**INTRODUCTION TO DATA MANAGEMENT PROJECT REPORT**

(Project Semester August-December 2021)

***Sales Dashboard***

Submitted by

Gopinath Chalasani

11902216

B.Tech. C.S.E. (Hons.) KM036

INT217

Under the Guidance of

Mrs. Ashu -23631

**Discipline of CSE/IT**

**Lovely School of Computer Science & Engineering**

Shape

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# CERTIFICATE

This is to certify that Gopinath Chalasani (student’s name) bearing Registration no. 11902216 has completed INT 217 project titled, **“Sales Dashboard”** under my guidance and supervision. To the best of my knowledge, the present work is the result of his/her original development, effort and study.

**Signature and Name of the Supervisor**

**Designation of the Supervisor**

**School of Computer Science & Engineering**

Lovely Professional University

Phagwara, Punjab.

Date:

# Declaration by Student

**To whom so ever it may concern**

I, **Gopinath Chalasani, 11902216**, hereby declare that the work done by me on “**Introduction to data management- Sales Dashboard**” from **August, 2021** to **December, 2021**, is a record of original work for the partial fulfilment of the requirements for the award of the degree, **Bachelor of Technology Computer Science and Engineering (Hons.).**

**A picture containing clipart

Description automatically generated**Gopinath Chalasani (11902216)

Dated: 10.12.2021

# Acknowledgement

I would like to express my special thanks of gratitude to my course Mrs. Ashu (23631)

who helped me in doing a lot of Research and I came to know about so many new things through this course I am really thankful to her.  
Secondly I would also like to thank my parents and friends who helped me a lot in finalizing this project within the limited time frame.

I am overwhelmed in all humbleness and gratefulness to acknowledge my depth to all those who have helped me to put these ideas, well above the level of simplicity and into something concrete.  
I would like to express my special thanks of gratitude to all my faculty who gave me the golden opportunity to do this wonderful project on for the partial fulfilment of the subject Introduction to Data Management “Sales Dashboard” , which also helped me in doing a lot of Research and I came to know about so many new things. I am really thankful to them.  
Any attempt at any level can't be satisfactorily completed without the support and guidance of my parents and friends.  
I would like to thank my parents who helped me guiding me from time to time in completing this course.

**A picture containing clipart

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Thanking you,  
Gopinath Chalasani (11902216)

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# Introduction

INT-217 Introduction to Data Management course teaches us about various methods, functions and features provided in MS Excel in order to manage, modify or extract the information from a large Data Sets in cells.

One of the features of MS Excel is a Dashboard. A Dashboard is a graphical representation of various fields with the help of different tools like column chart, pie chart, line chart, combo chart etc. present in any Dataset and make them interactive with the help of slicers and timelines.

This form of graphical representation helps a user to easily find different types of information, patterns and a lot of things in the dataset. It also makes the mentioned processes more convenient.

In this project, I will be analysing a dataset that contains the data of around 1000+ rows of shipping information and will be doing analysis on various fields of the dataset like sales, discount, year, order priority, customer type, manager, shipping mode.

# OBJECTIVES

Our main objective to make this project is to find various trends in the given dataset of around 1000+ shopping records with the help pivot charts and pivot tables provided in the excel and show them visually using charts. We will be analysing our various objectives and their results for different shipping information.

At the end of the project, we will make an interactive dashboard which will be consisting all of our objective analysis and display in visual way. It will also be consisting of various charts which will provide a graphical representation to all of our objectives .

This project is a very small representation of the new features of MS Excel that are being taught to us in the course.

I hope I will be able to mark clear idea of the objectives and their respective results visually.

# SOURCE OF DATASET

I have taken this dataset from Coursera from the course “Excel Skills for Business: Intermediate I” ( <https://www.coursera.org/learn/excel-intermediate-1/home/welcome> ) from which I have done my basic excel certification at the time of pandemic.

Link to dataset-

<https://www.coursera.org/learn/excel-intermediate-1/supplement/ZVGXI/download-the-week-6-workbooks>



# ETL PROCESS

**EXTRACTION**

In this step of the ETL process, I extracted the dataset from the website (i.e. from Coursera) and then downloaded the required dataset into my system.

**TRANSFORMATION**

This raw data had some irregularities which were making some trouble in making my project. In order to remove those, some steps were taken to transform my dataset.

For example, our dataset of shipping information did not contain the calculation of profit margin, subtotal, discount and order total. Profit margin is calculated by taking the difference of Retail price and Cost price. SubTotal is calculated by multiplying order quantity and retail price. Discount is calculated by multiplying subtotal and discount percentage. Order total is calculated by subtracting subtotal and discount. By all these we found out all the required information required for analysing our objectives.

**LOADING**

This updated dataset was then uploaded into a new file in order to save the changes made in the raw dataset.

