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| Data Dissemination and Distribution |
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| Introduction |
| Project One of our sales reps was using an excel spread sheet to measure how many customers within a buying group were purchasing a specific range. The Range itself is a product exclusive to the buying group that we import for them and store in our warehouse.  However, collecting this information is time consuming. I was tasked with creating an excel sheet that would automatically pull the data for our sales rep. Requirements A shot of the original sheet is pictured below.    As you can see the first column is the total Qty Sold so far since Launch, then how much free stock we have, how much is on order, months stock cover and then due date for the next Purchase order we are expecting. The next column is how many items were sold in the first month of the products life. After this is the amount sold since Launch, and How many customers in the buying group brought at launch as well as an average monthly replenishment qty.  After this It then looks at sales, Number of customers within the buying group who brough in that specific month. It does this for all the months.  Then at the far right is a top ten customers Table for that range.  Each range is on a separate tab within the excel sheet.   Communication The request was first placed to my manager via a teams Message. My manager then called me on Teams to give me the requirements.  An email followed up the call to provide me the Sheet that the rep had already been working on as a template or guide as to how to display the information. |

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|  |  | Decorative |
| Bar graph with upward trend BUSINESS  PRIORITIES   * Provide a report that updates automatically * Make it user friendly  List ADDED  PRIORITIES   * Make the data more manageable. * Add in extra data that would be useful to the sales rep  Group brainstorm Advantages   * The data will be as current as it can get as it will grab live data on opening * Will save time with not having to grab the data manually from multiple sources   Bar graph with upward trend  Dissemination   * 3 Tabs to disseminate the data * This is done through Pivot Tables and a Bar Chart. * The tool used for this task is excel.  List Points of Analysis   * Are the Products Seasonal? * Do Customers repeat orders? * Which products are popular with who?   Bar graph with upward trend  Data Security   * Need to be on site or connected to VPN * User must be Authorised on the SQL server. * Filters used within SQL to keep data relevant to the task |  | The project |
| Involving the user Once I had got the basis for the report down if forwarded a copy to the Sales Rep to make sure that what was being done fitted his requirements. I sent the below email to the rep, as well as clarifying a few points.    At this stage the sheet looked like the below.    As you can see, I have removed the tabs and the bottom and replaced them with a filter In the top left-hand corner of the report for each of the ranges.  I have also added a time slicer so that specific periods can be selected to make the data more manageable for the user. The only column at the minute affected by the time slicer is the TotalQty Column. This shows the Qty sold for the period selected. The time slicer can also be used to show Years, Quarters, Months and days making it easy to display whatever period you like on the sheet.  The Sales Rep replied with the following email.    A meeting was subsequently held on Teams. We agreed that the best way to calculate the Stock cover was to divide the amount of free stock by the Average Monthly Sales.  The Average monthly sales we agreed to calculate by dividing the Sum of the amount sold over the last twelve months by 12. Final Version After playing around with the Data I came up with what I believe is the best way of viewing the data.  I created an excel sheet with 3 tabs. The first Tab shows the qty of each item purchased by each customer in the group. The second tab is a kind of stock page. It gives the amount of physical stock, The quantity on Purchase order, when the next Purchase order is due in as well as showing what is reserved to PO and what is reserved to physical stock. The third Tab is a top ten Customers within the group based on quantity purchased.   How the data is disseminated As mentioned above, the data is disseminated across three different tabs using pivot tables on all the sheets and a bar chart on the third sheet to accompany the pivot. And to fill what was quite a large blank space.  On the first Tab we have Customer and Quantity’s.    As you can see from the above image there are nine columns in total. If you were to expand on the description column it would reveal the customers that have purchased that product in the time frame selected.  Then we have the Earliest Invoice Date column. This is the date of the first purchase for this product, followed how many were purchased on that initial invoice. This column ignores the time slicer.  The next column also ignores the time slicer. This shows a total quantity of units sold to date. When expanded it will show the total quantity to date for each customer that has purchased the product.  The final 3 columns all filter to the date slicer at the top of the sheet and so are representative of the period selected. The first of these is the quantity sold in that period, followed by the quantity sold in the same period last year and a count of the number of customers that have purchased the product in the selected period.  The second Tab is essentially a quick reference stock page, and the data is again disseminated through a pivot table.    On this sheet we have the next date stock is due into our warehouse, the total qty on that PO and the amount of that stock that is already reserved up to customers.  After this we have the same again but this time with stock that we already have in our warehouse. These two columns are used to calculate the free stock. This is Physical stock minus the amount of physical stock that is reserved to customers.  