

# POWER BI (WEEK-1)

## BI TOOLS:

**The main aim of the project is to create a dashboard on Indian agriculture.**

Power BI is the product of Microsoft.

In power bi we handle the following operations. They are ETL:

ETL stands for E: Extract – pull the data from data source: excel, csv, text, database file

T: Transform – data processing, data cleaning

L: Load – for analysis

Analysis: keep facts, insights via dashboards.

Load: when the data is cleaned

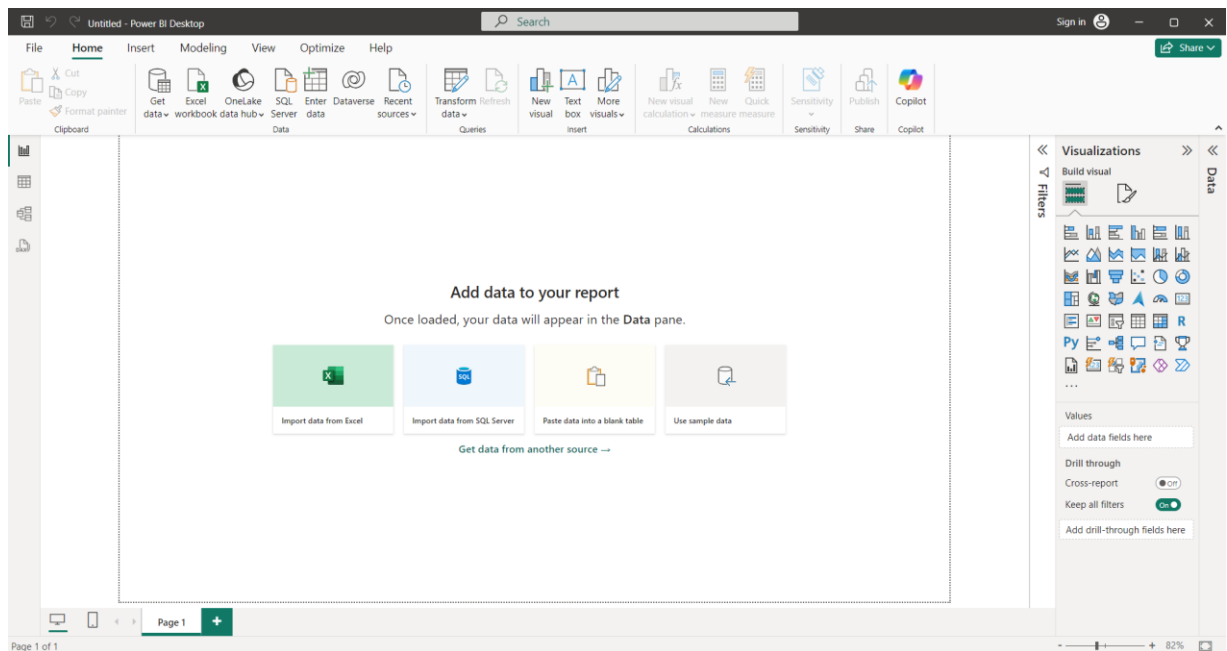
Transform: when you want to process the data.

There are 3 types of views. They are:

