



Microsoft Power BI Certification Training (DA-100)

Module 1 – Introduction to Power BI



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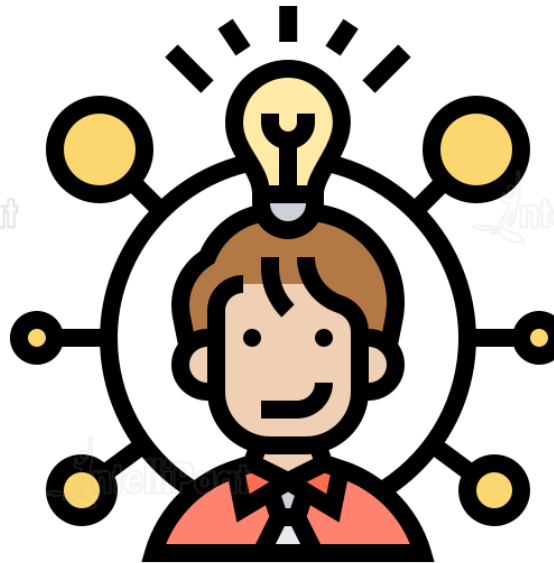


What is Business Intelligence?

What is Business Intelligence?



Business Intelligence (BI) is a set of processes, architectures, and technologies that help in the collection, integration, analysis, and presentation of business information. The purpose of Business Intelligence is to enable stakeholders make better business decisions

