DATA MANAGEMENT PROJECT REPORT

(Project Semester August-December 2020)

PRODUCTION ANALYSIS DASHBOARD

Submitted by

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Registration No:- 12010599

Programme and Section:- CSE – KM072

Course Code:- INT217

Under the Guidance of

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Discipline of CSE/IT

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Lovely Professional University, Phagwara

CERTIFICATE

This is to certify that Routhu Siddhartha bearing Registration no. 12010599 has completed INT217 project titled, **"Production Analysis 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 And Engineering
Lovely Professional University
Phagwara, Punjab.

Date: 7th November 2022

DECLARATION

I, Routhu Siddhartha, student of Bachelor of Technology under CSE/IT Discipline at, Lovely Professional University, Punjab, hereby declare that all the information furnished in this project report is based on my own intensive work and is genuine.

Date: 07-11-2022 Signature

Registration No. :-12010599 Name:-Routhu Siddhartha

Acknowledgement

Place: Phagwara

Date:07-11-2022

I would like to sincerely thank my manager Ms. Sameeksha Khare for her significant role behind the accomplishment of the assignment. I have been guided with lots of her valuable suggestions and experience throughout the process of completion of the assignment.

I would also like to express my gratitude to my peers, without their support and cooperation this assignment could not have been accomplished. Finally, I would like to thank my parents for their love and blessings.

Your name:- Routhu Siddhartha

Signature:-

CONTENT :-

- **INTRODUCTION :-**

The core of the dashboard lies in the key metrics required for monitoring. Thus, based on whether the dashboard is for an organization on the whole or for a department such as sales, finance, human resources, production, etc. the key metrics that are required for display vary.

Further, the key metrics for a dashboard also depend on the role of the recipients (audience). For example, Executive (CEO, CIO, etc.), Operations Manager, Sales Head, Sales Manager, etc. This is due to the fact that the primary goal of a dashboard in to enable data visualization for decision making.

The success of a dashboard often depends on the metrics that were chosen for monitoring. For example, Key Performance Indicators, Balanced Scorecards and Sales Performance Figures could be the content appropriate in business dashboards.

BENEFITS OF DASHBOARD :-

Dashboards allow managers to monitor the contribution of the various departments in the organization. To monitor the organization's overall performance, dashboards allow you to capture and report specific data points from each of the departments in the organization, providing a snapshot of current performance and a comparison with earlier performance.

Benefits of dashboards include the following –

- Visual presentation of performance measures.
- Ability to identify and correct negative trends.
- Measurement of efficiencies/inefficiencies.
- Ability to generate detailed reports showing new trends.
- Ability to make more informed decisions based on collected data.
- Alignment of strategies and organizational goals.
- Instant visibility of all systems in total.
- Quick identification of data outliers and correlations.

- Time saving with the comprehensive data visualization as compared to running multiple reports.

Dashboard Data and Format :-

The data required for a dashboard depends on its category. The premise for the data is that it should be relevant, error-free, up to date and live if required. The data can possibly be from various and different sources and formats (Spreadsheets, Text Files, Web Pages, Organizational Database, etc.).

You can create a dashboard in Excel using various features that help you make data visualization prominent, which is the main characteristic of any dashboard. You can show data in tables with conditional formatting to highlight the good and bad results, you can summarize the data in charts and PivotTables, you can add interactive controls, and you can define and manage KPIs and so on.

Live Data on Dashboards :-

As discussed earlier in this chapter, data warehousing and online analytical processing (OLAP) is making it possible to refresh the dynamic dashboards instantly with live data. It is also making those who design the dashboards be independent of the organization's IT department for obtaining data.

Thus, the dashboards have become the most sought after medium from top management to a regular user.

Features to create excel dashboard :-

You can create a dashboard in Excel using various features that help you make data visualization prominent, which is the main characteristic of any dashboard. You can show data in tables with conditional formatting to highlight the good and bad results, you can summarize the data in charts and PivotTables, you can add interactive controls, and you can define and manage KPIs and so on.

In this chapter, you will get to know the most important Excel features that come handy when you are creating a dashboard. These features help you arrive at the dashboard elements that

simplify complex data and provide visual impact on the current status or performance in real time

- **Objectives/Scope of the Analysis :-**

Excel Tables

The most important component of any dashboard is its data. The data can be from a single source or multiple sources. The data might be limited or might span several rows.

Excel tables are well suited to get the data into the workbook, in which you want to create the dashboard. There are several ways to import data into Excel, by establishing connections to various sources. This makes it possible to refresh the data in your workbook whenever the source data gets updated.

You can name the Excel tables and use those names for referring your data in the dashboard. This would be easier than referring the range of data with cell references. These Excel tables are your working tables that contain the raw data.

Excel Charts :-

Excel charts are the most widely used data visualization components for dashboards. You can get the audience view the data patterns, comparisons and trends in data sets of any size strikingly adding color and styles.

Excel has several built-in chart types such as line, bar, column, scatter, bubble, pie, doughnut, area, stock, surface and radar.

Excel PivotTables

When you have large data sets and you would like to summarize the results dynamically showing various facets of the analysis results, Excel PivotTables come handy to include in your

dashboard. You can use either the Excel tables or the more powerful data tables in the data model to create PivotTables.

The main differences between the two approaches are –

Excel Tables

- Data from only one table can be used to create PivotTable.
- When the tables increase in the no. of rows, the memory handling and storage will not be optimistic.

Data Tables

- Data from more than one table can be used to create PivotTable, defining relationships between the tables.
- Can handle huge data sets with thousands of rows of data with memory optimization and decreased file size.

- **Source of Data**

A dataset is a collection of data within a database.

Typically, datasets take on a tabular format consisting of rows and columns. Each column represents a specific variable, while each row corresponds to a specific value. Some datasets consisting of unstructured data are non-tabular, meaning they don't fit the traditional row-column format.

As I have prepared the dataset by my own, I have taken production analysis dashboard by labelling the contents as follows

Employee Under, Production Count, Date, Average time per count, Location, Process, Total time taken (Hours, Days, Months, Years, mmm-dd)

I have prepared the columns by applying Randbetween function for getting random values from top to bottom

So, that a random number will diced on particular cell. Than you need to drag the Doctor's symbol(Big Plus Symbol) to the down of the cell until where we want to apply the dataset.

After that the numbers formulated in the cell will change every time we use any cell for operation. so, copy the data from that cells and paste again in the same place so, that the data in the cells will not change.

- **Formulas used in creating the Dataset**
  - ="Name"&RANDBETWEEN(2235,2245)
  - =RANDBETWEEN(45,65)
  - =RANDBETWEEN(TODAY(),TODAY()+5)
  - =RANDBETWEEN(5,7)
  - =VLOOKUP(A3,$N$4:$O$15,2,0)
  - =VLOOKUP(A3,Emp_Process,3,0)
  - Total Time taken in Hours = (total time taken)/60 ; used : =G3/60
  - Particular Day of the production, formula is =TEXT(C3,"DDDD")
  - For getting the Particular Month of the data is =TEXT(D3,"mmm")
  - For getting the particular Year of the data is =TEXT(D3,"yyyy")
  - For getting the format of data in mmm-dd is =TEXT(D3,$M$2)

- **ETL Process**

ETL, which stands for extract, transform and load, is a data integration process that combines data from multiple data sources into a single, consistent data store that is loaded into a data warehouse or other target system.

As the databases grew in popularity in the 1970s, ETL was introduced as a process for integrating and loading data for computation and analysis, eventually becoming the primary method to process data for data warehousing projects.

ETL provides the foundation for data analytics and machine learning workstreams. Through a series of business rules, ETL cleanses and organizes data in a way which addresses specific business intelligence needs, like monthly reporting, but it can also tackle more advanced analytics, which can improve back-end processes or end user experiences. ETL is often used by an organization to:

- Extract data from legacy systems
- Cleanse the data to improve data quality and establish consistency
- Load data into a target database

The data is loaded in the DW system in the form of dimension and fact tables.

