

NEXT DAY DISCUSSION**POWER BI [MICROSOFT POWER BI] –SSBI****DEFINITION**

POWER BI is a

**“ SELF SERVICE,
Cloud based and On-Premises,
Any Type of Data load,
Data Model Supportive,
Analytical, and
Visualization Reporting tool ”**

**Designed for DWH & BI solution, and Data
“Insights and Analytics”.**

SELF SERVICE

Personal Analysis

Team Analysis

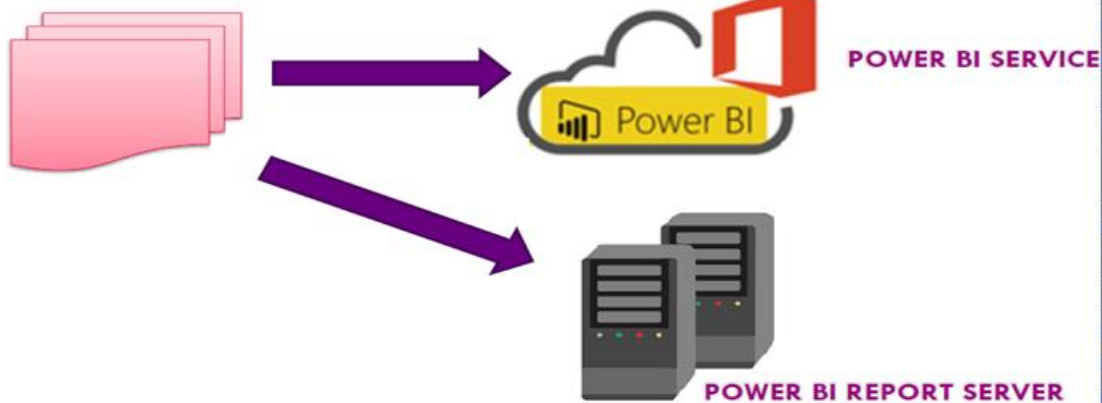
Corporate Analysis

Designer Analysis ***

Customer or user analysis ****

CLOUD BASED OR ON-PREMISES

Reports(.pbix)



Any Type Of Data Load

a) Structured b) Semi-Structured c) Unstructured

Structured Data



0.103	0.176	0.387	0.300	0.379
0.333	0.384	0.564	0.587	0.857
0.421	0.309	0.654	0.729	0.228
0.266	0.750	1.056	0.936	0.911
0.225	0.326	0.643	0.337	0.721
0.187	0.586	0.529	0.340	0.829
0.153	0.485	0.560	0.428	0.628

Unstructured Data



Any Type Of Data Load



Unstructured

PDFs, JPEGs, MP3,
Movies, ...