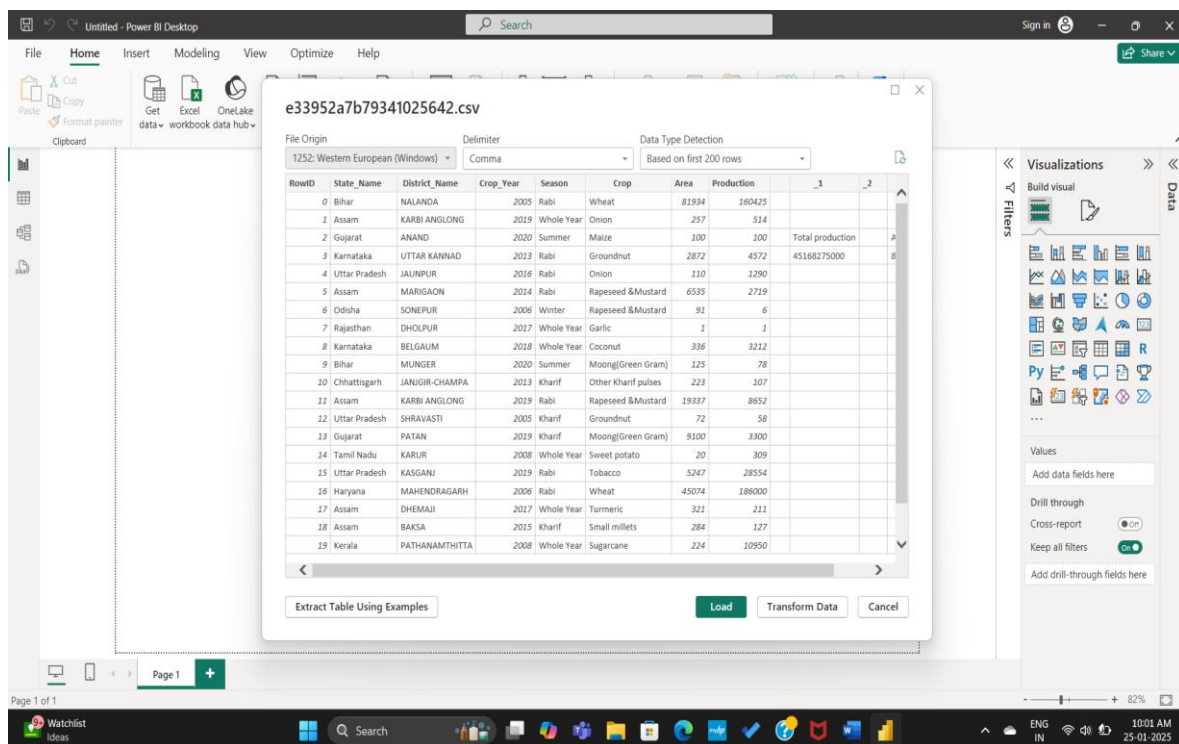
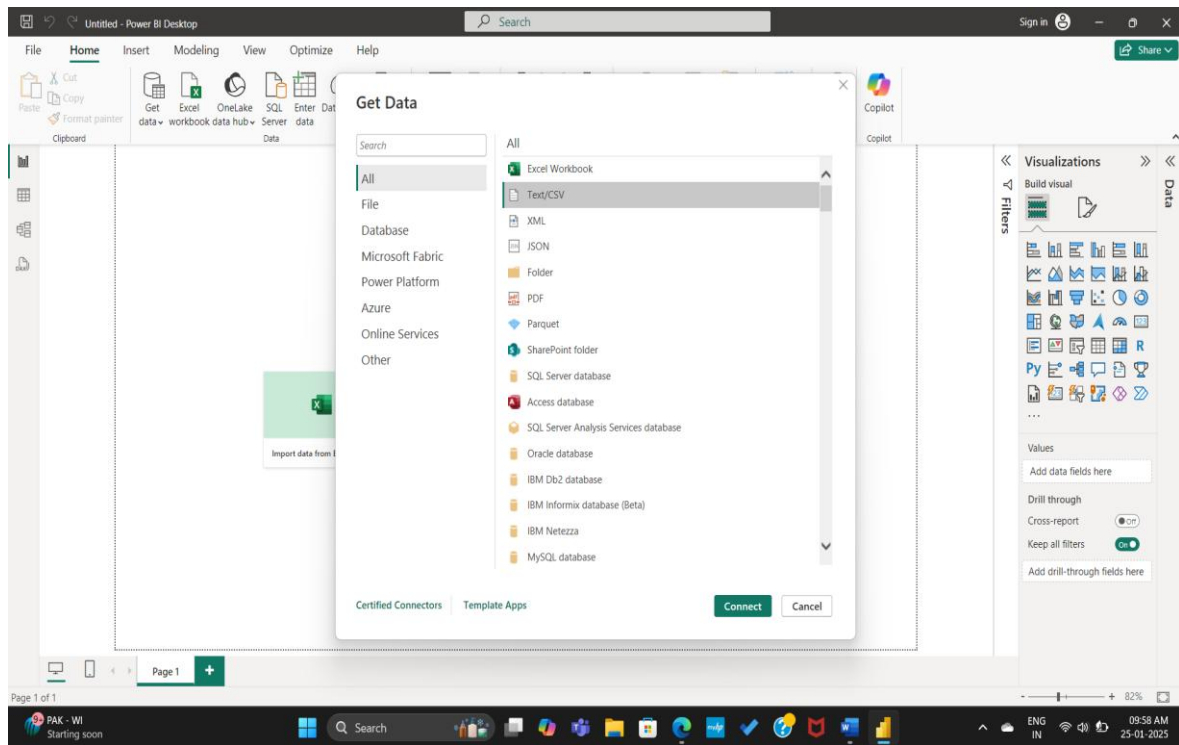
1. Report view – for visualization
2. Table view – see the data
3. Model view – so that we can create relationship among data