ETL combines all the three database function into one tool to fetch data from one database and place it into another database.

Use Of ETL Process

ETL is used to integrate the data with the help of three steps Extract, Transform, and Load, and it is used to blend the data from multiple sources. It is often used to build a data warehouse.

In the ETL process, data is extracted from the source system and convert into a format that can be examined and stored into a data warehouse or any other system.

Extraction Process:-

- Extract is the process of fetching (reading) the information from the database. At this stage, data is collected from multiple or different types of sources.
- A staging area is required during ETL load. There are various reasons why staging area is required.
- The source systems are only available for specific period of time to extract data. This period of time is less than the total data-load time. Therefore, staging area allows you to extract the data from the source system and keeps it in the staging area before the time slot ends.

- **Analysis on Dataset**

A dataset is a collection of data within a database.

Typically, datasets take on a tabular format consisting of rows and columns. Each column represents a specific variable, while each row corresponds to a specific value. Some datasets consisting of unstructured data are non-tabular, meaning they don't fit the traditional row-column format.

As I have prepared the dataset by my own, I have taken production analysis dashboard by labelling the contents as follows

- Employee Under
- Production Count
- Date
- Average time per count
- Location
- Process
- Total time taken

- Hours
- Days
- Months
- Years
- mmm-dd

1.Employee under :-

In the first column of the table I mentioned the details of the Co-ordinator's ID for the following workers for having the better result on getting particular initiation for individual ID.

I have taken this column by applying Randbetween function for getting random values from top to bottom

="Name"&RANDBETWEEN(2235,2245)

So, that a random number will diced on particular cell. Than you need to drag the Doctor's symbol(Big Plus Symbol) to the down of the cell until where we want to apply the dataset.

After that the numbers formulated in the cell will change every time we use any cell for operation. so, copy the data from that cells and paste again in the same place so, that the data in the cells will not change.

2.Production Count :-

It shows the details of the production count which was made by the particular Employee.

I have apply the formula, =RANDBETWEEN(45,65) and do the same procedure which we done in previous step.

3.DATE :-

I have taken particular time period to implement for the particular result, for the same I have applied the formula,

=RANDBETWEEN(TODAY(),TODAY()+5) and change the format of the cell data in the particular format which you want. And continue the process of dragging down the doctor's plus symbol until we want to take.

4.AVERAGE TIME TAKEN PER COUNT :-

As usual the average time taken to complete the work for individual worker would be approximately 5 hrs to 7 hrs. so, I have applied the formula

=RANDBETWEEN(5,7) to get random number as employee time taken on particular day.

5.LOCATION And PROCESS :-

Before this, we need to apply a pivot table for the particular table which we created till now, by selecting only Employee section to get all the ID's of the employee under section.

Then, do copy the data of the pivot table and paste in some other cell and do delete the pivot table. The new table name "Emp-Process". We are doing this procedure for getting the list of Employee's Under section. Later on next to the pasted values add some location names as you wish.

And now come to our previous dataset to add the same locations over all the dataset. For the same, I apply the formula of vlookup as =VLOOKUP(A3,$N$4:$O$15,2,0) to get the designated location for our dataset and drag down the doctor's plus to whole over our dataset.

Now, from the same table Emp-Process, we add one more column name process and add the details of the process done by the particular Employee's Under section.

Apply the same, vlookup formula on our dataset as =VLOOKUP(A3,Emp_Process,3,0) to get the data of the process done also without any problem

6.Total Time Taken :-

Here, total time taken by the particular employee for the particular product will come by multiplying the avg. time count by Production count.

As, I have applied in the section with the formula =D3*B3 for getting the same, and drag the pointer.

Total Time taken in Hours = (total time taken)/60 ; example : =G3/60

Particular Day of the production, formula is =TEXT(C3,"DDDD")

For getting the Particular Month of the data is =TEXT(D3,"mmm")

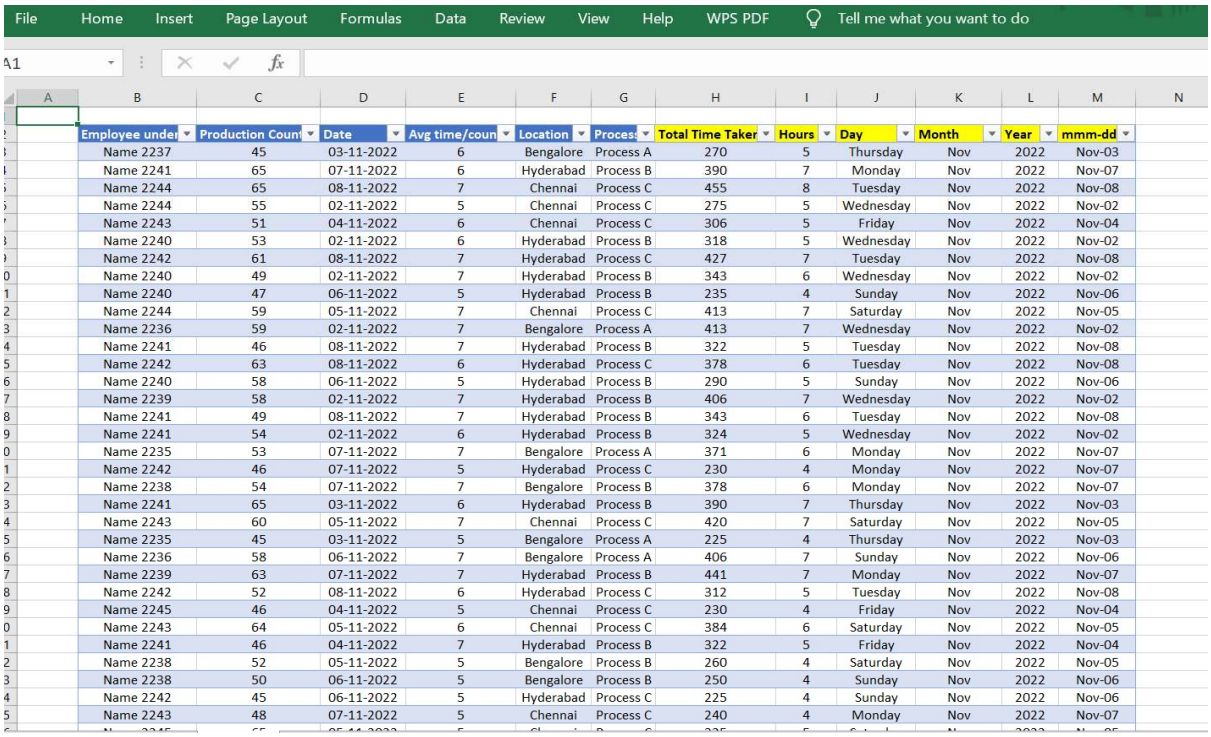
For getting the particular Year of the data is =TEXT(D3,"yyyy")

For getting the format of data in mmm-dd is =TEXT(D3,$M$2)

