales representative to analyze their product raw data and territories. The Quota Tracker aims to create an annual leadership role for the employees in charge of this tool. And it also intends to be implemented in other Business Units by 2023 since it is an easy way to track quotas and provide a helpful visualization of progress for the sales teams.

Key Terms — DMADV method, Forecast, Quota tracker, Sales quota.

PROBLEM STATEMENT

In this section we are going discuss the problem about tracking quotas and how the situation would be improved. Every year, the sales team must prepare their individual End-of-Year Check-in. This process required that all sales representatives provide their execution metrics of their portfolio and territory for the current year. By the end of 2021 we found that A-Business Unit had poor management in keeping track of their sales quotas thru the year. The Tableau app uploads new data for the most recent week every Wednesday morning. Keeping in mind that the Tableau app is the only online tool currently used by the sales team to retrieve raw data of the prescriptions sold of their

products and territory performance. When we access the data, the report shows a gap of two weeks of delay, which means that the sales team does not see the total of prescriptions sold in realtime, just for the last 13-weeks. In addition, we identified that as time goes by, it is not possible to have visibility of more than the previous 13-weeks of the data regardless of the day the app is accessed. That means that the sales team only has access to the last 13-weeks every Wednesday, and they must write down manually throughout the year to have an idea of their products prescriptions sold. Based on this information, surge an initiative of creating a tool, like a template, that allows documenting essential information for the sales team and provide additional analysis to help them to be up to date on their quota. That template would store data for up to a year of the all the products and all territories performance.

RESEARCH DESCRIPTION

This project focuses on implementing DMADV method to design and implement a template for keep track of the quotas throughout the year. During this research period, it is investigated how the DMADV methodology can support the design and implementation of the *Quota Tracker* 2022. The project scope is contained in January 2022, in which all the research, design, and implementation have taken place.

RESEARCH TIMELINE

The research for the DMADV method and how this supports the design and implementation of the *Quota Tracker 2022* was completed in one month. Refer to the calendar of the January 2022 timeline for better reference in Figure 1. A period of two weeks, from January 1, 2022, to January 15,

2022, was established as the research period to learn more about the DMADV methodology. During these two weeks, we investigated how the sales team of the A-Business Unit made their 2021 End-of-Year Check-in and what type of analysis they do manually with the reports in the Tableau app. We use a Google Form that the sales team answered anonymously, for knowing better what they expect from a quota tracker. After the first two weeks, the next week (January 16, 2022 - to January 22, 2022) was established as the design period to design the draft of the Quota Tracker 2022 and submit it for approval. During this design period, the Tableau app did not have new data available for 2022. We wait until Wednesday, January 26, 2022, for the first reports received through the Tableau app. That first report contained the prescriptions sold from January 1, 2022 - to January 14, 2022.

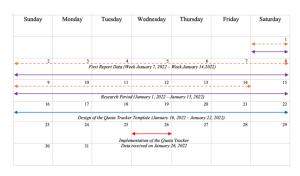


Figure 1
Project timeline in January 2022

RESEARCH CONTRIBUTIONS

Using the DMADV methodology helped us achieve this project's objectives. Especially on designing and verifying that the *Quota Tracker* 2022 had been effectively implemented. After implementing this tool successfully in 2022 in the A-Business Unit, a new leadership role would be designed annually for who is assigned to manage this tool. This role will be aligned to develop a future career opportunity in Sales Operations. This tool intends to be implemented in other Business Units by 2023 to keep the sales teams focused and

have an easy way to track their progress with a helpful visualization of the forecast.

LITERATURE REVIEW

This section will explain more about the role of the quotas and the importance of managing them correctly. The term sales quota management is defined as managing sales quotas or targets set for specific periods. It involves analyzing sales performance, periodically setting goals, and driving the desired results. Sales quotas are supposed to be realistic goals set by managers to measure individual sales representative performance and help determine their compensation and incentives. Selecting the right sales quotas is critical for any sales team of a pharmaceutical company. These sales quotas are metrics set up for a specific timeframe like quarters. The process of setting sales quotas is tied down to designing an incentive compensation. This sales quota represents the sales representative's desired performance during a given timeframe. After reviewing the literature, we can agree that the roles of sales quota go beyond the simple idea of reaching a specific goal.