Steps:

1. Download and install Power Bi desktop.
2. Click on the blank report, the center labelled items are called as canvas, on the right side we can find canvas, multiple chart filter options.



3. To load the data, click on the get data option from above and select which type of data source you want, I selected text/csv type data source.



4. After selecting the text/csv data source, click on load button.
5. After the data get loaded, click on the view option at the left side in the power bi desktop. There are 3 types of view, Click on the table view option, and it is displayed like this,

Untitled - Power BI Desktop

File Home Help Table tools

Name e33952a7b79341025642

Structure Relationships Calculations

Table: e33952a7b79341025642 (73,827 rows)

RowID	State_Name	District_Name	Crop_Year	Season	Crop	Area	Production	Column1	.1	.2	.3
48	Uttar Pradesh	PILBHIT	2009	Kharif	Moong(Green Gram)	1	0.1				
657	Uttar Pradesh	AMBEDKAR NAGAR	2012	Kharif	Small millets	1	0				
959	Uttar Pradesh	MUZAFFARNAGAR	2012	Kharif	Sannhamp	1	0				
1469	Uttar Pradesh	VARANASI	2018	Kharif	Groundnut	1	1				
1477	Uttar Pradesh	GORAKHPUR	2020	Kharif	Dry chillies	1	1				
1864	Uttar Pradesh	BALRAMPUR	2010	Kharif	Moong(Green Gram)	1	0				
2081	Uttar Pradesh	AGRA	2010	Kharif	Sunflower	1	1				
3989	Uttar Pradesh	AURAIYA	2018	Kharif	Sannhamp	1	0				
4944	Uttar Pradesh	ETAH	2012	Kharif	Soyabean	1	1				
4963	Uttar Pradesh	SIDDHARTH NAGAR	2006	Kharif	Moong(Green Gram)	1	0				
6377	Uttar Pradesh	HATHRAS	2012	Kharif	Groundnut	1	1				
6498	Uttar Pradesh	MUZAFFARNAGAR	2022	Kharif	Sannhamp	1	1				
7358	Uttar Pradesh	MATHURA	2010	Kharif	Small millets	1	1				
8253	Uttar Pradesh	KAUSHAMBI	2011	Kharif	Sunflower	1	2				
8499	Uttar Pradesh	HAMIRPUR	2014	Kharif	Cotton(int)	1	0				
8508	Uttar Pradesh	KANNAUJ	2009	Kharif	Moth	1	0.1				
9248	Uttar Pradesh	MAHARAJGANJ	2016	Kharif	Small millets	1	1				
9773	Uttar Pradesh	BALRAMPUR	2008	Kharif	Moong(Green Gram)	1	1				
9775	Uttar Pradesh	CHANDAUJI	2014	Kharif	Small millets	1	1				
11191	Uttar Pradesh	GONDA	2015	Kharif	Sannhamp	1	0				
11891	Uttar Pradesh	CHANDAUJI	2012	Kharif	Small millets	1	0				
12339	Uttar Pradesh	BAREILLY	2022	Kharif	Moong(Green Gram)	1	0				
12883	Uttar Pradesh	PRATAPGARH	2008	Kharif	Groundnut	1	1				
13936	Uttar Pradesh	JALAUN	2010	Kharif	Sunflower	1	1				
15748	Uttar Pradesh	MEERUT	2008	Kharif	Groundnut	1	1				
17448	Uttar Pradesh	SAHARANPUR	2019	Kharif	Arhar/Tur	1	1				
18278	Uttar Pradesh	AGRA	2011	Kharif	Groundnut	1	1				
18830	Uttar Pradesh	SIDHARTH NAGAR	2006	Kharif	Groundnut	1	1				