The final 2 columns are calculated to help give us an idea of how many months’ worth of cover we have so to allow us to know when to order more. The average monthly sales are calculated by a sum of the last 12 months of sales divided by 12.  The Stock cover is then calculated by dividing the free stock by the average monthly sales. These were agreed to in previous communication when laying out the project.  The third tab is a top 10 Customers page.    On this page there are 2 ways of disseminating the data. One is through a simple little pivot table to the left and the other is the bar chart.  Initially this page did not include the bar chart, but it just felt a little lacking using just the pivot table as it takes up such a small space and it left quite a large blank area. Adding a bar chart not only filled that blank gap but it also gave a much more visually appealing way of showing the data.  This tab can be filtered using both a time slicer and a filter panel in the top left. This gives us an insight not only into who purchased the most, or if this changes, depending on time of year or range.  You may have noticed form the screen shot that there is a lot of blanks. In fact, in the selected period Blank is the highest performing customer.  When I investigated this the issue was on the source system. There were several customers who had not been set up as part of the buying group that we import these products for. This can mean one of two things. Either The products were sold to a customer who is not part of this group, or the customers were not set up correctly. I Communicated this data through email to the sales rep with a list of the affected customers so that he could find out from the sales coordinators what had happened. Distributing the data The data was distributed through email.    The data was distributed to both my manager and the sales Rep. The final version requires 2 Sheets. One is the range which I created from his original spreadsheet. This is also the second dataset as it is used to create the Product Table within the model in Excel.  The reason I created this sheet was because the way he wanted them broken down was not in our system. The range sheet itself is updatable so he can make the ranges whatever he likes by simply filling out three columns, Item Number, Item Description and the Category or range that he would like that product to go under. Please see below.    All that is needed to update the sheet is to do a simple insert row in the excel file and then fill out the columns Code, RKW Stock Sheet, and Category\Range. The image is optional but can be added if he so requires.  I distributed and disseminated this information over to him via a team’s call where I took him through everything of the above in the dissemination of the data.  This data has a lot of value to the business regarding this range. From the data we can surmise whether a product is seasonal (Allowing us to know when the best time of the year is to order the stock in), Which members of the group the products are popular with and those they are not.  Another point of analysis would be to look at whether customers are repeating orders and if not why and if they are, then are the sizes of the orders increasing or decreasing. Stakeholders The stakeholders involved with this project were all internal members of staff. There were 3 main People, Myself (Technical), the Sales Rep (Non-Technical) and the Insights Manager (Semi Technical).  With the sales Rep being non-technical I avoided explaining how the data model within the sheet is built. This would not of been of any interest to him and without the technical knowledge I doubt he would of understood what I was telling him. His focus is on the figures produced by the report.  The Insights Manager (Also my manager) Is somewhat technical and does understanding of how the data model within excel works, understanding the need for relationships and how they are important as well as how to create them. However, she would not be able to build the tables in the model the way I did as she cannot write in SQL. There is the option to use Power Queries to build the tables which my manager could do, however I find doing it this way creates too many steps and by using SQL Statements, I can build the tables quicker and much more specifically define what I want to see.  My manager did not have any direct involvement in the project however I always keep her informed as to where I am and any issues I faced. She is also very good at analysing the data and noticing discrepancies.  Data Protection.  As with all my projects I also try to adhere to the Data Protection Act 2018, (<https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>).    Although to be fair its not actually that difficult with what I do. It is very rare that I deal with personal information. 99% of my reports only show actual figures such as values and quantities.  However, that doesn’t mean just anybody can see anything. When designing a report like this I always makes sure that the information being displayed is relevant to the task. For example, the rep only needs to see companies relating to the customer group in question. I achieve this by applying filters in the SQL statement to show only customers from this group. I also Filter in the statement to the necessary Brand which this report is created for. This stops products from different ranges being included. As seen below.    The following Sql code restricts the customers shown to the ones in the specific Buyers group.    Being able to Run this report also requires a specific version of Office (Pro Plus) and I also must authorize the sales rep on our SQL server so that he can retrieve the information.  To Achieve this, I had to add his windows user to the SQL server manager Security Login List as seen below.  A picture containing graphical user interface  Description automatically generated  I have blacked out the names of the users and used mine as an example. On the right where you see a red cross are users that have left and the login has been deactivated. This can be done with a simple radio button in the profile that will deactivate the account.  Being able to update the sheet is also dependent on the person either being onsite or connected to our VPN, otherwise the sheet will just fail when updating. |