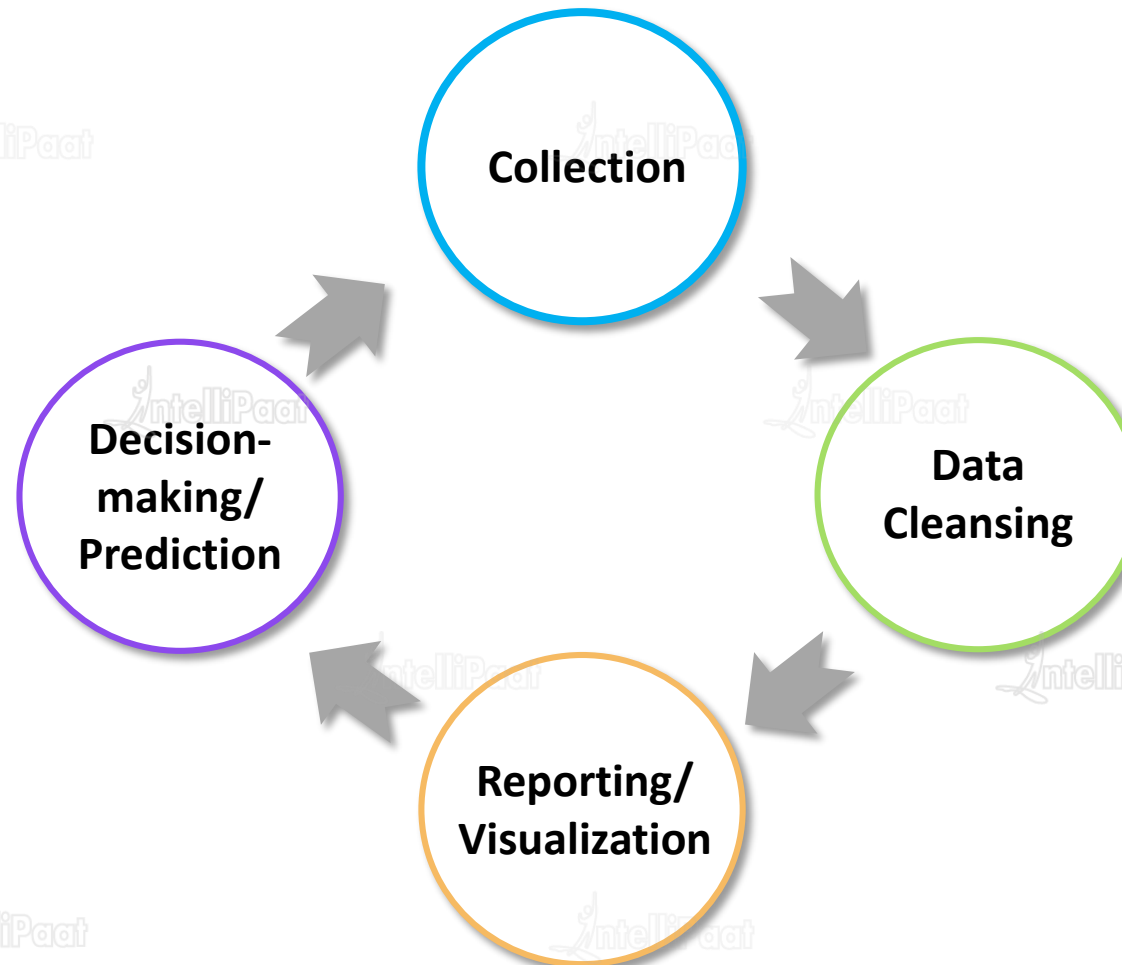




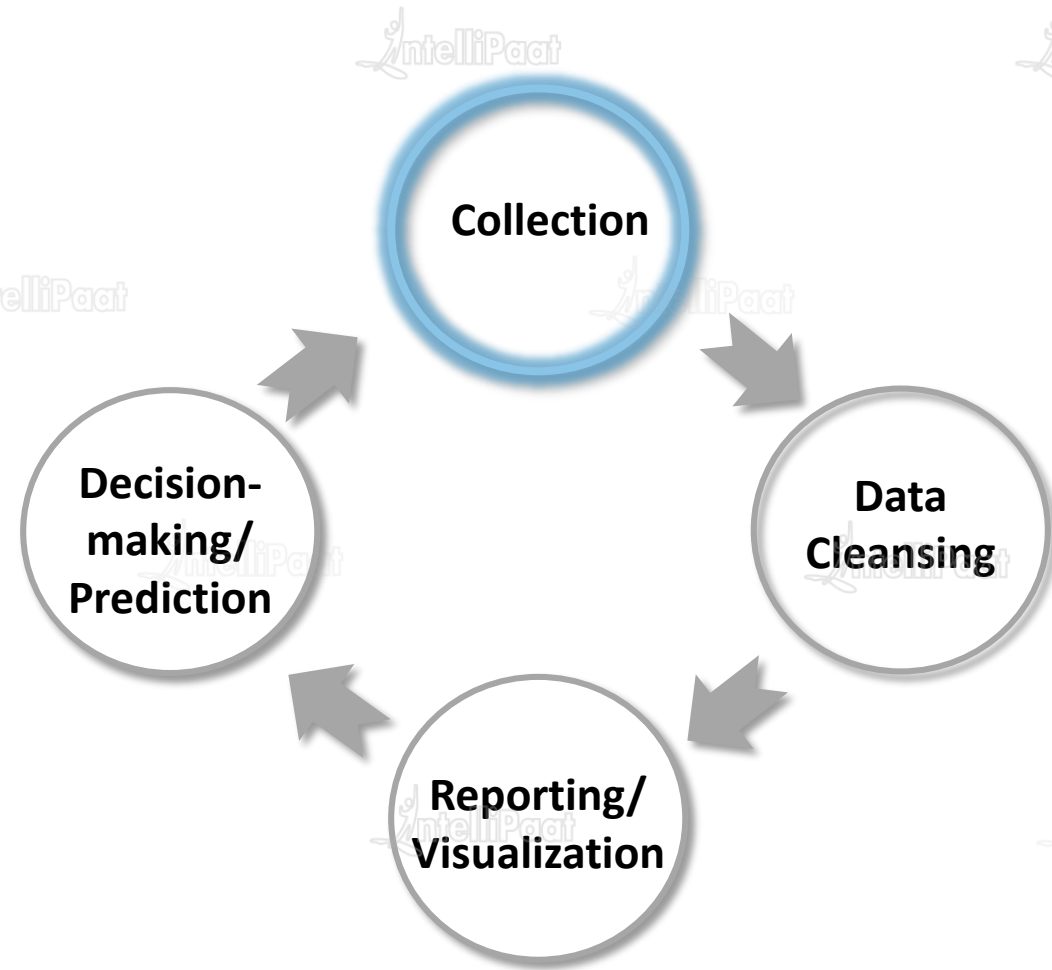
Stages of Business Intelligence

Stages of Business Intelligence

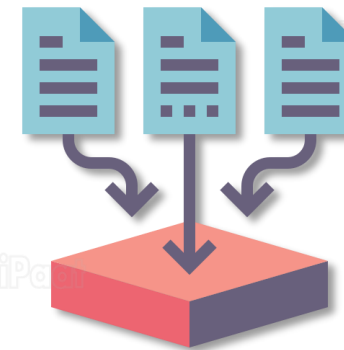
Business Intelligence is generally divided into four stages:



Stages of Business Intelligence

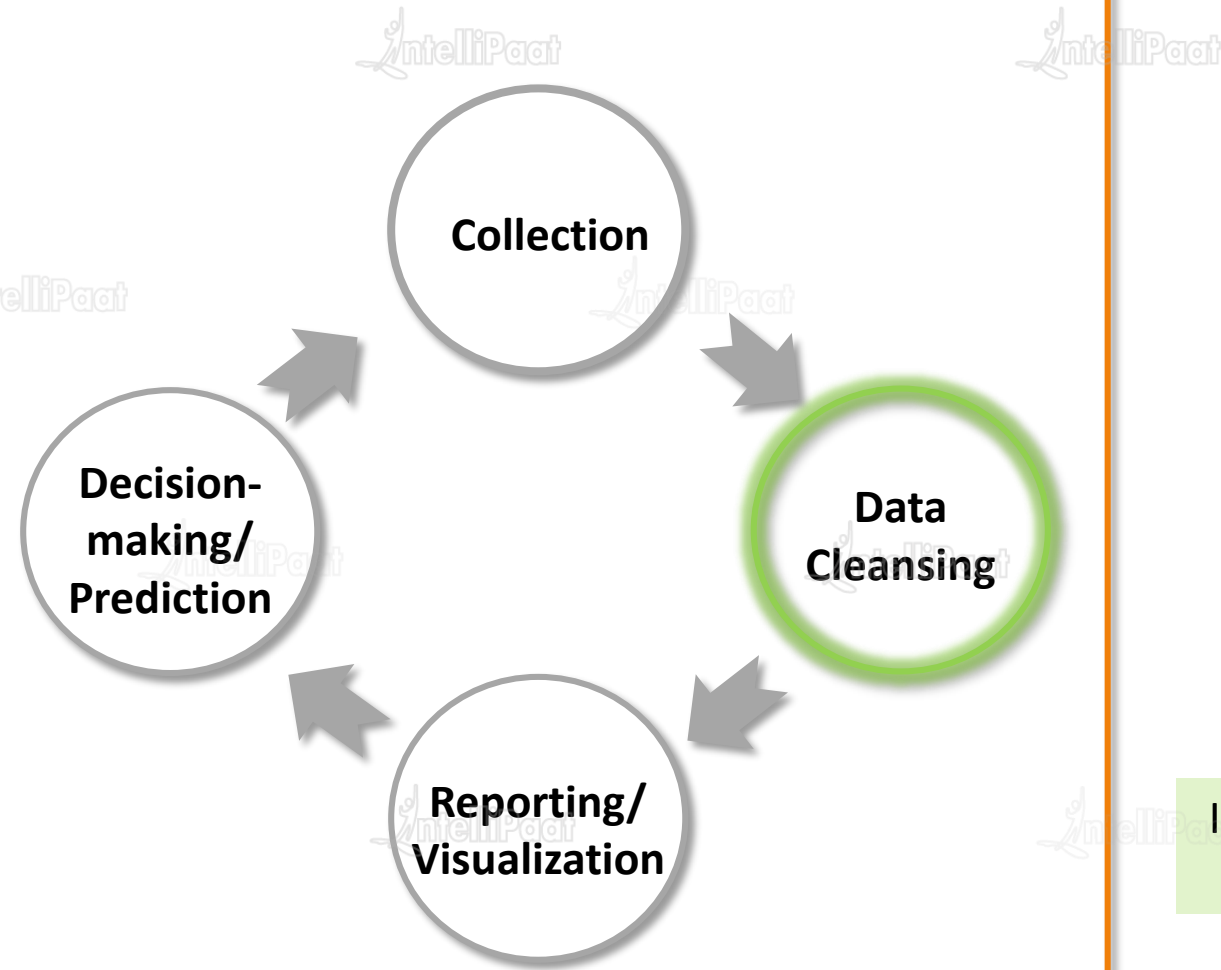


Collection



Data is collected either from the existing sources, such as ERP data, company database, etc., or externally through polls, forms, and others

