

POWER BI EXPERIENCE

Mission #03

Context

After our last call, Pedro met with the Marketing team and the Sales team to discuss what would be the best option for both teams to work with the same data and get rid of the problems that might appear if both teams work in different ways.

One of the analysts commented that he has experience with SQL and he took the responsibility of trying to obtain the data directly from the database. Therefore, it would no longer be necessary to make manual interventions to export data from the system.

Pedro headed to the IT team to try to get a user to access the database. But the IT analysts were unable to attend the request due to security issues and also because they needed to understand better about the project, since IT was not involved so far.

The IT analysts asked Pedro to speak with João Paulo, Financial Administrative Manager and responsible for the IT team, to better align these points and verify this possibility. It is worth remembering that, in Brazil, HPN does not keep an IT Management, but only a maintenance and support team that is part of the Administrative-Financial Management.

Pedro preferred to wait a little longer and bring to João Paulo something that would be more decisive, presenting a scenario that would bring a direct benefit to both managements.

Today, IT has a support analyst who spends almost 100% of his time creating analysis directly in the database for other areas. And this is another bottleneck of the company: this dependency and excessive delay in performing analysis.

Not to mention that financial analysts suffer from the same problems as Pedro's

analysts: delays in creating reports, high amount of manual work, etc.

So, one of the many ways Pedro realized to benefit João Paulo would be to optimize the work of this analyst by creating the same analysis inside Power BI. And, of course, also helping João Paulo to have faster access to financial information.

Goals

The time has come to show that we are the best when it comes to calculation and data analysis. In this mission we will use all our knowledge in the DAX language to make some super interesting analyses that Pedro asked us and that will help both him and João Paulo.

Along with that, we will also show João Paulo how much his time and his team's work will be optimized when the project is running automatically.

You already have the necessary data for all the analyzes that you will create in this mission. Now it is time to get your hands dirty:

1. At this moment, HPN only has a target for regions (supervisors). However, Pedro would like to have a comparison indicator between the Net Sales and Target by States as well. Therefore, allocate the monthly target to the customer's state using the DAX language, applying a ratio rule that you consider appropriate.

Region	Net Sales	Target Sales	Target Sales by State
▢ Southeast	\$1.132.585,23	\$1.370.410,45	\$1.370.410,45
RJ	\$464.317,42	\$1.370.410,45	\$561.816,83
SP	\$393.865,19	\$1.370.410,45	\$476.570,73
MG	\$274.402,63	\$1.370.410,45	\$332.022,90
▢ South	\$341.181,26	\$156.537,73	\$156.537,73
PR	\$126.412,09	\$156.537,73	\$57.999,26
RS	\$125.122,69	\$156.537,73	\$57.407,67
SC	\$89.646,49	\$156.537,73	\$41.130,80
▢ Northeast	\$258.761,69	\$182.815,19	\$182.815,19
CE	\$92.855,49	\$182.815,19	\$65.602,43
PE	\$92.474,37	\$182.815,19	\$65.333,16
BA	\$35.097,04	\$182.815,19	\$24.796,07
AL	\$24.691,28	\$182.815,19	\$17.444,39
RN	\$5.871,36	\$182.815,19	\$4.148,12
MA	\$5.285,75	\$182.815,19	\$3.734,39
PB	\$2.486,39	\$182.815,19	\$1.756,64
▢ North	\$18.208,73	\$18.909,45	\$18.909,45
AM	\$18.208,73	\$18.909,45	\$18.909,45
Total	\$1.762.231,53	\$1.735.157,53	\$1.735.157,53

2. Pedro is concerned about some flavors and sizes of products that are in stock and unsold, especially the items in the subcategory Whey Protein, which are very important for HPN. So, make an analysis of how many different items of this subcategory remained unsold over the months, as in the example below:



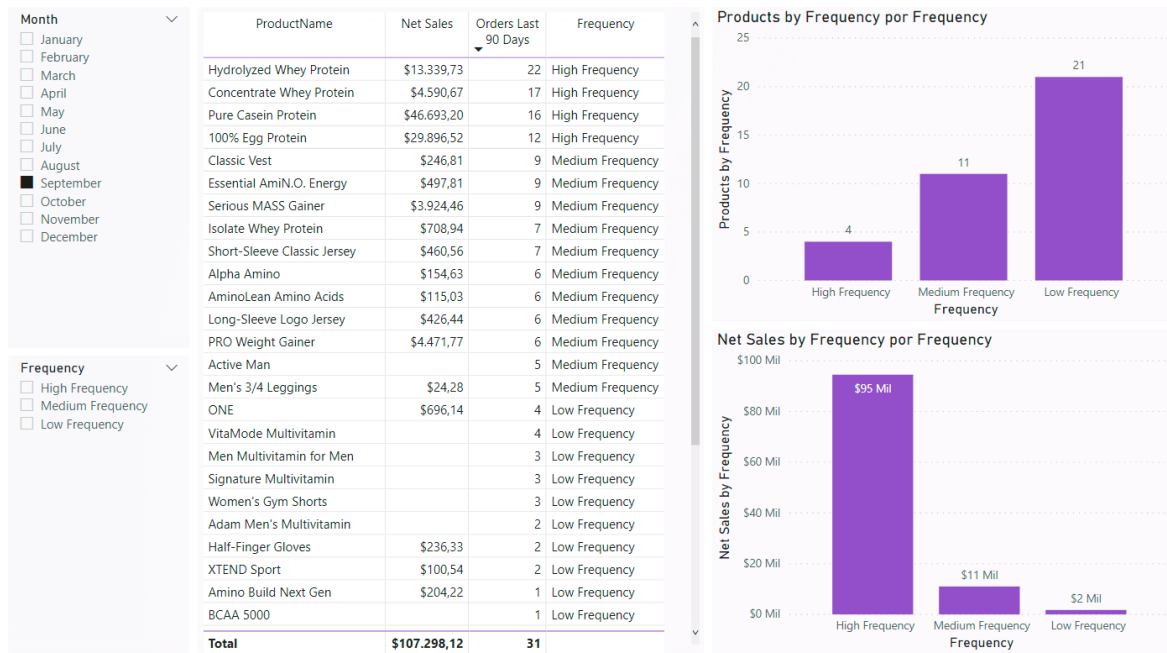
In the Matrix visual above, the red square indicates that the item was not sold in that month, while the green indicates that it was sold in the period. Knowing that Hydrolyzed Whey and Isolate Whey are very similar products, what could you suggest to Pedro to avoid that the Isolate Whey Protein items stay in stock for a long time without sales?

3. Pedro monitors an indicator of how many sales were made for each product in the last 90 days (relative to a date filter). His goal is to make at least 5 sales per product in the last 90 days to consider this product as active in the selected period. Thereby, create a dynamic segmentation to identify how many products fit into the following categories:

1. High Frequency: 10 or more sales in the last 90 days.
2. Medium Frequency: between 5 and 9 sales in the last 90 days.

3. Low Frequency: between 1 and 4 sales in the last 90 days.

Remember that this analysis must be dynamic and take into consideration the date filter on the report, as below:



In the image above we can see that in September there are 4 products with high frequency sales, 11 products with medium frequency and 21 products with low frequency.

It is important to notice that there are several products with the same name, varying in flavor and size. In this analysis, Pedro is not concerned about the different sizes and flavors. Therefore, always use the "ProductName" column as a reference in the calculations, so that all possible variations are grouped into a single product name.

4. Pedro needs to compare the performance over the States. So, create the following measures:

1. Ranking StateCode, comparing its Net Sales with states from the same supervisor;
2. Ranking StateCode ALL Supervisors, comparing its Net Sales with states from all supervisors;
3. Net Sales for the best state in each supervisor (Net Sales Top 1 State) and its percentage compared to the supervisor's total (Net Sales Top 1 State %).

CurrentSupervisor	Net Sales	Ranking StateCode	Ranking StateCode ALL Supervisors
<input type="checkbox"/> Armando Marmou Gabeira	\$1.132.585,23		
RJ	\$464.317,42	1	1
SP	\$393.865,19	2	2
MG	\$274.402,63	3	3
<input type="checkbox"/> Joseph Pinho Protásio	\$341.181,26		
PR	\$126.412,09	1	4
RS	\$125.122,69	2	5
SC	\$89.646,49	3	8
<input type="checkbox"/> Xavier Gaspar Valverde	\$276.970,42		
CE	\$92.855,49	1	6
PE	\$92.474,37	2	7
BA	\$35.097,04	3	9
AL	\$24.691,28	4	10
AM	\$18.208,73	5	11
RN	\$5.871,36	6	13
MA	\$5.285,75	7	14
PB	\$2.486,39	8	16
Total	\$1.762.231,53		