- **LIST OF ANALYSIS WITH RESULT :-**

1. **Dataset**

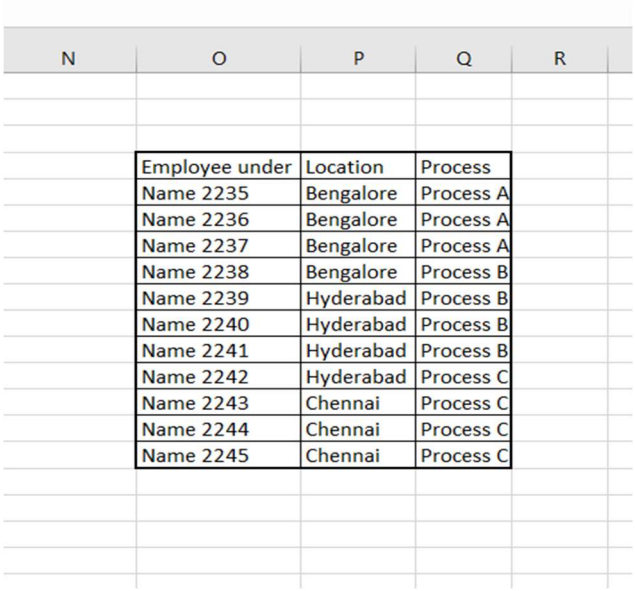
mydataset



Employee under	Production Count	Date	Avg time/coun	Location	Process	Total Time Taker	Hours	Day	Month	Year	mmm-dd
Name 2237	45	03-11-2022	6	Bengalore	Process A	270	5	Thursday	Nov	2022	Nov-03
Name 2241	65	07-11-2022	6	Hyderabad	Process B	390	7	Monday	Nov	2022	Nov-07
Name 2244	65	08-11-2022	7	Chennai	Process C	455	8	Tuesday	Nov	2022	Nov-08
Name 2244	55	02-11-2022	5	Chennai	Process C	275	5	Wednesday	Nov	2022	Nov-02
Name 2243	51	04-11-2022	6	Chennai	Process C	306	5	Friday	Nov	2022	Nov-04
Name 2240	53	02-11-2022	6	Hyderabad	Process B	318	5	Wednesday	Nov	2022	Nov-02
Name 2242	61	08-11-2022	7	Hyderabad	Process C	427	7	Tuesday	Nov	2022	Nov-08
Name 2240	49	02-11-2022	7	Hyderabad	Process B	343	6	Wednesday	Nov	2022	Nov-02
Name 2240	47	06-11-2022	5	Hyderabad	Process B	235	4	Sunday	Nov	2022	Nov-06
Name 2244	59	05-11-2022	7	Chennai	Process C	413	7	Saturday	Nov	2022	Nov-05
Name 2236	59	02-11-2022	7	Bengalore	Process A	413	7	Wednesday	Nov	2022	Nov-02
Name 2241	46	08-11-2022	7	Hyderabad	Process B	322	5	Tuesday	Nov	2022	Nov-08
Name 2242	63	08-11-2022	6	Hyderabad	Process C	378	6	Tuesday	Nov	2022	Nov-08
Name 2240	58	06-11-2022	5	Hyderabad	Process B	290	5	Sunday	Nov	2022	Nov-06
Name 2239	58	02-11-2022	7	Hyderabad	Process B	406	7	Wednesday	Nov	2022	Nov-02
Name 2241	49	08-11-2022	7	Hyderabad	Process B	343	6	Tuesday	Nov	2022	Nov-08
Name 2241	54	02-11-2022	6	Hyderabad	Process B	324	5	Wednesday	Nov	2022	Nov-02
Name 2235	53	07-11-2022	7	Bengalore	Process A	371	6	Monday	Nov	2022	Nov-07
Name 2242	46	07-11-2022	5	Hyderabad	Process C	230	4	Monday	Nov	2022	Nov-07
Name 2238	54	07-11-2022	7	Bengalore	Process B	378	6	Monday	Nov	2022	Nov-07
Name 2241	65	03-11-2022	6	Hyderabad	Process B	390	7	Thursday	Nov	2022	Nov-03
Name 2243	60	05-11-2022	7	Chennai	Process C	420	7	Saturday	Nov	2022	Nov-05
Name 2235	45	03-11-2022	5	Bengalore	Process A	225	4	Thursday	Nov	2022	Nov-03
Name 2236	58	06-11-2022	7	Bengalore	Process A	406	7	Sunday	Nov	2022	Nov-06
Name 2239	63	07-11-2022	7	Hyderabad	Process B	441	7	Monday	Nov	2022	Nov-07
Name 2242	52	08-11-2022	6	Hyderabad	Process C	312	5	Tuesday	Nov	2022	Nov-08
Name 2245	46	04-11-2022	5	Chennai	Process C	230	4	Friday	Nov	2022	Nov-04
Name 2243	64	05-11-2022	6	Chennai	Process C	384	6	Saturday	Nov	2022	Nov-05
Name 2241	46	04-11-2022	7	Hyderabad	Process B	322	5	Friday	Nov	2022	Nov-04
Name 2238	52	05-11-2022	5	Bengalore	Process B	260	4	Saturday	Nov	2022	Nov-05
Name 2238	50	06-11-2022	5	Bengalore	Process B	250	4	Sunday	Nov	2022	Nov-06
Name 2242	45	06-11-2022	5	Hyderabad	Process C	225	4	Sunday	Nov	2022	Nov-06
Name 2243	48	07-11-2022	5	Chennai	Process C	240	4	Monday	Nov	2022	Nov-07

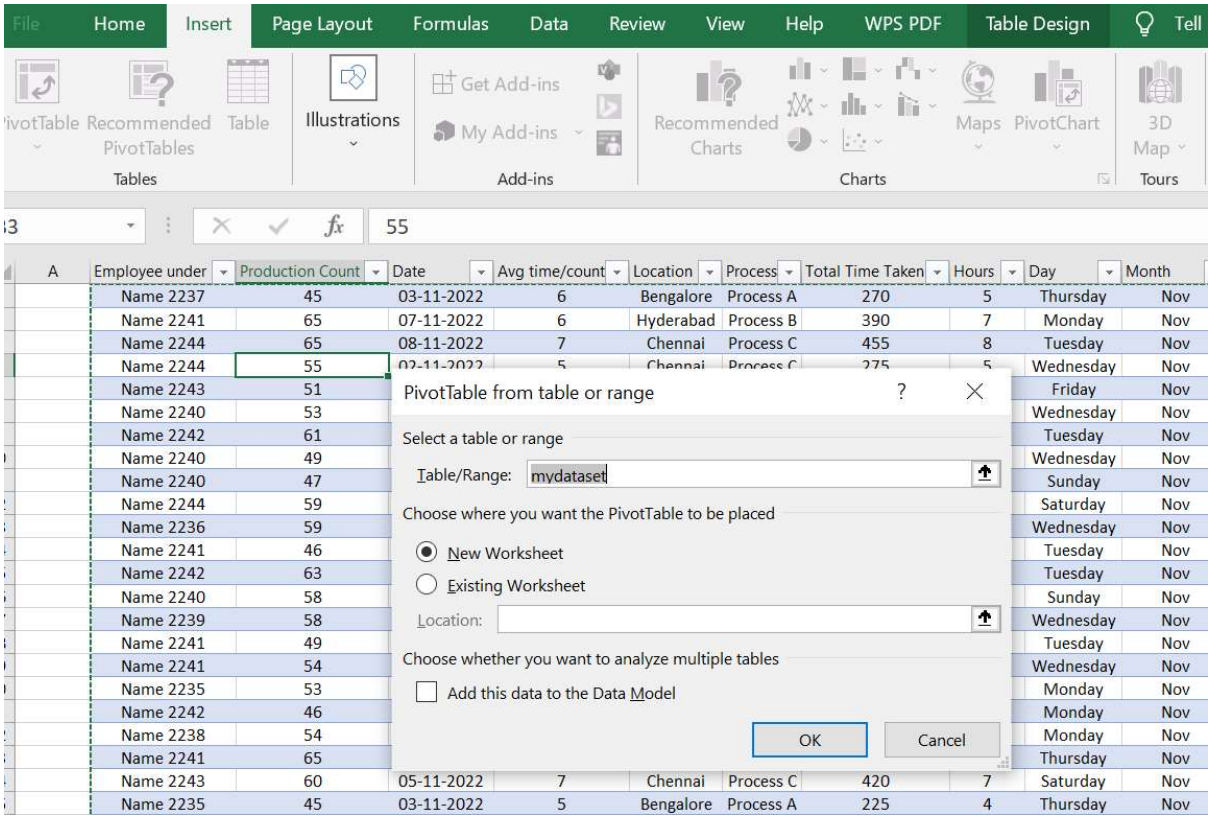
The Data continuous with information for 1000 lines. As it is good to take big dataset for better visualization.