Stages of Business Intelligence

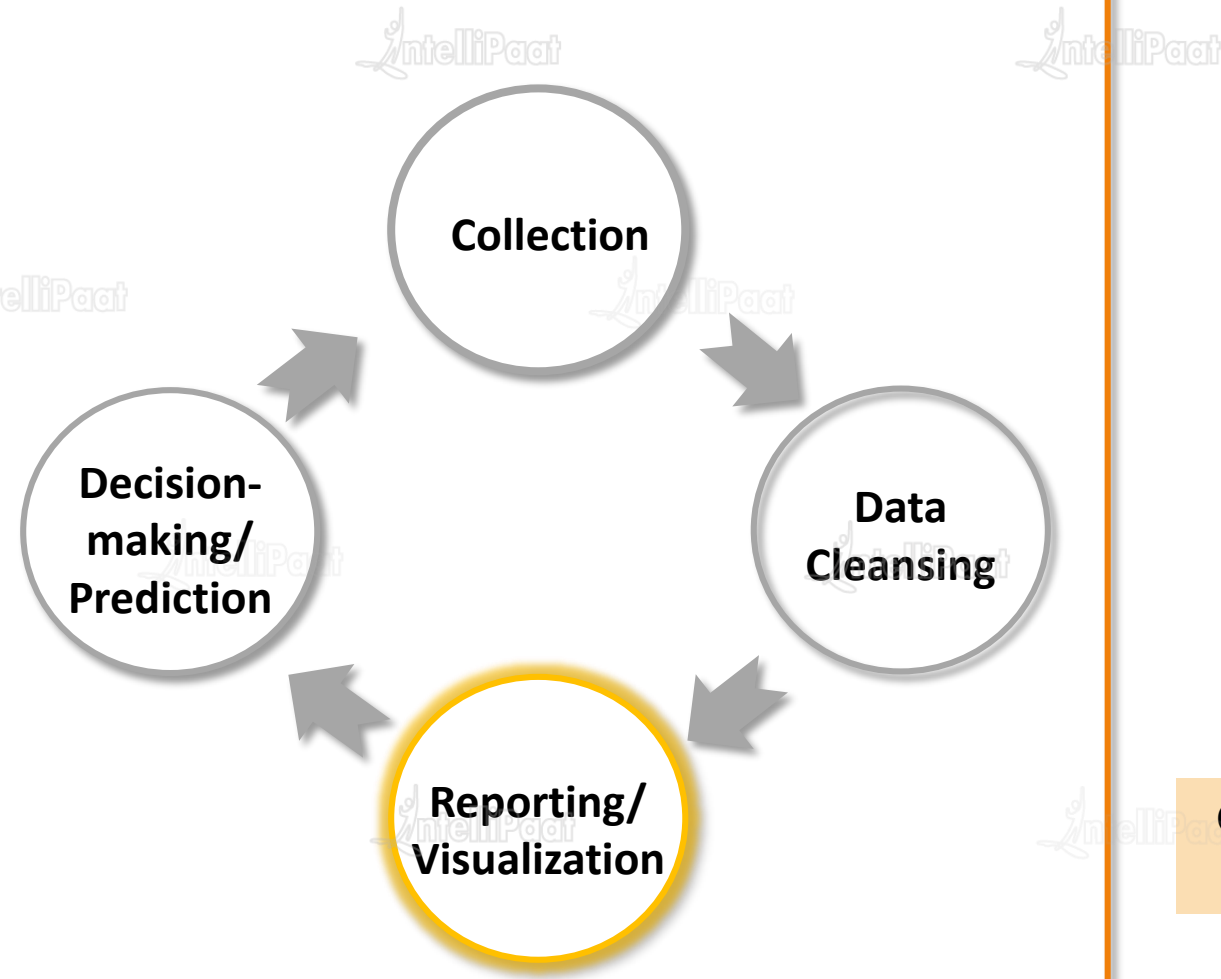


Data Cleansing

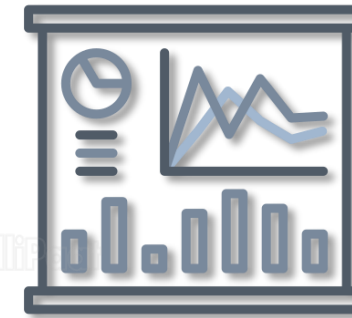


Identifying irrelevant parts of the data and modifying, deleting, or replacing the coarse data