We found that pharmaceutical companies use sales quotas to direct, motivate and predict future trends within the sales team. [1] This implies that quotas control sales representative efforts by incentivizing them to sell specific products or services. The idea is that the job of selling is complicated and includes many rejections from customers and even bad experiences in the field. The bonus compensations serve as an incentive motivation to overcome these challenges and as something that the sales team can look forward to after overcoming the difficulties of selling. Sales quotas can also help predict future trends and forecasts for specific products and show what the sales representatives must do to meet and exceed company expectations. By tracking sales quotas, how often they are completed and how often they are missed, the management can predict future trends and what the company can reasonably expect to sell. The pharmaceutical companies can use the past success of specific sales quotas, and from those, they can build models to predict demand in the upcoming quarters. This is a very efficient way to use sales quota, as we connect the past, present, and future to make better decisions for the company.

Sales experts say a quota is considered fair throughout the year if about 80 percent of the sales representatives can meet it during most quarters. If less than 80 percent of the sales team is completing the quota, it might seem unrealistic. [2] If the sales team feels that the quota system is not fair or unrealistic, the sales team will be unmotivated and will opt-out out of pursuing the sales targets. There should be a balance between job complexity, effort, and success. When the sales quotas are high, there is great motivation from the team, but there is also the effect of success. If the sales team perceives the task as unlikely to be completed, they will put minimal effort into it and accept the loss. The key here is to find sales quotas that have an achievable probability of success while offering the sales team a challenge. The idea is to provide something that can be achieved by working hard and being engaged. Too much work or too little work will hurt the company's overall progress. There should be a balance between the expected effort to success, and sales difficulty. [3]

Annual sales quotas and quarterly sales quotas have various effects on overall performance. Annual quotas are very distant, and there is more room for extrapolation. The reward is so far in the future hampers motivation and leaves a lot of space for error and variance from the actual sales performance. It indicates that quarterly exponential smoothing yields more accurate percentages than traditional annually quota-setting methods. [4] Having this in mind when creating the template to set the quotas, using a quarterly timeframe is more efficient and easier to be understood by the sales team. It is essential to keep track of the sales team's performance to ensure that they are doing everything possible to meet or exceed their goals. The pharmaceutical company can simplify quota planning by using a quota tracker to create equitable and attainable quotas based on various data sources. Also, they can identify the sales team's strengths and weaknesses by analyzing individual quota performance to provide actionable insights. Tracking quotas can ensure that the team's sales quotas sync with the market and work towards the competitors.

As we mentioned in this project, we will be focused on a particular Tableau report to develop the quota tracker. Tableau is an American software interactive data visualization company focused on data analysis and business intelligence that helps anyone see and understand their data. Overall, they can connect to almost any database to create visualizations with a click. One of disadvantages of Tableau is that on certain reports, they only keep data for a specific time. This Tableau app also provides multiple reports that additional departments such as Operations, Marketing, Payers.

METHODOLOGY

We use the DMADV methodology to execute the design and implementation of the *Quota Tracker 2022* for the pharmaceutical sales team. This methodology is part of Six Sigma's tools to execute a project successfully. The abbreviation of DMADV stands for the five phases that compose the process: define, measure, analyze, design, and validate. In Table 1, we can learn a brief definition of the five phases of the DMADV methodology.

Table 1
DMADV Methodology

	Table 1: DMADV Methodology
Define	Define the process and establish goals
Measure	Measure to determine process needs
Analyze	Analyze the data to find the best design
Design	Design and test the process
Verify	Ensure that the design output meets the design input requitements to achieve the goal

The DMADV methodology should be used when a new process is going to be implemented, and it must meet specific requirements. This DMADV methodology is initially similar in the first three phases to DMAIC (define, measure, and analyze). It is diverted in the last two phases to the design and verification process to achieve the

improvements needed. This approach can prevent problems in the process through quality design concepts. DMADV is a strategically general level that tries to help solve new products, services, or procedures and their implementation and control. The benefit of the DMADV method compared to other approaches to quality control is that its customer driven. The goal of the DMADV process is to create a high-quality product while keeping the customer and the customer's needs in mind during every phase of the project. This DMADV methodology can present the main disadvantage, and that is that its implementation must be closely aligned with creativity and innovation. The development of DMADV is linear since it is based on only 5 phases, but it must be iterative due to the complexity of some projects. The DMADV method needs to be agile and flexible to produce successful projects. Below we will be discussing in detail what each of these phases is based on.