6. Click on the transform data from the above, it appears like this

Untitled - Power BI Desktop

File Home Help Table tools

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Clipboard Paste

Queries [1]

Table.TransformColumnTypes(#Promoted Headers,{"RowID", Int64.Type}, {"State\_Name", type text},

RowID	State_Name	District_Name	Crop_Year	Season	Crop
1	0 Bihar	NALANDA	2005	Rabi	Wheat
2	1 Assam	KARBI ANGLONG	2019	Whole Year	Onion
3	2 Gujarat	ANAND	2020	Summer	Maize
4	3 Karnataka	UTTAR KANNAD	2013	Rabi	Groundnut
5	4 Uttar Pradesh	JALUNPUR	2016	Rabi	Onion
6	5 Assam	MARIGAOIN	2014	Rabi	Rapeseed & Mustard
7	6 Odisha	SONEPUR	2006	Winter	Rapeseed & Mustard
8	7 Rajasthan	DHOLPUR	2017	Whole Year	Garlic
9	8 Karnataka	BELGAUM	2018	Whole Year	Coconut
10	9 Bihar	MUNGER	2020	Summer	Moong(Green Gram)
11	10 Chhattisgarh	JANAGIR-CHAMPA	2013	Kharif	Other Kharif Cereals
12	11 Assam	KARBI ANGLONG	2019	Rabi	Rapeseed & Mustard
13	12 Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut
14	13 Gujarat	PATAN	2019	Kharif	Moong(Green Gram)
15	14 Tamil Nadu	KARUR	2008	Whole Year	Sweet potato
16	15 Uttar Pradesh	KASGANJ	2019	Rabi	Tobacco
17	16 Haryana	MAHENDRAGARH	2006	Rabi	Wheat
18	17 Assam	DHEMAJI	2017	Whole Year	Turneric
19	18 Assam	BAKSA	2013	Kharif	Small millets
20	19 Karnataka	RAICHUR	2018	Whole Year	Groundnut

12 COLUMNS: 999+ ROWS Column profiling based on top 1000 rows

Table: e33952a7b79341025642 (73,827 rows)

Query Settings

PROPERTIES

Name e33952a7b79341025642

APPLIED STEPS

Source

Promoted Headers

Changed Type

7. To remove the RowID select the row and right click on the row and select the remove option.

8. After removing the rowed it appears like this.

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Recent Enter Data Data Sources Parameters Refresh Preview Manage Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Test Analytics Vision Azure Machine Learning

Table.RemoveColumns(\*Changed Type,{"RowID"})