Stages of Business Intelligence

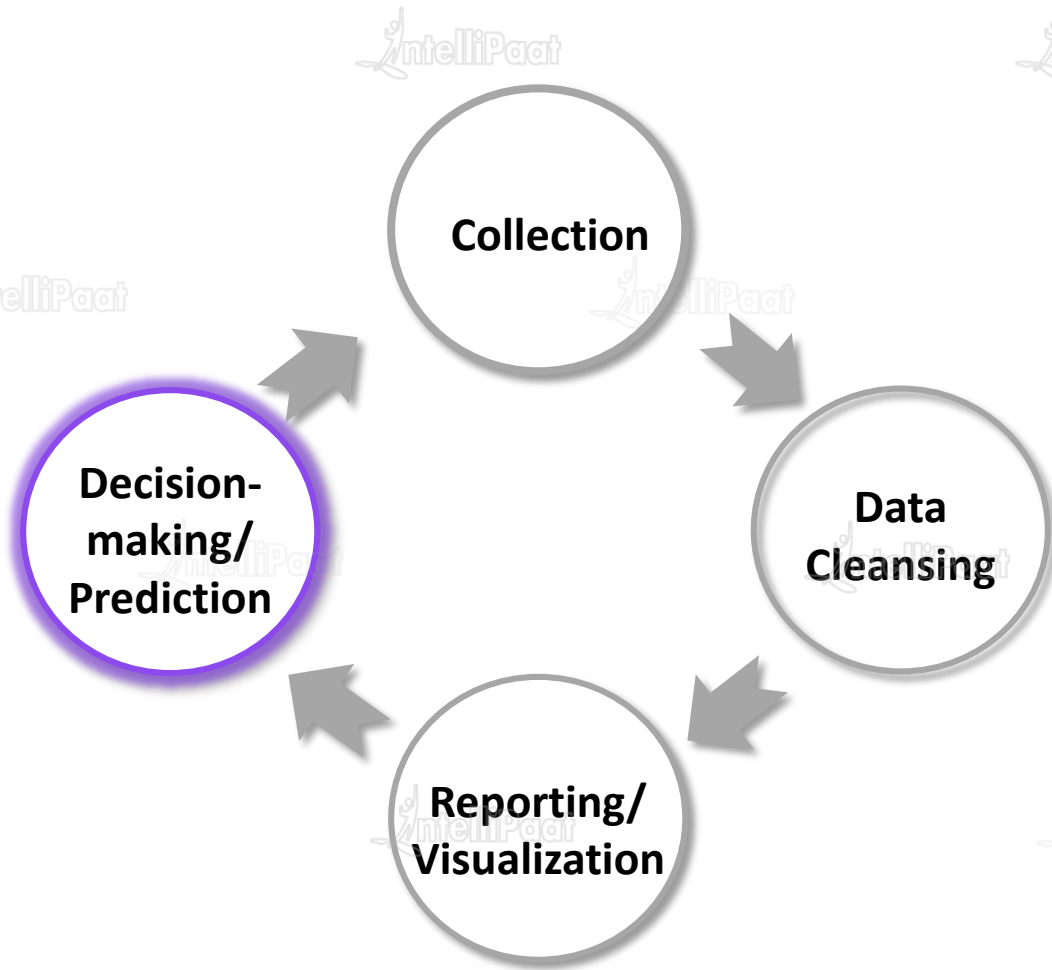


Reporting/Visualization



Graphical representation of data using visual elements such as charts, graphs, tables, etc.

Stages of Business Intelligence



Decision-making/Prediction



The last stage is making business decisions and monitoring and predicting business trends based on the report developed



BI Use Cases

BI is everywhere!



Performance
Management

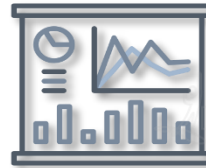


Financial Analysis



Education

Data Semantics



Data Semantics makes use of BI for sales reporting and sales prediction dashboards

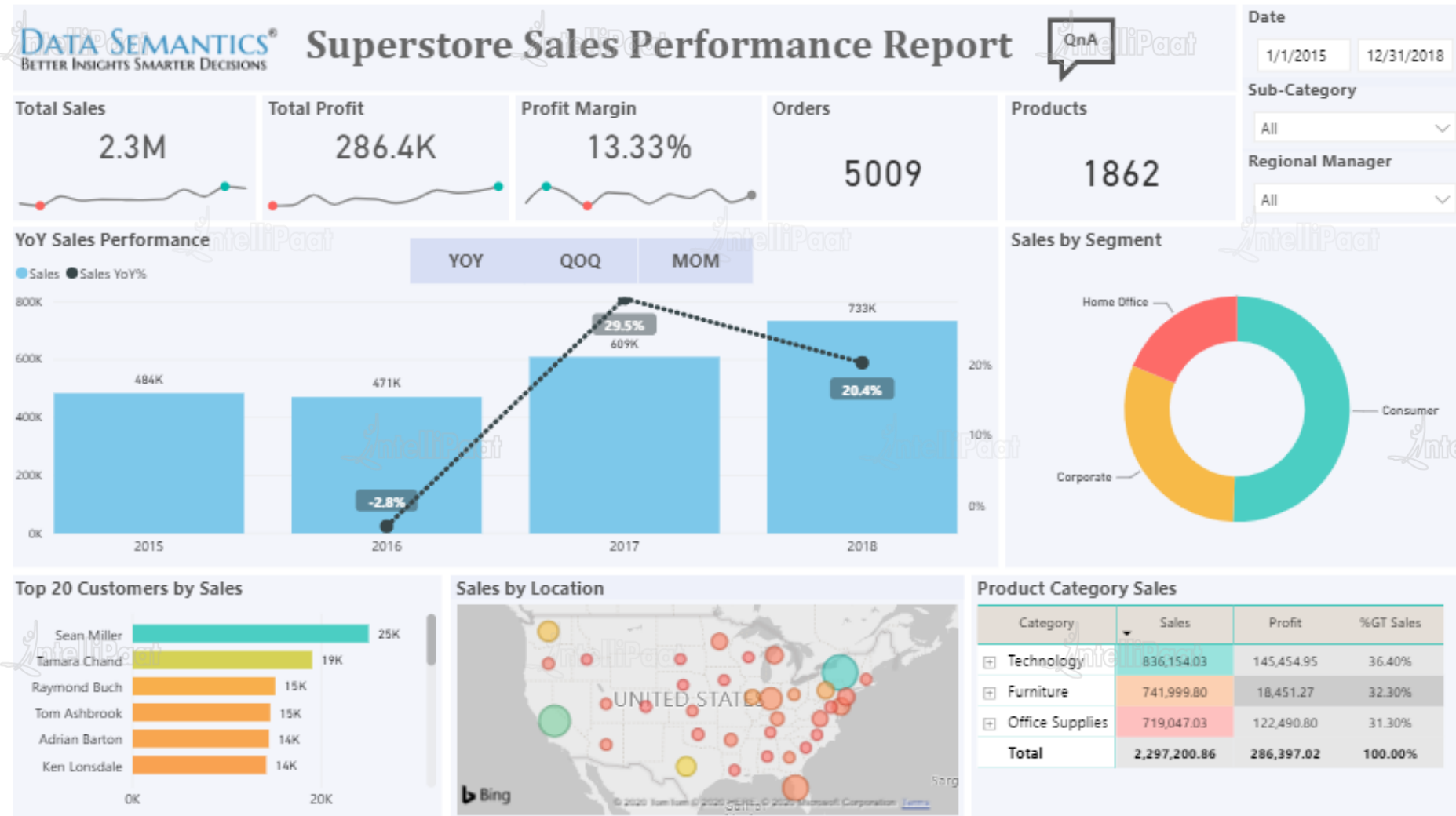


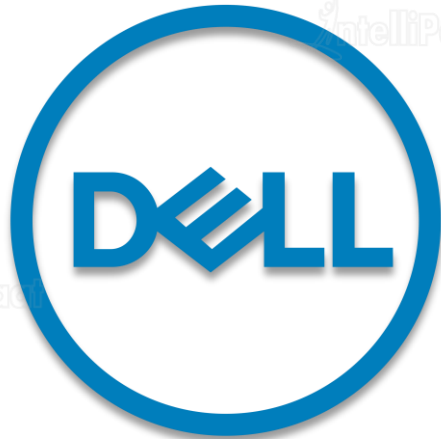
Business Intelligence allows the company to make decisions at the right time



BI also allows the company to discover why its sales are dropping in a particular domain and helps it understand where it needs to perform better

BI Use Cases





Dell uses Business Intelligence in its education data management



It uses various dashboards and KPIs to improve student performance, monitor the efficiency of programs, and help identify the students who need assistance