- Define phase: This first phase identifies the project goals. This step aims to identify the process problem, plan, project scope, available resources, and high-level project timeline. Must establish a clear definition of the project during this step with the team, and every strategy and goal needs to be aligned with the company's expectations.
- Measure phase: The proposed process of the *Quota Tracker 2022* is analyzed and studied to determine whether there are better ways to achieve the desired results. Areas that need adjustment or improvement in the development and implementation of the template are identified by contacting the sales team to get feedback. A prototype is built at this phase and analyzed. This step aims to develop alternatives, explore those alternatives, and incorporate those alternatives that improve the process or product. For this project, we used a Google Form to gather the sales team's feelings about the benefit and advantages of a quota tracker.
- Analyze phase: The third phase uses the definition of what the company wants to create

- a specification. The specification measurably defines collecting and comparing data with the specified requirements. It is essential to analyze the data to ensure the final goal meets the process needs to be expressed in the first step. In our case, we are going to examine the benefits of the implementation of a quota tracker. Setting the timeframe to design and implement the Quota Tracker 2022 can measure product capabilities and establish ways to analyze how well the Quota Tracker 2022 meets sales representatives' needs by the end of the year.
- Design phase: Based on what was learned in the analysis phase, we designed the new Quota Tracker 2022 template. This template was created using Microsoft Excel and Teams. As the Sales Operations department makes revisions, the analysis phase compares the new design with the specified characteristics.
- Verify phase: The verification phase involves verifying that the result meets or exceeds the sales team's expectations and the management requirements. This includes proving that the Quota Tracker template is being made as it is supposed to be completed and meets the specifications. This is an ongoing process. Sales team feedback should be encouraged and incorporated into future designs even after the template is released. The desired result is a Quota Tracker 2022 template that perfectly meets the sales team's desires.

RESULTS AND DISCUSSION

This section presents the analysis of results and discussion of the problem established and how the design and implementation of the *Quota Tracker* 2022 were achieved using the DMADV methodology for this project.

Define

Creating a template allows documenting essential information for the sales team to focus on their quota. This template would store data for up to

a year of the product's and territories' performance. We will be using Microsoft Excel to develop this tool and present it in a shared folder in the A-Business Unit group in Microsoft Teams. This tool offers a faster and easier way to monitor the progress on quotas and have it available all the year.

Measure

We interviewed ten sales representatives of the A-Business Unit to identify the needs regarding a tool. From January 1, 2022, to January 15, 2022, established a period to research the goal of implementing a "Quota Tracker 2022" with the sales team. We investigated how the sales representatives made their 2021 End-of-Year Check-in analysis. We create a Google Form to document the responses of the sales representatives. These responses were reported anonymously. Initially, we take into consideration four essential points. (1) Their years of experience as a sales representative, (2) their previous experience with a tool like a quota tracker, (3) what is the most important information for them in a quota tracker, and (4) what would be the purpose or benefit main advantage of being able to use a tool like this. In the following Figures, we can observe the answers more in detail:

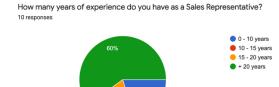


Figure 2

How many years of experience do you have as a Sales
Representative?

Figure 2 shows the variety of years of experience that the sales representatives of the A-Business Unit have. The results show that 60% of the representatives have more than 20 years of experience in pharmaceutical sales. While 20%

have 15 to 20 years, the remaining 20% have 0-10 years of experience.

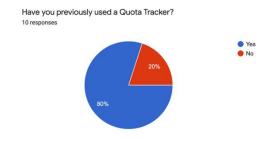


Figure 3 Have you previously used a quota tracker?

The question in Figure 3 indicates that 80% of the sales representatives have had the experience of using a tool like a quota tracker before. In comparison, 20% have not had the opportunity to use it, and this would be their first time after the implementation.

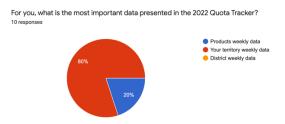


Figure 4
What is the most important data presented in the 2022
Quota Tracker?

We wanted to investigate what type of data was the most important for the sales representatives. In the results in Figure 4, we can see that for 80% of the representatives, the essential information is the weekly data of their territory. In comparison, the rest of the 20% mentioned that the most important data was the weekly data of their products.

The last question was an open question so that the sales representatives, in a short sentence, could describe the purpose of using this new tool in 2022. When analyzing the question, the vast majority agree that this tool would help them follow their quota and monitor their progress weekly. See Figure 5 for the sales representative's answers.

What is your main purpose to use the 2022 Quota Tracker
10 responses

Track my sales progress

Saber dónde estoy, incentivos, performance.

Darme una guia de cómo estoy vs lo que la compañía me requiere

To evaluate how the territory is doing based on Rx and be right on track to meet the quota expectations.

Track weekly rx and forceout for each quarter

To be able to see a goal trend in a short- term period.

Saber como voy en mi quota en procentale

Track results, track the progress of strategy in terms we have to do adjustments to change behavior to advance and track our noale.