# ANALYSIS ON DATASET

Using different data from each shipping record such as Order No, Order Date, Order Year, Customer Name, Address, City, State, Customer Type, Account Manager, Order Priority, Product Name, Product Category, Product Container, Ship Mode, Ship Date, Cost Price, Retail Price, Profit Margin, Order Quantity, Sub Total, Discount %, Discount $, Order Total, Shipping Cost, Total, we find out the following information and analyse them and visualise them.

We make the raw data into table and them name the table accordingly.

# Objective 1.

**To find the sales and order values of different states**

INTRODUCTION

Whenever a customer places an order he gives us the information regarding his state and the order value is calculated by the items he orders. So we take this information and then display the proportion of orders from different states.

DESCRIPTION

­­To Display the proportion of orders from different states we insert a pivot table in a new sheet and name the pivot table accordingly.

After inserting the pivot table in the new sheet we add State column in Rows and then add Total column into values section and then modify the value field settings to count, we add Total column second time and modify the value field settings to sum.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We get the total order value and total number of orders grouped by different states. There are 3 states NSW, VIC,WA which have count of orders as 646, 289, 104 respectively and order total as ₹7,68,723.22, ₹ 2,83,640.57, ₹ 86,443.15 respectively. We find out that NSW has over 62% of orders has more orders and VIC has 28% orders and followed by WA with 10% orders is he least.

VISUALIZATION

Graphical user interface, text, application

Description automatically generated

Table 1: Shows Count and Total value of orders from different states

Chart, pie chart

Description automatically generated

Figure 1: Shows Count of total orders from different states in pie chart

# Objective 2.

**To find total orders by different customer types**

INTRODUCTION

Whenever a customer buys the product he has different categories such as Consumer, Corporate, Home Office, Small Business. We need to find out which category of customers have ordered more than others and also find the value of the total they ordered by pivot table

DESCRIPTION

To display the total orders by different customer types, First we will insert a pivot table in a new sheet and then name it accordingly.

After inserting the pivot table in the new sheet we add Customer type column to Rows and then add Order no. column into values section and then modify the value field settings to count, we add Total column second time and modify the value field settings to sum.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We get the total order value and total number of orders grouped by different customer types. There are 4 customer types Consumer, Corporate, Home Office, Small Business which have count of orders as 177, 377, 264, 221 respectively and order total as ₹ 1,91,942.85, ₹ 3,89,261.09, ₹ 2,72,528.74, ₹ 2,85,074.25 respectively. We find out that Corporate type customers has over 36% of orders is the highest and Home office type has 26% orders and followed by Small Business with 21% orders and further followed by consumer with 17% which is the least.

VISUALIZATION

Graphical user interface, text

Description automatically generated with medium confidence

Table 2: Orders by different customer types

**Graphical user interface, application

Description automatically generated**

Figure 2: Representation of orders by different customer types in pie chart

# Objective 3.

**To find sales by different account managers**

INTRODUCTION

Whenever a customer buys a product through account manager the details get stored and recorded.

So we take this information and get the desired results by making a pivot table and then inserting the applicable chart

DESCRIPTION

To display the total sales by different account managers. First we will insert a pivot table in a new sheet and then name it accordingly.

After inserting the pivot table in the new sheet we add Account Manager column to Rows and then add Total column into values section and then modify the value field settings to Sum.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We get the total sum of sales made by different account managers and we find that Connor Betts, Yvette Biti top the list by ₹ 1,35,493.75; ₹ 1,48,146.81 respectively and the least sales were made by Stevie Bacata with ₹ 6,771.19 and needs improvement in his performance

VISUALIZATION

Graphical user interface, application

Description automatically generated

Table 3: Sales amount by different account managers in different years

**Graphical user interface

Description automatically generated**

Figure 3: Representation of sales amount by different account managers in clustered bar chart

# Objective 4.

**Top 5 customers based on total sales**

INTRODUCTION

Whenever a customer places an order he gives us the information regarding his name and the order value is calculated by the items he orders. So we take this information and then display the top 5 customers who bought more worth of items.

DESCRIPTION

To display the top 5 customers based on their total purchase. First we will insert a pivot table in a new sheet and then name it accordingly.

After inserting the pivot table in the new sheet we add Customer Name column to Rows and then add Total column into values section and then modify the value field settings to Sum.

Then under the auto sort option under Customer name column of the table select value filters and select top 10 option and type 5 under top 10 filter.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We get to find the top 5 customers who shopped the most according to total value of the purchase.

The top 5 customer account to total of Rupees 1,54,205.20 . The most purchase is done by Clytie Kelty followed by Deborah Brumfield with purchase value of ₹ 39,859.12 and ₹ 37,991.11 respectively.