BI Use Cases

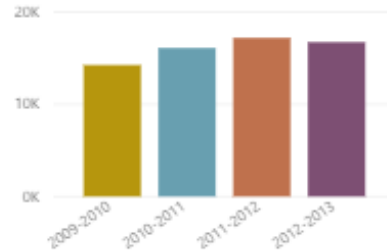


Dell Education Data Management

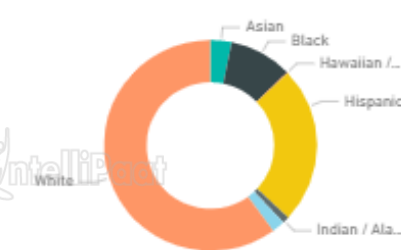
Longview School District K-12 | Enrollment Dashboard



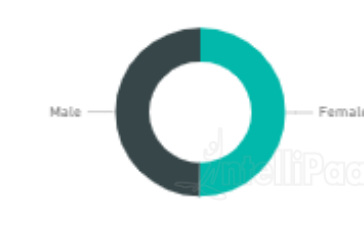
Total Enrollment



Race / Demographics



Gender



Special Populations



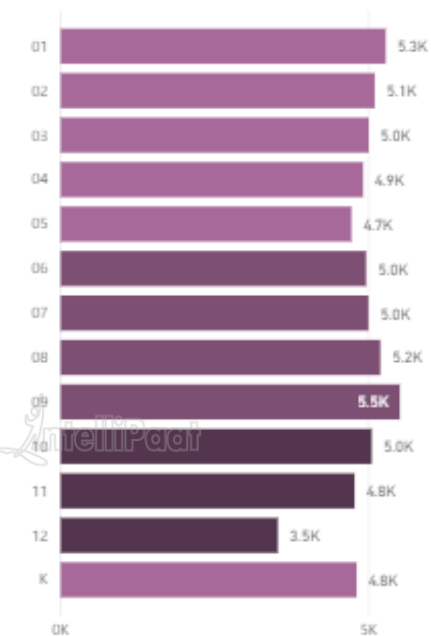
Visual is not supported and will be deprecated soon

Race	EnrollmentCount
White	37,397
Hispanic	14,994
Black	5,988
Asian	2,000
Multi Race	1,245
Indian / Alaskan	640
Hawaiian / Pacific	68
Total	62,332

School Type



Grade Enrollment



The EDM District Enrollment Dashboard displays registration totals by a variety of categories. Most can be used as interactive filters for insight. Key Performance Indicators (KPIs) like "At Risk" direct attention based upon predefined goals.

For more information: bigdata@dell.com



Various BI Tools

These are the most commonly used BI tools





Why Power BI?



Why Power BI?



01

Affordability

02

Natural Language Query

03

Real-time Streaming

04

Custom Visualization

Why Power BI?



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Custom Visualization

Affordability

The Power BI Desktop version is available for free, which can be used for report building on a computer. If we want to use more Power BI services, then we can buy Power BI Service at an affordable cost



Why Power BI?



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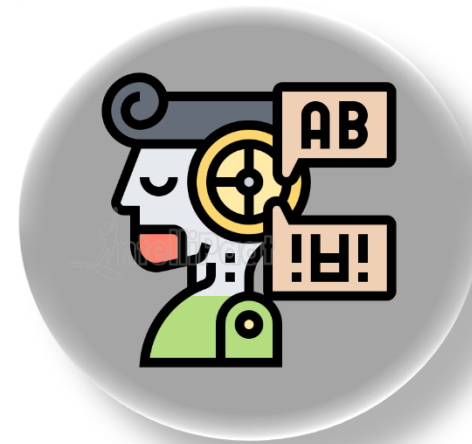
Real-time Streaming

04

Custom Visualization

Natural Language Query

This feature allows users to type questions and get answers in a user-specific format. This is mainly useful in getting quick insights from data



Why Power BI?



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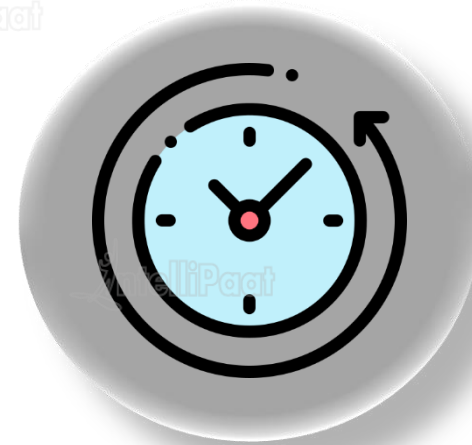
Real-time Streaming

04

Custom Visualization

Real-time Streaming

This feature allows users to stream real-time data and update dashboards in real time, which helps them make timely business decisions



Why Power BI?



01 Affordability

02 Natural Language Query

03 Real-time Streaming

04 Custom Visualization

Custom Visualization

Power BI has visualizations that are made by developers for specific use cases. These custom visualizations are available in Power BI Marketplace