Emp_process

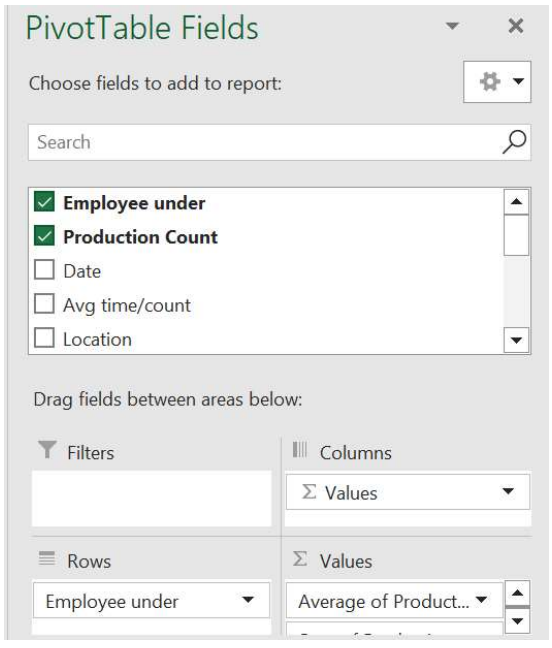


Employee under	Location	Process
Name 2235	Bengalore	Process A
Name 2236	Bengalore	Process A
Name 2237	Bengalore	Process A
Name 2238	Bengalore	Process B
Name 2239	Hyderabad	Process B
Name 2240	Hyderabad	Process B
Name 2241	Hyderabad	Process B
Name 2242	Hyderabad	Process C
Name 2243	Chennai	Process C
Name 2244	Chennai	Process C
Name 2245	Chennai	Process C

Insertion of pivot table:-



A	Employee under	Production Count	Date	Avg time/count	Location	Process	Total Time Taken	Hours	Day	Month
	Name 2237	45	03-11-2022	6	Bengalore	Process A	270	5	Thursday	Nov
	Name 2241	65	07-11-2022	6	Hyderabad	Process B	390	7	Monday	Nov
	Name 2244	65	08-11-2022	7	Chennai	Process C	455	8	Tuesday	Nov
	Name 2244	55	02-11-2022	5	Chennai	Process C	275	5	Wednesday	Nov
	Name 2243	51							Friday	Nov
	Name 2240	53							Wednesday	Nov
	Name 2242	61							Tuesday	Nov
	Name 2240	49							Wednesday	Nov
	Name 2240	47							Sunday	Nov
	Name 2244	59							Saturday	Nov
	Name 2236	59							Wednesday	Nov
	Name 2241	46							Tuesday	Nov
	Name 2242	63							Tuesday	Nov
	Name 2240	58							Sunday	Nov
	Name 2239	58							Wednesday	Nov
	Name 2241	49							Tuesday	Nov
	Name 2241	54							Wednesday	Nov
	Name 2235	53							Monday	Nov
	Name 2242	46							Monday	Nov
	Name 2238	54							Monday	Nov
	Name 2241	65							Thursday	Nov
	Name 2243	60	05-11-2022	7	Chennai	Process C	420	7	Saturday	Nov
	Name 2235	45	03-11-2022	5	Bengalore	Process A	225	4	Thursday	Nov



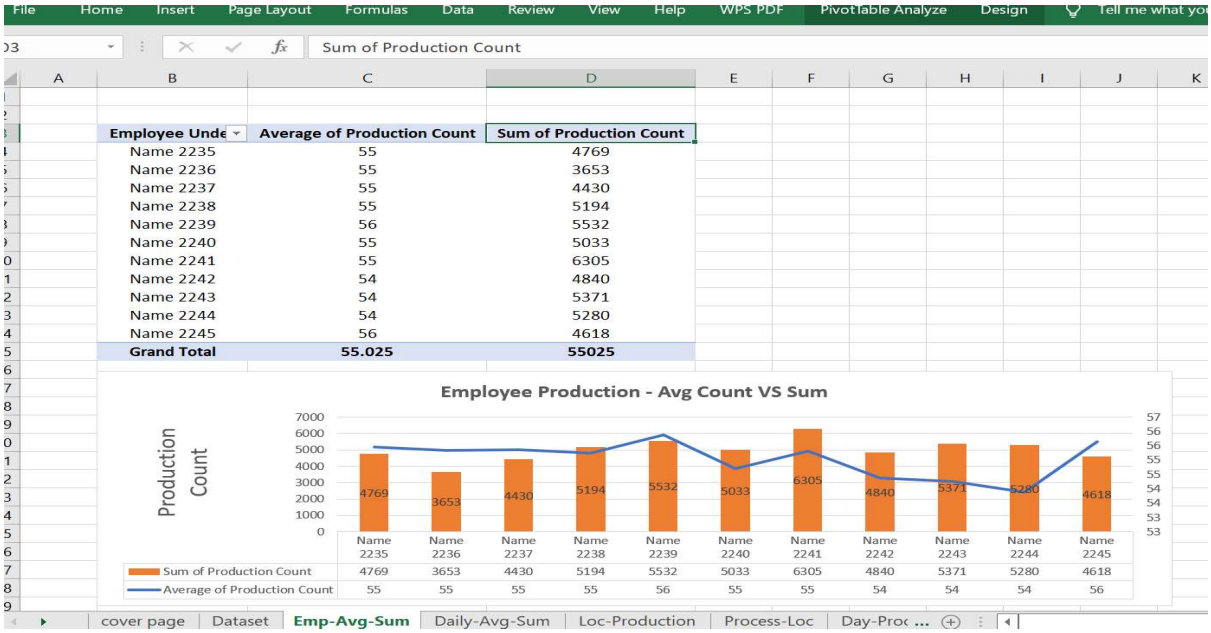
1. Employee Production - Avg Count VS Sum pivot table

Insert the pivot table with the following fields of the data set which is important to visualize through the dynamic pivot charts and pivot tables

Here, after creating the pivot table we need to create the graph by clicking on insert than choose option of recommended charts, under that there is the option of combo charts in which it will create the combination of two graphs which we opted while process. So, change the chart type as you want from the combo charts tab.

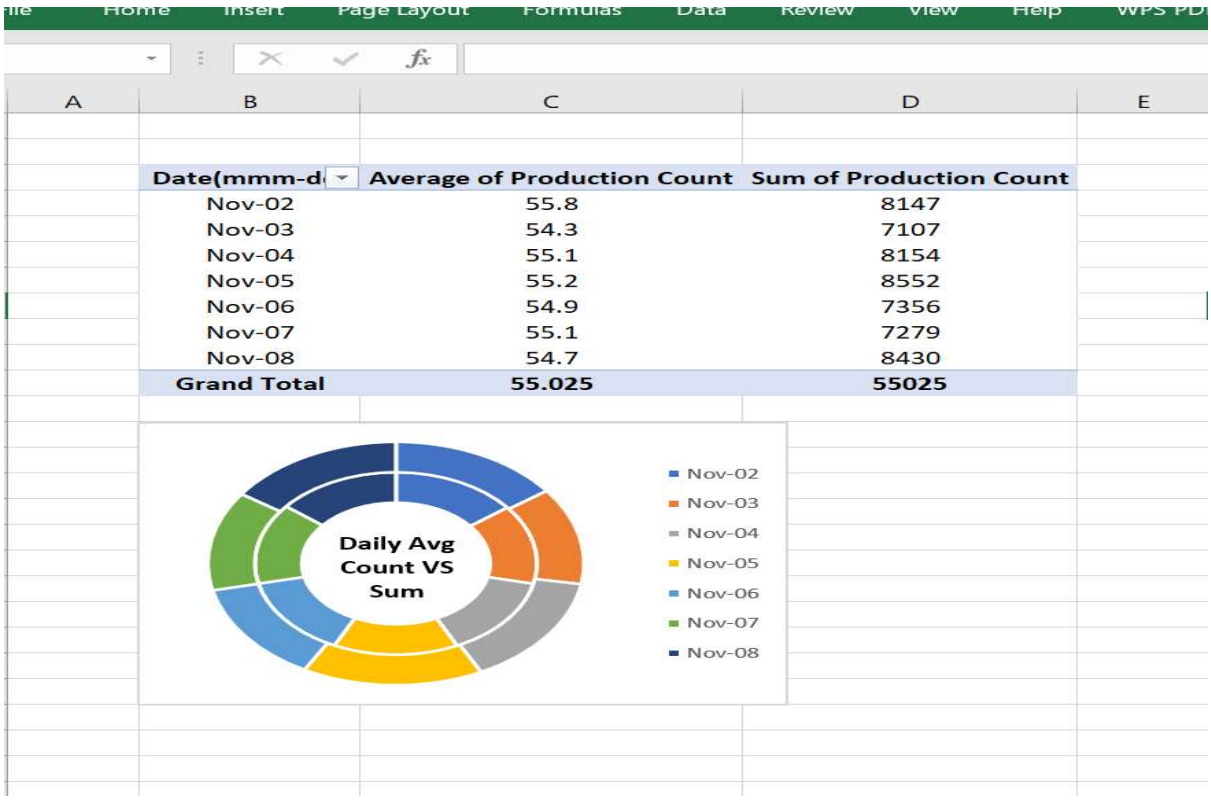
PivotCharts provide graphical representations of the data in their associated PivotTables. PivotCharts are also interactive. When you create a PivotChart, the PivotChart Filter Pane appears. You can use this filter pane to sort and filter the PivotChart's underlying data. Changes that you make to the layout and data in an associated PivotTable are immediately reflected in the layout and data in the PivotChart and vice versa.