Figure 5
What is your main purpose to use the 2022 Quota Tracker?

Analyze

In this section, we will analyze the feelings of the sales representatives compiled through the questions presented in the Google Form and the data provided by the Tableau reports to design the Quota Tracker template. Based on the previous information, most of the representatives agree that the essential information for them is the weekly data on the behavior of their territory to achieve their goals. When analyzing the purpose of this quota tracker, we found that it would give the sales team an idea of monitoring their quotas and performance weekly. The following figures shows the actual visibility that sales representatives have in the GEO Summary report of the prescriptions sold for product A as time goes by. When analyzing the Tableau data of the four products of the portfolio, all the reports presented the same issue that as time passed, the data of the weeks would disappear no matter what.



Figure 6
Product A Geo Summary (January 26, 2022)

On January 26, 2022, we received the first two weeks of prescriptions sold for Product A from Q1 2022 (week of January 7, 2022, and January 14, 2022). See Figure 6 for reference. This shows the gap of 2-week between the day that we received the data and the data shown in the report. The other 11-

weeks shown are from the last Q4 2021. As the weeks keep coming up every Wednesday, the previous data disappears from the report.

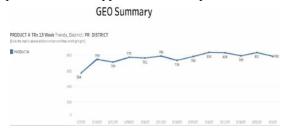


Figure 7
Product A Geo Summary (April 20, 2022)

As expected, in Figure 7 we can see that the data from the previous weeks disappeared on April 20, 2022. Therefore, the following data received on Wednesday, April 27, 2022, will cause the first week of Q1 2022 (January 7, 2022) to disappear. Also, this report shows the complete performance of Product A in Q1 2022.

Design

In this section, we will be explaining the development of the structure of the Quota *Tracker* 2022 template. We used Microsoft Excel to create the template as it is the most helpful tool when documenting data. Each product would have an individual sheet. Refer to Figure 8 for the structure of the design template.

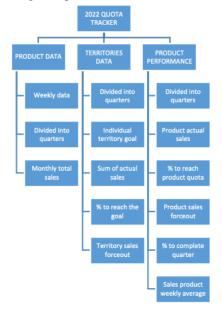


Figure 8
Quota Tracker template structure

By establishing the template structure, we could create the tool with the specific information the sales representative needs it. Figure 9 show the current representation of the product templates as of April 20, 2022, when Q1 was completed.



Figure 9
Product A Quota Tracker template for 2022

This was the original template for Product A. The template has three columns. The first column of the left is the product weekly data. This is the data retrieved from Tableau every week. It is divided by quarters, months, and weeks. At the end of every month, we can see a column the total of the prescriptions sold. We need to mention that this total is an approximated value since this raw data that need to be filtered and verify by other departments. We confirm that this data may present a 3%-5% error by the end of the quarter when the final statement is received. Even this error this is the only report from Tableau the sales team have available to keep track of their progress. The middle column is for territories data. In this column the sales team can search for their specific territory and see how goes the progress. This column records the sales quota stablish at the beginning of the quarter and the products prescriptions sold by each territory. With this numbers we add a column to calculate their percentage reached of the quota and the actual prescriptions force-out. This column gave the idea on how well the territories are performing. The right column is for the product performance. This section wants to show how well the product was prescribe thru the quarters. This column shows the total sales quota for each quarter and the actual prescriptions sold. As the same of the territory's performance columns, we calculate the percentage reach of the quarterly quota and the prescriptions force-out. For this column we add the percentage of the quarter reach. In this case is 100% because Q1 was completely done. Last columns present the weekly average prescriptions to have an idea the average we need to stay on track to complete and exceed the quarterly quota. This template is currently in use for four different products.

Verify

In this section, we will be discussing how we verified that the implementation of the Quota Tracker 2022 for the sales team of the A-Business Unit had been a successful one. After the implementation during Q1 2022, we created a Google Form to collect the feelings of the sales representatives in April 2022 after having completed its first sales quarter using the tool. In this form, we seek to verify if this tool adds value to the experience as a sales representative and if it is an easy-to-use tool to monitor sales progress. In addition, we included open questions to collect feedback and suggestions to continue improving the Quota Tracker 2022. As we analyze the results, we can see in Figure 10 that the 100% of the sales team respond that the tracker adds value to their experience. The results in Figure 11 shows that the 90% of the sales representatives answered that the tracker is easy to track their progress. The other 10% answered "No" because they understand that the quota tracker does not represent their job in the field, but they agree that it gives an idea of how their product performs and focuses them on the future.