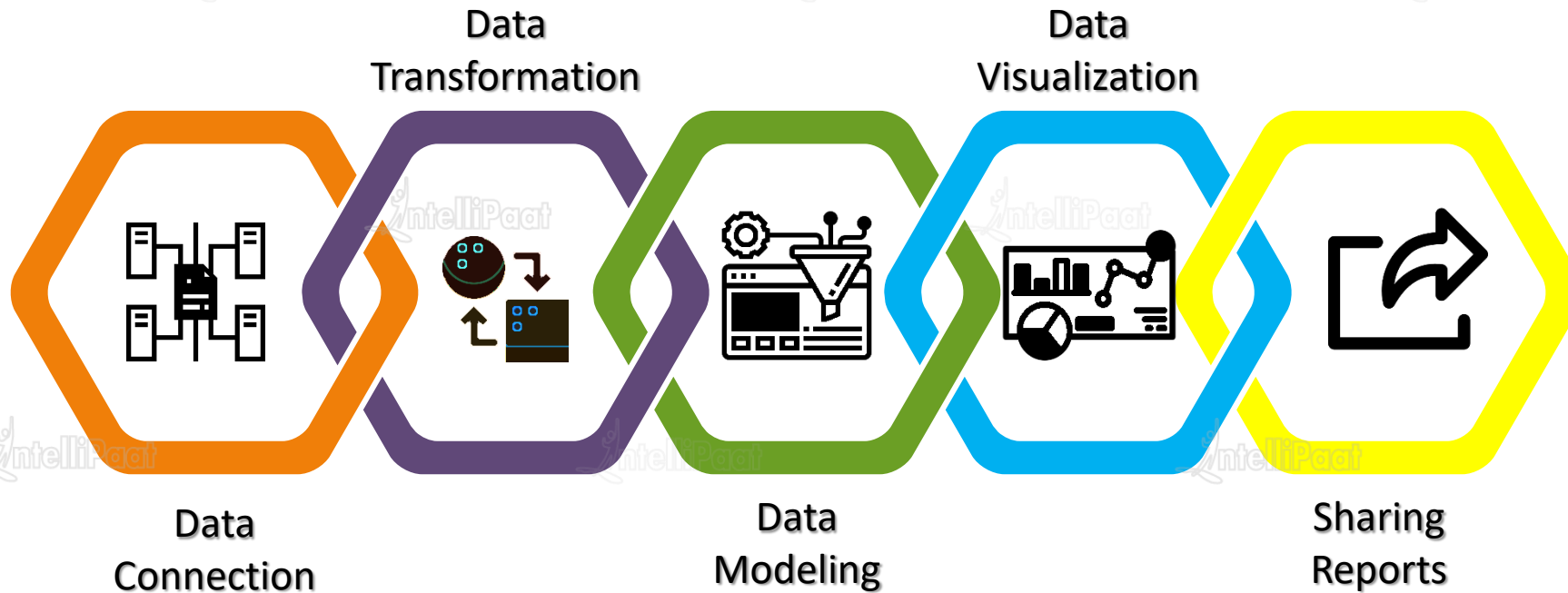


Introduction to Power BI

Introduction to Power BI



Power BI is a Business Intelligence platform, which provides tools for aggregating, analyzing, visualizing, and sharing data





Power BI Components

Power BI Components

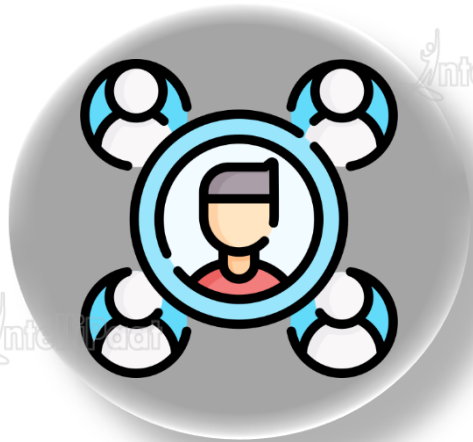
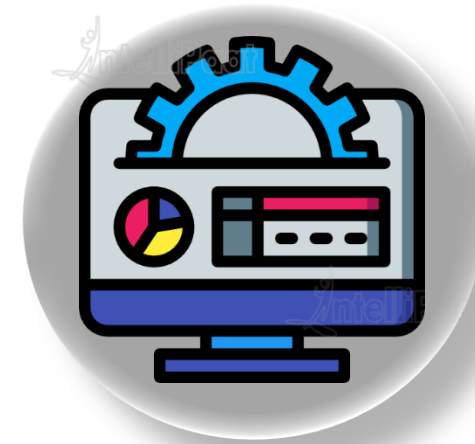


Power BI Components



Power BI Desktop

It is a free application that helps us connect to multiple data sources and transform and visualize our data



Power BI Service

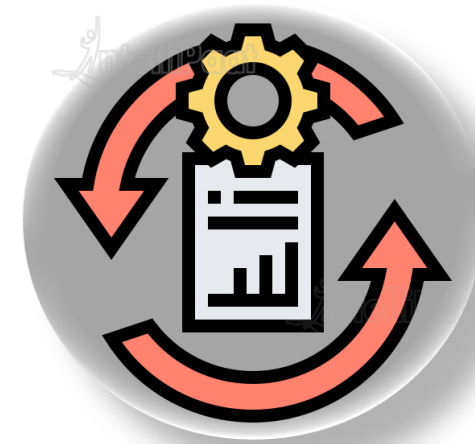
It is a cloud-based service where users view and share their reports and dashboards

Power BI Components



Power BI Gateway

It is mainly used for scheduled data refresh



Power BI Report Server

It is an on-premises web interface and an alternate for Power BI Service

Power BI Components



Power BI Mobile App

Power BI offers a set of mobile apps for Android, iOS, and Windows mobile devices through which users can securely access and view their live dashboards and reports



Power BI Excel Publisher

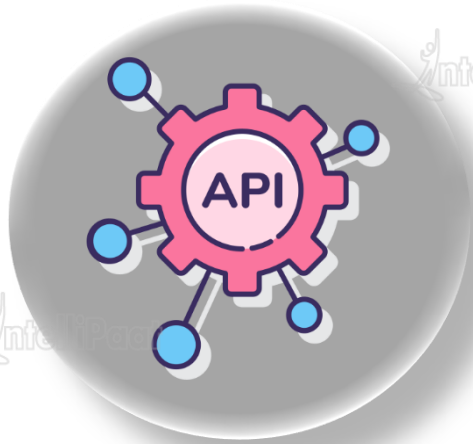
It is mainly used for integrating MS Excel with Power BI

Power BI Components



Power BI Report Builder

It helps in developing paginated reports such as invoices, receipts, delivery notes, etc.



Power BI Embedded

It helps in the integration of BI reports with other applications



Power BI Pricing

Power BI Pricing



Features	Power BI Free	Power BI Pro	Power BI Premium
License	Per user	Per user	Capacity based
70+ data sources			
Ability to publish and consume content from app workspaces and dashboards			
Cost	Free	US\$9.99/month	US\$4,995/month
Storage limit	10 GB	10 GB	100 TB
Data refresh rate	8/day	8/day	48/day
Ability to export content to Excel and CSV files			



Building Blocks of Power BI

Building Blocks of Power BI

Visualization

Visualization is the graphical representation of information and data using charts, graphs, maps, etc.



Datasets

A datasets is the container of the data. It can be Excel sheets or a company-owned database of customers



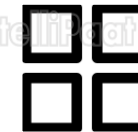
Reports

A report is a multi-perspective view with visuals that represent different findings and insights from the dataset



Tiles

A Power BI tile is a snapshot of the data pinned to the dashboard



Dashboards

A dashboard collects the most important metrics on one screen to answer users' questions or to tell them a story