PivotCharts display data series, categories, data markers, and axes just as standard charts do. You can also change the chart type and other options such as the titles, the legend placement, the data labels, the chart location, and so on.



In this sheet it shows the average of the production count and the sum of production count done by the particular employee. We created this table to get visualize the clear cut data of the employee for the same along with the combo chart which consists of bar graph and line graph.

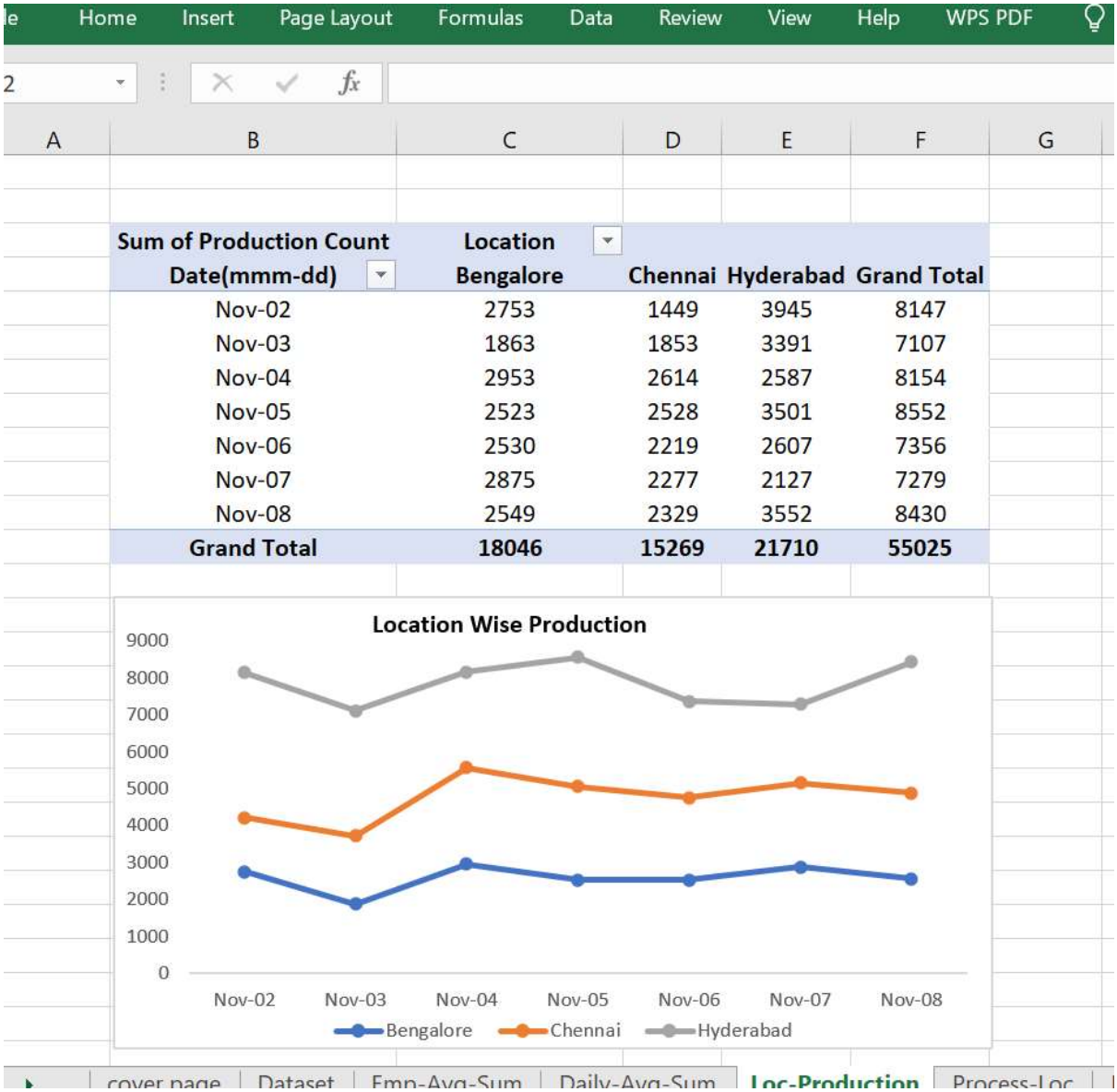
2. Employee Production Daily Average Sum :-



This sheet shows the data of Average count and the sum of the production done on the particular date by the employees. Which is having the special part of pie chart which is DOUGHNUT chart having good visualize of data with the values.

Doughnut chart shows the relationship of parts to a whole, but a doughnut chart can contain more than one data series. Each data series that you plot in a doughnut chart adds a ring to the chart. The first data series is displayed in the center of the chart.