State_Name	District_Name	Crop_Year	Season	Crop	Area	Production		
1	Bihar	NALANDA	2005	Rabi	Wheat	81934	160425	
2	Assam	KARBI ANGLONG	2019	Whole Year	Onion	257	514	
3	Gujarat	ANAND	2020	Summer	Maize	100	100	Total production
4	Karnataka	UTTAR KANNAD	2013	Rabi	Groundnut	2872	4572	45168275000
5	Uttar Pradesh	JAINPUR	2016	Rabi	Onion	110	1290	
6	Assam	MARIGAON	2014	Rabi	Rapeseed & Mustard	6535	2719	
7	Odisha	SONEPUR	2006	Winter	Rapeseed & Mustard	91	6	
8	Rajasthan	DHOLPUR	2017	Whole Year	Garlic	1	1	
9	Karnataka	BELGAUM	2018	Whole Year	Coconut	336	3212	
10	Bihar	MUNGER	2020	Summer	Moong(Green Gram)	125	78	
11	Chhattisgarh	JANIGIR-CHAMPA	2013	Kharif	Other Kharif pulses	223	107	
12	Assam	KARBI ANGLONG	2019	Rabi	Rapeseed & Mustard	19337	8652	
13	Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut	72	58	
14	Gujarat	PATAN	2019	Kharif	Moong(Green Gram)	9100	3300	
15	Tamil Nadu	KARUR	2008	Whole Year	Sweet potato	20	309	
16	Uttar Pradesh	KASGANJ	2019	Rabi	Tobacco	5247	28554	
17	Haryana	MAHENDRAGARH	2006	Rabi	Wheat	45074	186000	
18	Assam	DHEMAJI	2017	Whole Year	Turmeric	321	211	
19	Assam	BAKSA	2015	Kharif	Small millets	284	127	
20	Kerala	PATHANAMTHITTA	2008	Whole Year	Sugarcane	224	10950	
21	Chhattisgarh	JANIGIR-CHAMPA	2018	Rabi	Linseed	2497	658	
22	Chhattisgarh	DHAMTARI	2020	Whole Year	Banana	46	1520	
23	Karnataka	BELLARY	2016	Rabi	Maize	3418	7487	
24	Assam	TINSUKIA	2020	Autumn	Rice	5806	7964	
25	Uttar Pradesh	RAE BARELI	2016	Kharif	Maize	11	13	
26	Karnataka	KOLAR	2020	Rabi	Cowpea(Lobia)	14	5	
27	Madhya Pradesh	NEEMUCH	2019	Whole Year	Sesamum	780	456	
28								

11 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 10:22 AM

9. To check for the null values, click on the view menu and select column quality the a box appears under each row like this

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Query Settings Layout Data Preview Columns Parameters Advanced Query Dependencies

Table.RemoveColumns(\*Changed Type,{"RowID", "", "-1", "-2", "-3"})

State_Name	District_Name	Crop_Year	Season	Crop	Area	Production		
1	Bihar	NALANDA	2005	Rabi	Wheat	81934		
2	Assam	KARBI ANGLONG	2019	Whole Year	Onion	257		
3	Gujarat	ANAND	2020	Summer	Maize	100		
4	Karnataka	UTTAR KANNAD	2013	Rabi	Groundnut	2872		
5	Uttar Pradesh	JAINPUR	2016	Rabi	Onion	110		
6	Assam	MARIGAON	2014	Rabi	Rapeseed & Mustard	6535		
7	Odisha	SONEPUR	2006	Winter	Rapeseed & Mustard	91		
8	Rajasthan	DHOLPUR	2017	Whole Year	Garlic	1		
9	Karnataka	BELGAUM	2018	Whole Year	Coconut	336		
10	Bihar	MUNGER	2020	Summer	Moong(Green Gram)	125		
11	Chhattisgarh	JANIGIR-CHAMPA	2013	Kharif	Other Kharif pulses	223		
12	Assam	KARBI ANGLONG	2019	Rabi	Rapeseed & Mustard	19337		
13	Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut	72		
14	Gujarat	PATAN	2019	Kharif	Moong(Green Gram)	9100		
15	Tamil Nadu	KARUR	2008	Whole Year	Sweet potato	20		
16	Uttar Pradesh	KASGANJ	2019	Rabi	Tobacco	5247		
17	Haryana	MAHENDRAGARH	2006	Rabi	Wheat	45074		
18	Assam	DHEMAJI	2017	Whole Year	Turmeric	321		
19	Assam	BAKSA	2015	Kharif	Small millets	284		
20	Kerala	PATHANAMTHITTA	2008	Whole Year	Sugarcane	224		
21	Chhattisgarh	JANIGIR-CHAMPA	2018	Rabi	Linseed	2497		
22	Chhattisgarh	DHAMTARI	2020	Whole Year	Banana	46		
23	Karnataka	BELLARY	2016	Rabi	Maize	3418		
24	Assam	TINSUKIA	2020	Autumn	Rice	5806		
25								

7 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 10:35 AM

Query Settings

PROPERTIES

Name: e33952a7b79341025642

APPLIED STEPS

Source

Promoted Headers

Changed Type

Removed Columns