Architecture of Power BI

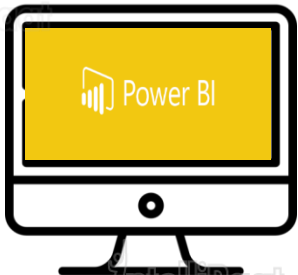
Architecture of Power BI



Data Sources

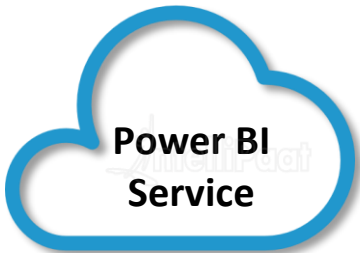


Connect

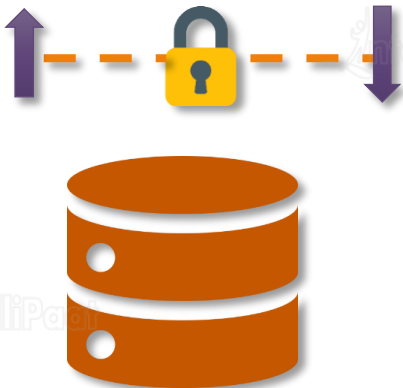


Power BI Desktop

Publish



Power BI Gateway



Access

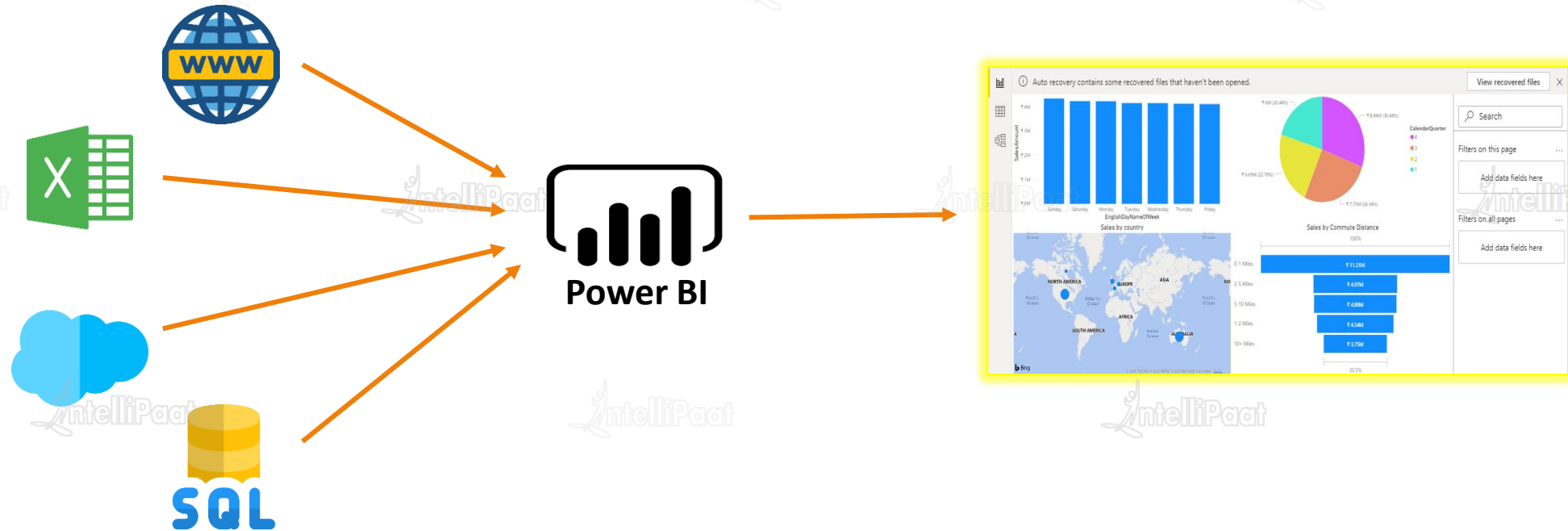


Multiple Devices



Power BI Desktop

Power BI Desktop combines Microsoft Query Engine (M) with visualization and data modeling for creating interactive reports





Power BI Desktop Installation

Power BI Desktop Installation

- Go to Microsoft's official website, and select Power BI Desktop
- Select the language of your choice to download Power BI
- Choose the file based on your operating system
- Then, download and install it on your local machine





Demo: Installing Power BI Desktop



Creating Reports in Power BI

The three-step process in creating reports in Power BI are:

Connect to Data Sources

Transform Data into a Model

Add Visualization

Creating Reports in Power BI



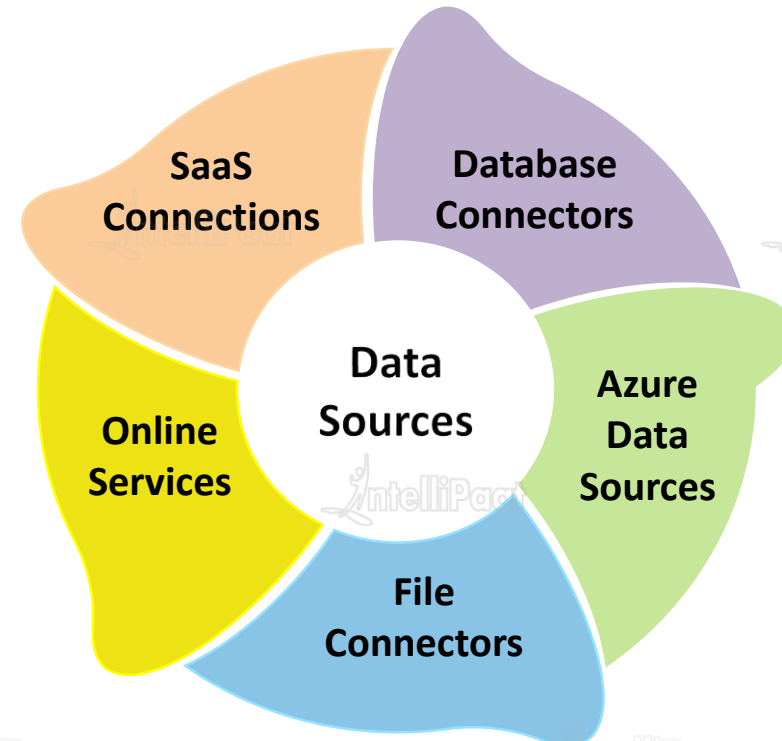
Connect to Data Sources

Transform Data into a Model

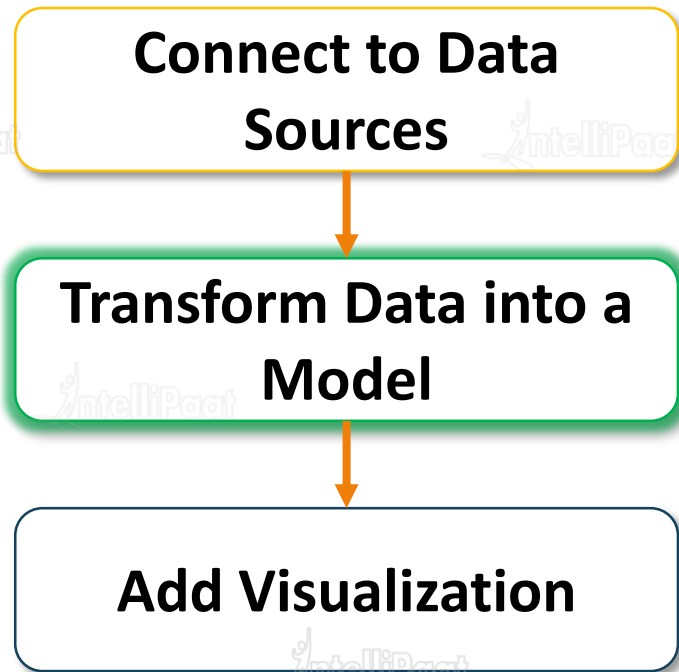
Add Visualization

Connect to Data Sources

With Power BI Desktop, we can connect to many different data sources to collect data