3. Location Wise Production

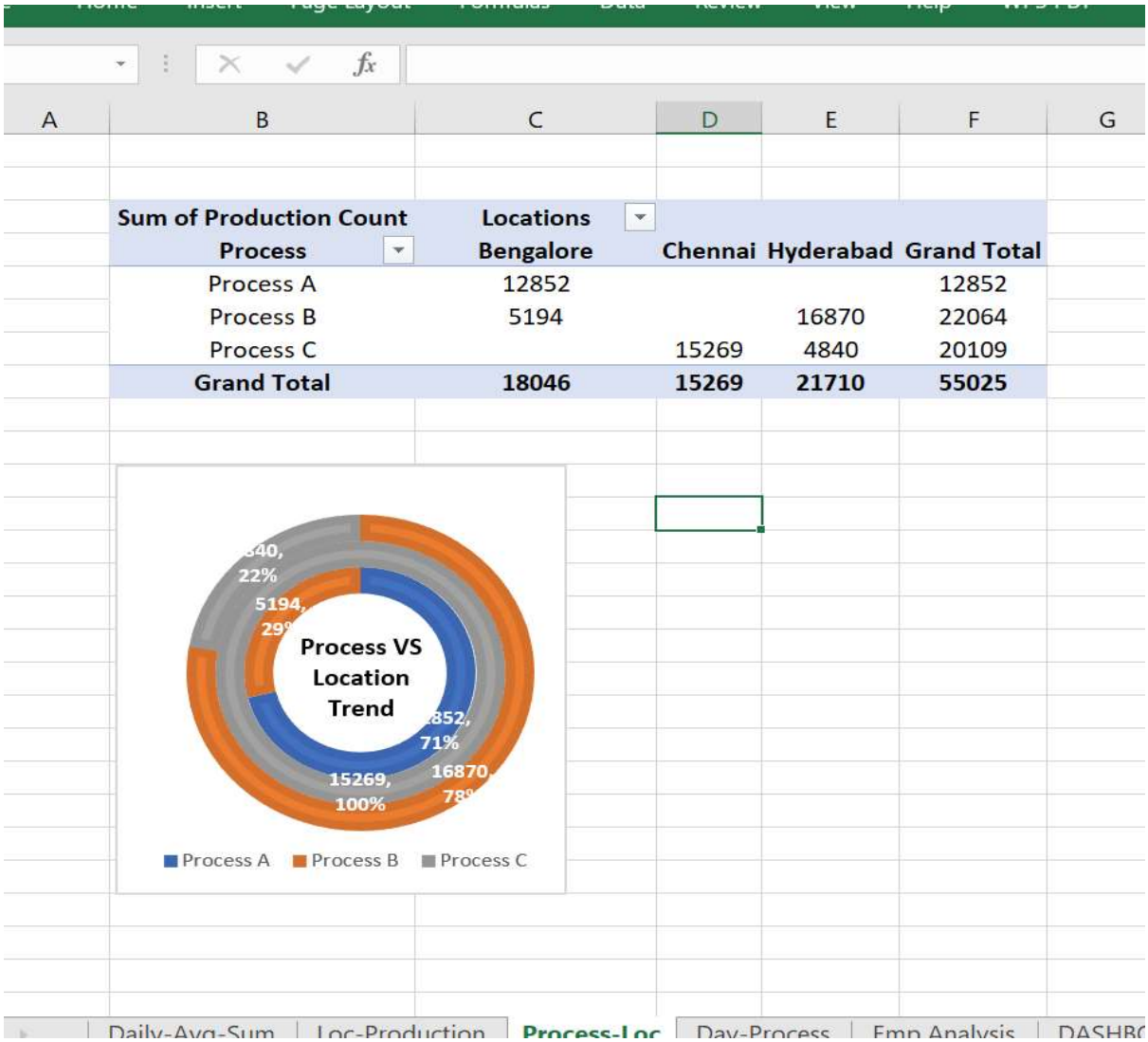


Sum of Production Count	Location			
Date(mmm-dd)	Bengalore	Chennai	Hyderabad	Grand Total
Nov-02	2753	1449	3945	8147
Nov-03	1863	1853	3391	7107
Nov-04	2953	2614	2587	8154
Nov-05	2523	2528	3501	8552
Nov-06	2530	2219	2607	7356
Nov-07	2875	2277	2127	7279
Nov-08	2549	2329	3552	8430
Grand Total	**18046**	**15269**	**21710**	**55025**

In this particular sheet of excel it shows the data which is calculated by the location taking the data list of particular date of the employees individually. And from the following pivot table it is clearly visible the data is purely sorted and it is mentioned on the vision of line graph by the dataset.

A line graph (also called a line chart or run chart) is a simple but powerful tool and is generally used to show changes over time. Line graphs can include a single line for one data set, or multiple lines to compare two or more sets of data. The essential components of a line graph are the same as other charts.

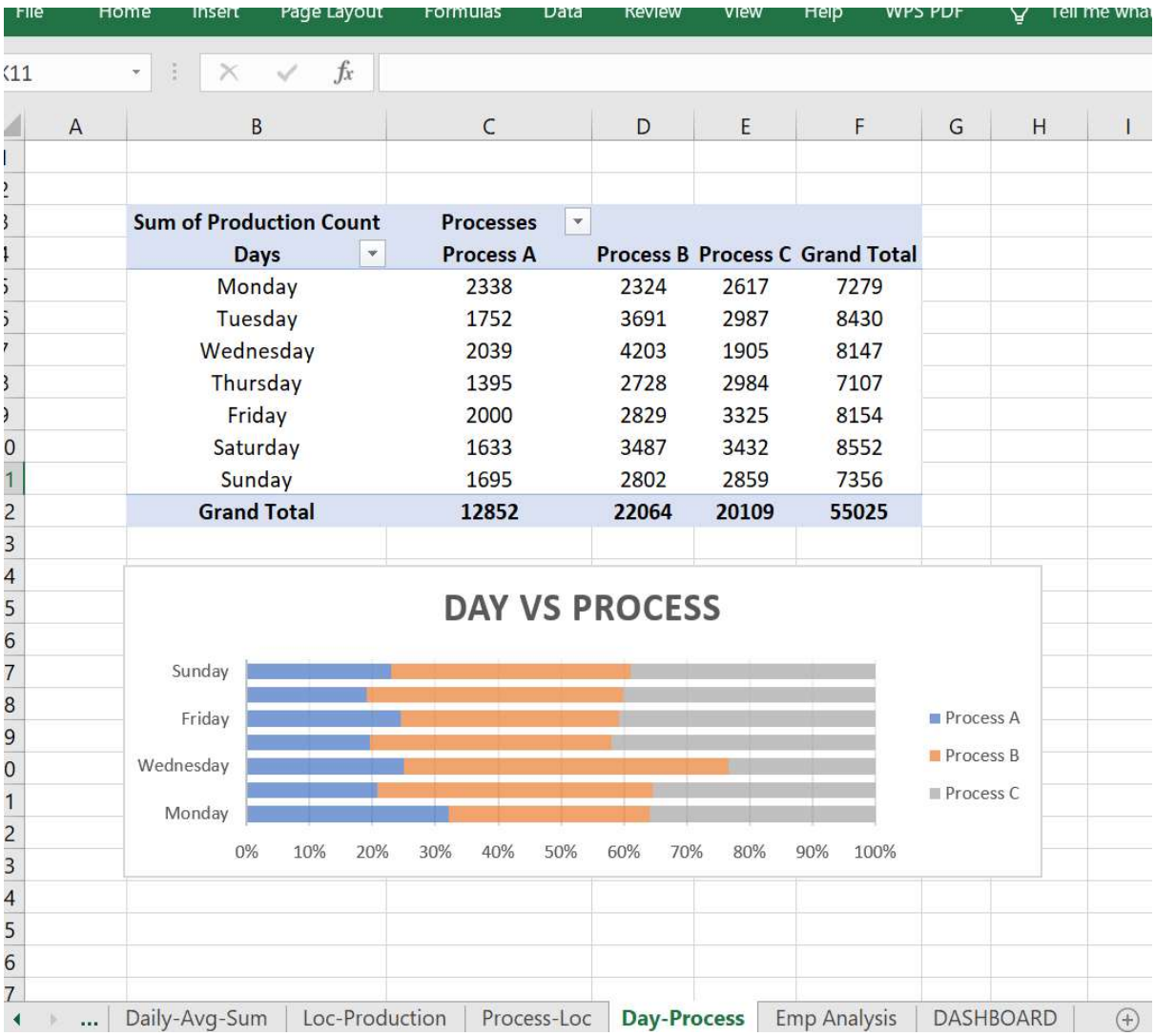
4. Process wise Location Trend



In this particular sheet of excel it shows the data which is calculated by the location taking the data list of particular process of the employees individually. And from the following pivot table it is clearly visible the data is purely sorted and it is mentioned on the vision of doughnut chart by the dataset.

Donut charts are used to show the proportions of categorical data, with the size of each piece representing the proportion of each category. A donut chart is created using a string field and a count of features, number, or rate/ratio field.