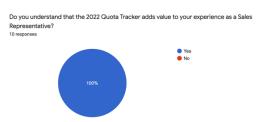


Figure 10

Do you understand that the 2022 Quota Tracker adds Value to your Experience as a Sales Representative?

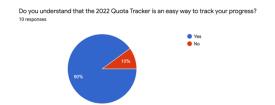


Figure 11
Do you understand that the 2022 Quota Tracker is an easy way to Track your Progress?

We also want to know the overall satisfaction of the sales representatives with the too. The scale was 5 with Very Satisfied to 1 with Very Unsatisfied. 50% voted for being very satisfied, and 40% were satisfied, while only 10% voted for being very unsatisfied with the tool. At 10% not being statistically significant, we could conclude that 90% of the sales representatives feel satisfied with the design and implementation of the quota tracker. See Figure 12 for reference.



Figure 12
Overall, how satisfied are you with the 2022 Quota Tracker?

Figure 13 show the feedback considering the feelings of the sales representatives. When analyzing the answers, we focused only on those directed to the use and management of the tool.

What things would you would like to change to the 2022 Quota Tracker? 10 responses
None
Nada
Que no represente mi trabajo en el field por que eso es más complejo
I think it has had a lot of improvements and it is excellent.
Add other metrics such as SOM % growth RX 6 mo growth
It's ok
Está muy bien como es. Fácil de entender
Es una excelente herramienta; no cambiaría nada.
Quota tracker is a good toolhowever numbers or tools that provide info, should be more accurate

Figure 13
What things you would like to change to the 2022 Quota
Tracker?

10 responses	
No	
None	
Excelente trabajo.	
Se necesita tener las cuotas antes del inicio del quarter	
The tracker is a useful tool to help guide how each one is tracking on the established quota goal. The process itself is another issue that requires a lot more understanding.	
Ninguna	
Use more accurate sources from where to obtain sales of info.	

Any suggestions for improvement

Figure 14
Any Suggestions for Improvement?

As can be seen, many of the solutions allude to the fact that it is an excellent tool to monitor quotas and is easy to understand. Among the suggestions for improvement in Figure 14, we find that other metrics could be added, such as the Share of the brands' Market and the percentage of growth of the products in the last six months. We also receive feedback that the management does not use this tool as a total representation of the work executed in the field but also considers other external factors such as health care payers, competitors, and situations beyond the control of the sales representatives at the time of making the End-of-year Check-in evaluations.

CONCLUSION

We can conclude that the tool has presented multiple benefits for the sales team immediately after implementation. These benefits are summarized in the following:

- The 2022 Quota Tracker presents a helpful visualization of the long-term quota.
- It's a quick and easy way to track the quota progress for different products at the same time.
- Allows doing a high-level analysis of the forecast and sales trends of the products.

We acknowledge that the data presented by this tool is not a substitute for the full performance of the sales representative in the field. Even recognizing that it is a manual tool, allows maximizing the sales representative's time when accessing the data directly from the Tableau app.

However, the Tableau app will continue to be a must-have for the sales team since it is the only platform for accessing the raw data. The Quota Tracker will continue to allow having an alternate access to the same information with an extra analysis. The success of this tool is currently being considered for implementation in other Business Units and is intended to provide a leadership role. This role will be aligned with professional development in the Operations department and guided by an assigned mentor from this area. This project met and exceeded the sales team's expectations and was able to identify opportunities in other departments.

REFERENCES

- [1] Chung, D., et al. (2010). Do Bonuses Enhance Sales Productivity? A Dynamic Structural Analysis of Bonus-Based Compensation Plans. SSRN Electronic Journal. Available: https://doi.org/10.2139/ssrn.1491283.
- [2] Blessington, M. (2015). Sales Quota Accuracy and Forecasting. Corpdyn.com. [Online] Available: https://corpdyn.com/wp-content/uploads/2020/01/Blessington-Quotas.pdf.
- [3] Eden, D. (1988). Pygmalion, Goal Setting, and Expectancy: Compatible Ways to Boost Productivity. Academy Of Management Review, 13(4), 639-652. [Online]. Available: https://doi.org/10.5465/amr.1988.4307530
- [4] Darmon, R. (1997). Selecting Appropriate Sales Quota Plan Structures and Quota Setting Procedures. [Online] Available: https://www.researchgate.net/profile/Rene-Darmon/publication/261624469 Selecting Appropriate S ales Quota Plan Structures and Quota-Setting Procedures/links/5505b0ad0cf24cee3a05058d/Selecting-Appropriate-Sales-Quota-Plan-Structures-and-Quota-Setting-Procedures.pdf.