VISUALIZATION

Graphical user interface, application, table

Description automatically generated

Table 4: Top 5 customers based on total purchases

Graphical user interface

Description automatically generated

Figure 4: Representation of total purchases by top 5 customers in 3-D clustered column

# Objective 5.

**To find the sum of sales in years divided in quarters statewise**

INTRODUCTION

Whenever a customer places an order he gives us the information regarding his state and the order value is calculated by the items he orders, date is also displayed at the time of placing the order. So we take this information and then display the sum of sales in years divided in quarters state wise.

DESCRIPTION

To display the sum of sales in years divided in quarters state wise. First we will insert a pivot table in a new sheet and then name it accordingly.

After inserting the pivot table in the new sheet we add Orders date column to Rows and then add Total column into values section and then modify the value field settings to Sum.

Then we right click on the dates in the table and select quarters and years to group them in quartes with different years.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We get to find the sum of sales of different years divided in quarters state wise. We find that most sales happened in the year 2014 followed by 2013 with ₹ 3,52,762.95 and ₹ 3,19,231.66 respectively.

VISUALIZATION

A screenshot of a computer

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Table 5: Sum of sales in years divided in quarters of different states

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Figure 5: Representation of sales in different years divided in quarters of different states in area chart

# Adding slicers

I added slicers by selecting the required pivot table and then clicking on pivotable analysis and then selecting insert slicer and selecting the slicer required.

Then I added slicers for different categories such as Customer Type, Shipping mode, Category, Priority, Container, State.

I linked all the slicers with the respective tables by selecting the slicer and then clicking on slicer option above and selection report connections options and checking the tables to which the respective slicer must be added.

I didn’t connect state category slicer to objective 1 and customer type category slicer to objective 2 which will make it absurd if added.

# Adding Timeline

I added the timeline by selecting a pivot table and then clicking on pivotable analysis and then selecting insert timeline option and checking the order date.

I linked the timeline with the respective tables by selecting the timeline and then clicking on timeline option above and selection report connections options and checking the tables to which the respective timeline must be added.

I selected quarters option from the dropdown in the timeline.

# Creating power pivot relationship

Firstly got to file and select “Options” then got to add-ins from the left pane and check whether “Microsoft Power Pivot for Excel” is under active application add-ins of it is not present select from inactive application add-ins and click on “OK”. This may take a few minutes to add to the top bar.

After restarting the excel file click on Power Pivot and select “add to data model” option and specify the first table to add to data model in this case it was the shipping table consisting of all the shipping information.

Then continue the same process and select the second table in which there are unique identification numbers of each account manager.

Now go to Design tab under power pivot window and select “create relationship” option and specify which two columns of different tables must be linked. Here in this case we have to select shipping table and select account manager row then select ids table in next option and select manager name, make the relationship by clicking “ok”.

Now the relation between the shipping table and ids table is made.

# Objective 6.

**Find profit made by each account manager by their UID**

INTRODUCTION

Whenever a purchase is made the details are stored and the profit is calculated by the subtracting cost price and selling price. The Shipping table and UID table have an active relation between the account managers name. We get to know the profits made by account manager by their UID by making a pivot table from the tables given.

DESCRIPTION

We got to the “power pivot” tab above and then select “Manage” option, In the “Power pivot” window under “Home” tab select the “pivot table” option and specify the location where the table needs to be created.

Under “PivotTable Fields” pane on the right hand side select the “UID number” column from “IDs” table and place it under Rows.

Place the “Profit” column of “Shipping” table under values.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We found out the profit margin earned by account managers by their account ID’s and visualised it using the applicable chart.

VISUALIZATION

A screenshot of a computer

Description automatically generated with medium confidence

Table 6: Profit made by each account manager by their UID

**Graphical user interface

Description automatically generated**

Figure 6: Representation of profit made by each account manager by their UID in clustered bar chart

# Objective 7.

**Find discount given by managers by their UID**

INTRODUCTION

Whenever a purchase is made the details are stored and the discount is calculated by the multiplying “Sub total” column by “Discount%” column. The Shipping table and UID table have an active relation between the account managers name. We get to know the discounts given by account manager by their UID by making a pivot table from the tables given.

DESCRIPTION

We got to the “power pivot” tab above and then select “Manage” option, In the “Power pivot” window under “Home” tab select the “pivot table” option and specify the location where the table needs to be created.

Under “PivotTable Fields” pane on the right hand side select the “UID number” column from “IDs” table and place it under Rows.

Place the “Discount” column of “Shipping” table under values.

By this we get our desired result now we can add any chart which is applicable to visualise our objective.

RESULT

We found out the discount given by account managers by their account ID’s and visualised it using the applicable chart with the help of power pivot option.

VISUALIZATION

Graphical user interface, application

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Table 7: Discount given by managers by their UID

**A screenshot of a computer

Description automatically generated with medium confidence**

Figure 7: Representation of discount given by managers by their UID in area chart

# RESULT

**Graphical user interface

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Figure 8: Complete dashboard interactive with slicers and timeline.

# REFERENCES

* <https://www.coursera.org/learn/excel-intermediate-1/home/welcome>
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