CurrentSupervisor	Net Sales	Net Sales Top 1 State	Net Sales Top 1 State %
Armando Marmou Gabeira	\$1.132.585,23	464.317,42	41,00%
Joseph Pinho Protásio	\$341.181,26	126.412,09	37,05%
Xavier Gaspar Valverde	\$276.970,42	92.855,49	33,53%
Helton Macena Sacramento	\$11.494,61	6.426,98	55,91%
Total	\$1.762.231,53	464.317,42	26,35%

5. Pedro wants to see on a page the total amount of Net Sales that HPN should receive in the next 30 days, based on a dynamic selection in a date filter. For example, when selecting a specific day in a filter you must list which invoices will be received within 30 days and their total amount. Check out the example below:

Date 07/06/2013 31/12/2013		SalesOrderNumber DueDate Days to Due Date Receivables Next 30 Days			
<input type="text"/>					
Supervisor Receivables Next 30 Days					
<input type="checkbox"/> Armando Marmou Gabeira	\$73.254				
Rio de Janeiro	\$34.694	SO58915 11/06/2013 00:00:00 4 \$23.756			
São Paulo	\$21.245	SO58922 11/06/2013 00:00:00 4 \$22.066			
Minas Gerais	\$17.315	SO58931 11/06/2013 00:00:00 4 \$28.556			
<input type="checkbox"/> Xavier Gaspar Valverde	\$49.335	SO58934 11/06/2013 00:00:00 4 \$6.137			
Ceará	\$23.756	SO58947 11/06/2013 00:00:00 4 \$1.686			
Pernambuco	\$22.066	SO58948 11/06/2013 00:00:00 4 \$21.830			
Bahia	\$1.686	SO58997 11/06/2013 00:00:00 4 \$658			
Amazonas	\$1.387	SO59001 11/06/2013 00:00:00 4 \$729			
Maranhão	\$440	SO59004 11/06/2013 00:00:00 4 \$1.306			
<input type="checkbox"/> Joseph Pinho Protásio	\$21.830	SO59018 11/06/2013 00:00:00 4 \$19.923			
Santa Catarina	\$21.830	SO59045 11/06/2013 00:00:00 4 \$3.159			
<input type="checkbox"/> Helton Macena Sacramento	\$3.159	SO59062 11/06/2013 00:00:00 4 \$17			
Goiânia	\$3.159	SO59067 11/06/2013 00:00:00 4 \$17.315			
Total	\$147.578	SO59072 11/06/2013 00:00:00 4 \$440			
		SO61180 12/07/2013 00:00:00 35			
		SO61208 12/07/2013 00:00:00 35			
		SO61225 12/07/2013 00:00:00 35			
		SO61226 12/07/2013 00:00:00 35			
		SO61235 12/07/2013 00:00:00 35			
		SO61237 12/07/2013 00:00:00 35			
		SO61245 12/07/2013 00:00:00 35			
		Total \$147.578			

In the example above, the company has \$147,578 to receive between 07/Jun/2013 and

07/Jul/2013. This analysis will directly help João Paulo's financial team. So do a great job here!

6. Something very important in HPN's business model is cross-selling. This is the case of BCAA sales combined with Whey Protein. These are products that always need to be sold together. So do an analysis of how many sales contained Whey Protein, but did not have any BCAA products, as in the example below:

Number of Orders with Whey Protein and Without BCAA												
Customer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
#13MEMO Gym								1			1	2
100% Puro Suplementos					1			1			1	3
Ability Sports							1					1
Academia BIRL						1						1
BodyWorks					1			1			1	3
Boladão Suplementos								1				1
Bolado's Academia				1			1			1		3
Detox Warehouse								1				1
Drill Department			1			1			1			3
Gym Hero							1					1
Insight Sports	1						1					2
Juggernaut Store		1										1
Just Fit Gym, LC						1						1
Kardio Work								1				1
Monster GYM				1								1
Monster Nutrition				1								1
Muscle Monsters											1	1
Olympia Department							1					1
Premium Body			1			1			1			3
Primal Fitness							1					1
Red Rocks Fitness		1						1				2
Suplementos do Maromba						1						1
Total	1	2	2	3	2	5	6	7	2	1	4	35

In all of these 35 sales it was left "money on the table" and the responsible Salesperson failed at the moment of the sale.

The Mission will only be considered concluded if you complete all 6 items on the list above.