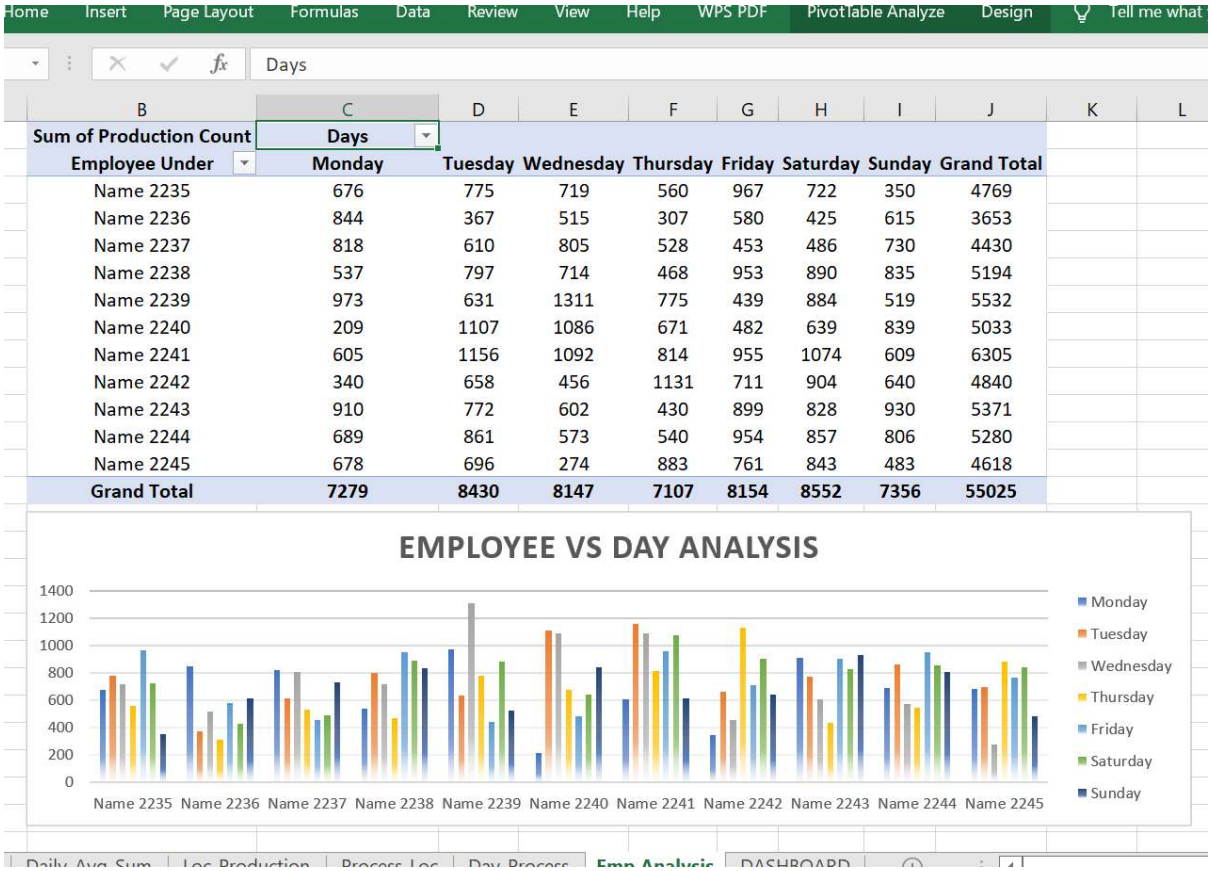
5. Day Wise Process :-



In this particular sheet of excel it shows the data which is calculated by the Process taking the data list of particular day of the employees individually. And from the following pivot table it is clearly visible the data is purely sorted and it is mentioned on the vision of 100% stacked graph chart from bar graph by the dataset.

In a 100% stacked bar chart, the bars are split into colored bar segments placed on top of each other. Each bar height is 100%, and the colored bar segments represent the components' relative contributions to the total bar. each series bar represents the percentage of the overall category to which it belongs.

6. **Day wise Employee Analysis**



In this particular sheet of excel it shows the data which is calculated by taking the Day wise data list of employees individually. And from the following pivot table it is clearly visible the data is purely sorted and it is mentioned on the vision of clustered column chart by the dataset.

Clustered Column Chart is the default column chart behavior where values from all series are displayed next to each other at the same category axis value. Clustered Bar Chart also known as Grouped bar chart, Multi-series bar chart is great for displaying and comparing multiple sets of data over the same categories

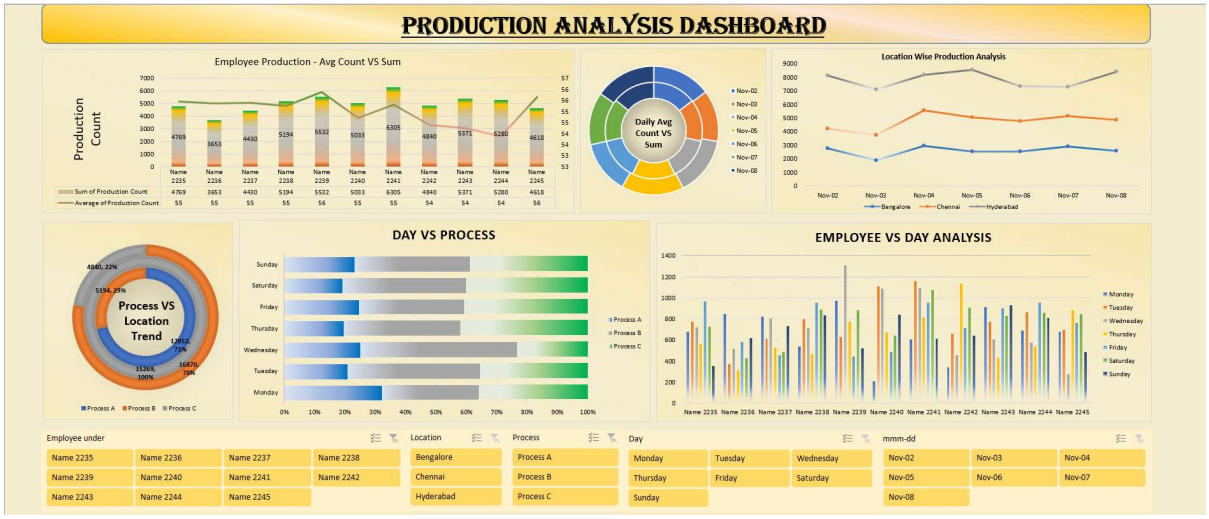
Insertion Of Slicer :-

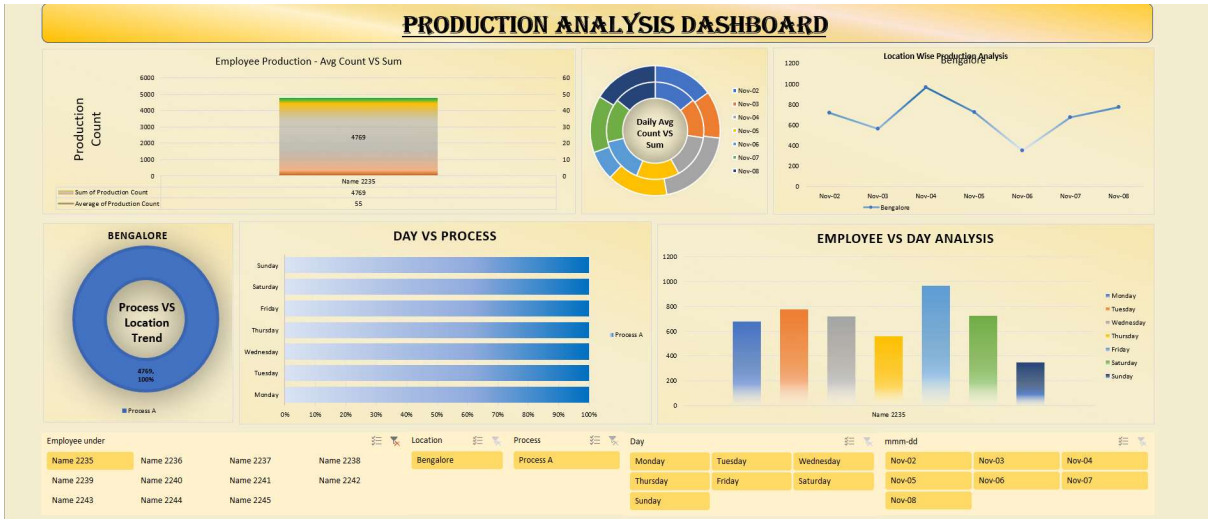
Slicers provide buttons that you can click to filter tables, or Pivot tables. In addition to quick filtering, slicers also indicate the current filtering state, which makes it easy to understand what exactly is currently displayed.