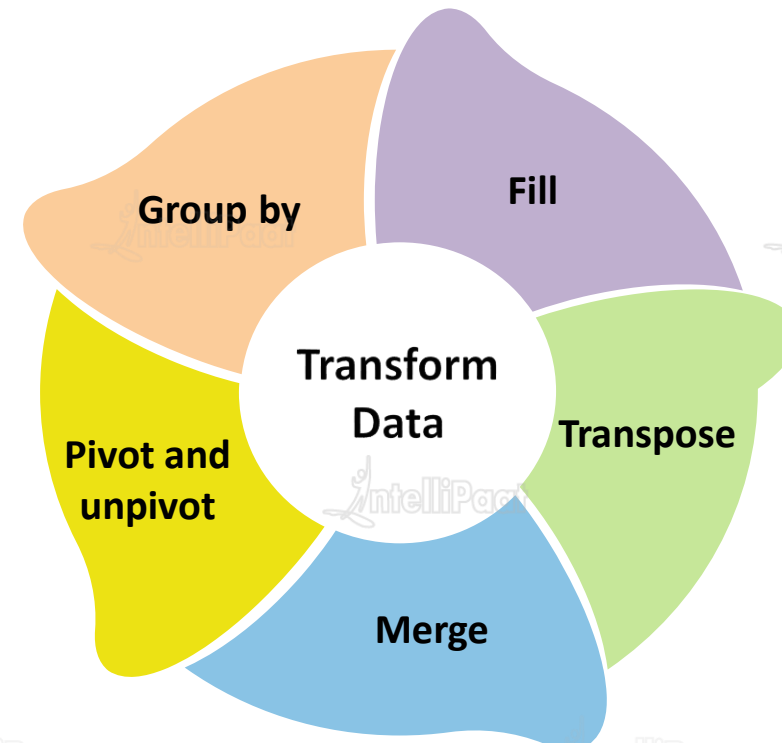


Creating Reports in Power BI

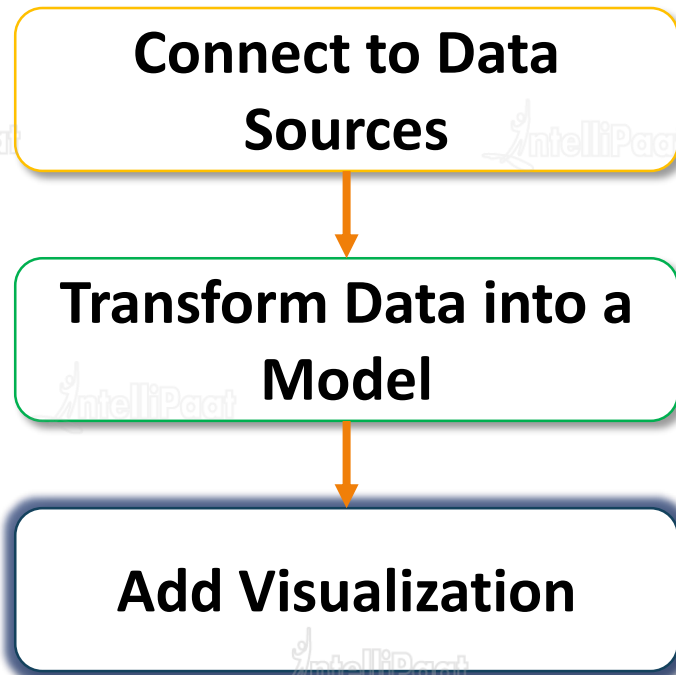


Transform Data into a Model

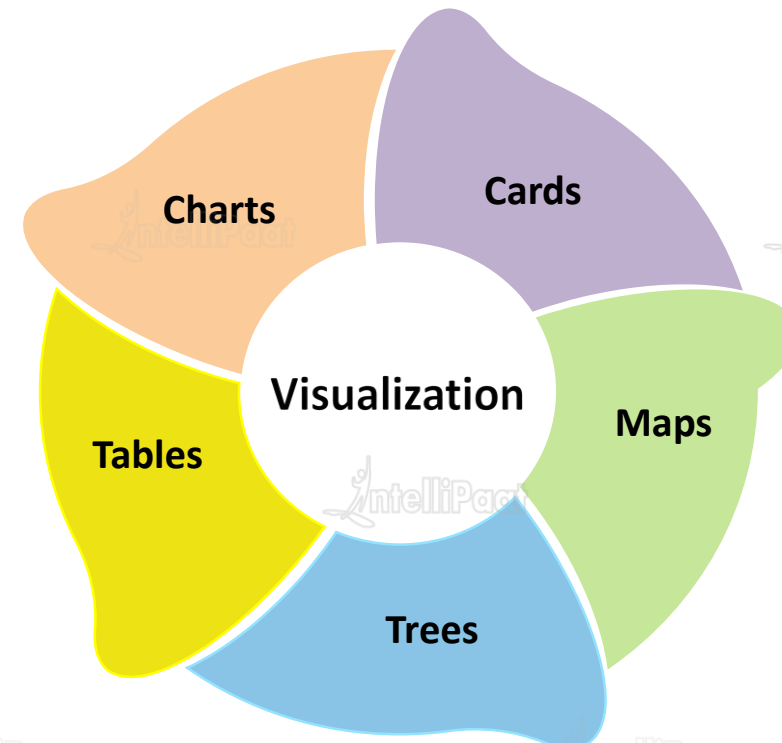
Power Query Editor in Power BI Desktop helps us transform the data into a model



Creating Reports in Power BI



Data visualizations bring data to life, using colors and shapes





Demo: Creating a Report in Power BI



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