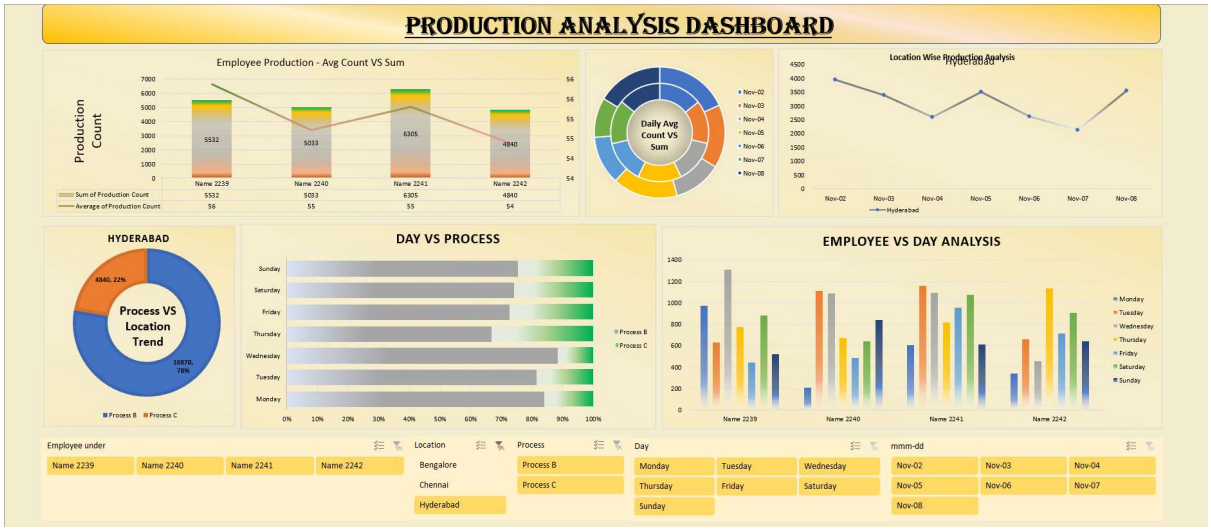
Create a slicer to filter data :-

- Click anywhere in the table or PivotTable.
- On the Home tab, go to Insert > Slicer.
- In the Insert Slicers dialog box, select the check boxes for the fields you want to display, then select OK.
- A slicer will be created for every field that you selected. Clicking any of the slicer buttons will automatically apply that filter to the linked table or PivotTable.
- You can adjust your slicer preferences in the Slicer tab (in newer versions of Excel), or the Design tab (Excel 2016 and older versions) on the ribbon.
- If you want to connect a slicer to more than one PivotTable, go to Slicer > Report Connections > check the PivotTables to include, then select OK.

7. FINAL DASHBOARD







Dashboards are a powerful way to visualize data. They have become a popular business tool over the years. Analyzing data is easier than ever with the help of an Excel Dashboard. The Excel Dashboard can be very captivating and helps users get an insight on the data just by taking a glance at it. Whether you want to customize your reports or keep track of metrics, these dashboards get the job done effortlessly.

The Excel Dashboard provides an overview of metrics and other data points in one place. In simple terms, dashboards are visual representations of data. They mostly consist of charts and graphs, thereby grabbing the user's attention. Looking at raw Excel data can be boring. Creating a Dashboard in Excel can help you interpret the data by giving an advanced level overview of the same.

Customize the Chart Accordingly

- To make your charts appealing and attractive, we can change the graph's colors, add text or give more information about it, etc.
- To do this, double click on the chart and use the different customization options available in the toolbar.
- You can also select the option right next to the chart.
- This will open a drop-down box consisting of various Chart Elements.

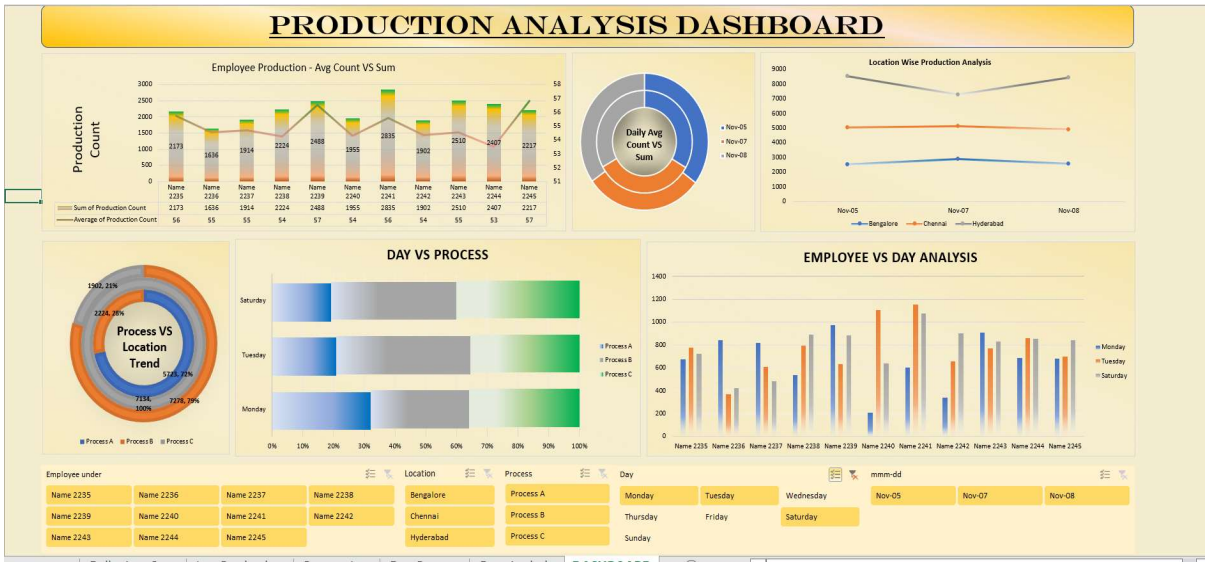
An Excel Dashboard includes numerous charts and graphs. So, go ahead and add more visual elements to your Dashboard, as per your choice.

You can use the filter option to filter out the data in your database and form appropriate charts. In the following Dashboard, we have a clustered bar chart depicting the US COVID statistics. You can also find the active cases count based on every WHO Region.

As you can see, these elements together help us track various metrics and make complex datasets easier to analyze. With this, you have reached the end of the process of building your personalized Dashboard from a dataset.

A dashboard is a visual display of all of your data. While it can be used in all kinds of different ways, its primary intention is to provide information at-a-glance, such as KPIs.

A dashboard usually sits on its own page and receives information from a linked database. In many cases it’s configurable, allowing you the ability to choose which data you want to see and whether you want to include charts or graphs to visualize the numbers.



Dashboards offer a method of consolidating company data into one unified location with secure data storage. Dashboards are designed to offer a comprehensive overview of company performance, and do so through the use of data visualization tools like charts and graphs.

Dashboards are built to provide quick insights into some of the most important business processes. Dashboards work best if the information they contain is to the point and instantly visible. The dashboard-building process begins with determining its purpose and key performance indicators involved.

The Summary dashboard gives you a broad overview of the customer service experience in your organization. It uses AI to provide insights into topics that are generating the highest volume and which topics that are emerging with the highest rate of change in volume.

BIBLIOGRAPHY

- **https://catalogimages.wiley.com/images/db/pdf/9781118490426.excerpt.pdf**
- **https://www.ibm.com/in-en/cloud/learn/etl**
- **https://www.simplilearn.com/tutorials/excel-tutorial/excel-dashboard#:~:text=an%20Excel%20Dashboard.-,What%20Is%20an%20Excel%20Dashboard%3F,thereby%20grabbing%20the%20user's%20attention.**