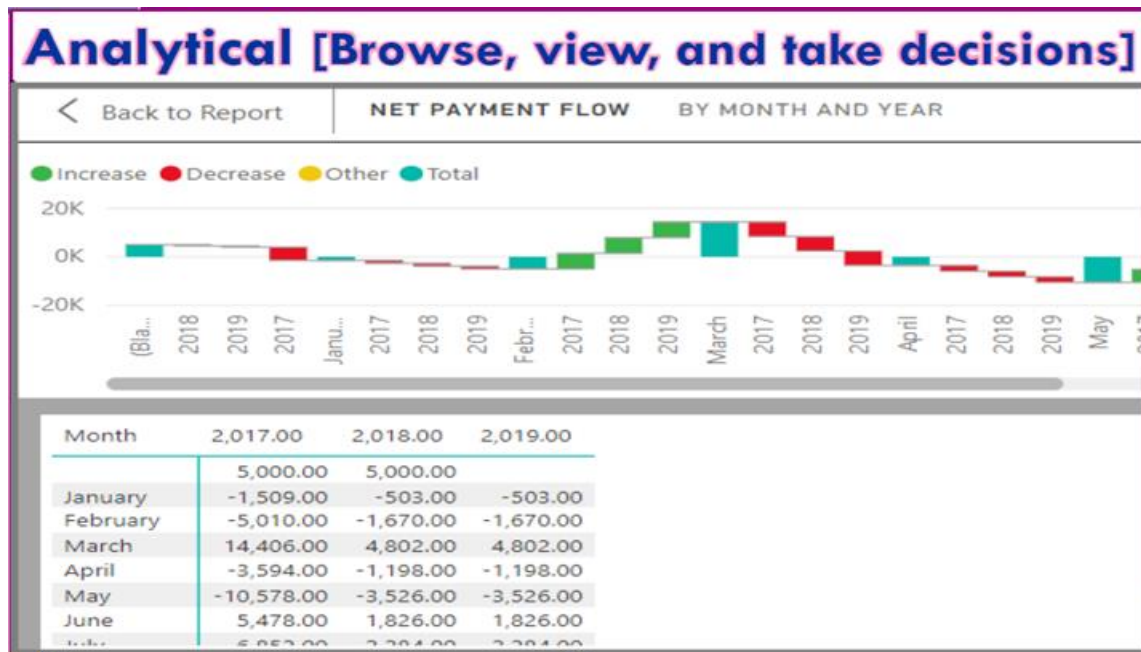
Semi-structured

CSV, JSON, XML,
MongoDB, ...



Structured

Oracle, MSSQL, MySQL,
DB2, ...



MSBI VS POWER BI, MSBI VERSION CHANGES AND POWER BI INTRODUCTION

MSBI	POWER BI
END-END full depth BI Tool [ETL, SEMANTIC, REPORTING, QUALITY, and MASTER DATA MGMT]	Analytical reporting tool with partial support of ETL, Model and Master data.
2005 introduced	2013 announced, official release 2015
Equivalent to Power BI: SSRS	SSRS enhanced version is Power BI SSRS 2012 + Power View + Power Query + DAX = Power BI
Less standard visuals	More inbuilt and support custom visuals
On-Premises storage	Initially cloud, now adays on premises also

POWER BI HISTORY AND EVALUATION

PowerPivot – Excel add-in using xVelocity(Vertipaq) columnar engine



SQL Server 2012 SSAS Tabular Model



Microsoft BI Semantic Model (BISM)



PowerView



Re-branding to Power BI (notice the space)



SharePoint and Office 365 integration (Q&A, Power Query, and Power Map)



Power BI v2 Preview (December 2014)



Power BI v2 Service & Desktop GA (July 2015)

Vinay Tech House

MSBI COMPONENTS EXPLANATION

a) SSIS --> Sql Server "Integration Services"

Integration of **3 services**

[ETL Service, Windows Admin & Sql Server Admin]

Note: It is not an ETL tool or tool used for dedicated data integration.

b) SSAS--> Sql Sever "Analysis Services"

Designed for Tabular, Multi-Dimensional and Data Mining "**model**" creations
for **Self Service BI** and Predictive analysis

Power Pivot-->Personal Analysis

Tabular Model-->Team Analysis

Multidimensional Model--> Corporate Analysis

Data Mining--> Future Prediction of business / organization

c) SSRS--> Sql Server "Reporting Services"

To represent data through "**visualizations**" [chart, map, matrix, list etc...]

d) MDS--> Master Data Services

Designed to manage database objects [tables, columns and model] easily.

e) DQS--> Data Quality Services

Ensure quality of data by doing data profiling, cleansing and scrubbing.

Data Profiling--> screening the data

Data scrubbing--> changing the data

Data Cleansing--> removing inconsistent, unwanted, junk, duplicated and wrongly formatted data.

Data Matching-->

BETTER LEARNING OF MSBI

MSBI / BI PROJECT ENVIRONMENT:

Data warehouse and Data Model fundamentals:

AZURE:

What is Azure, how do we connect to SQL database, Datawarehouse, and Analysis Services?

Try to know what is Data Lake and Data Factory?

SQL:

- a) If you are working with databases, to implement basic operations, SQL is required
- b) Data Validation against databases [Unit testing]

Concepts:

MSBI COMPONENTS

Interview pattern in MNCs

DW BI Business Analyst	EVALUATOR 1	EVALUATOR 2	Please rate on a scale of 1 - 10 where 1 is lowest. 1: No skill/knowledge; 2-3: Theoretical knowledge, No work experience; 4-8: Theoretical knowledge & work exp; 9-10: Advanced knowledge/experience
Technical Competency (10-15 Mins)			
Data Warehouse and Business Intelligence Concepts and Architecture skills			Mandatory skill
Data Modeling skills - Enterprise Data Models, Star Schema Models			Mandatory skill
Basic SQL queries and concepts			Mandatory skill
DWH Tools (ETL & Reporting)			Mandatory skill
Data Warehouse and Business Intelligence current topics awareness			Preferred to have for Senior DW/BI candidates
Data Warehouse and Business Intelligence strategy topics - BI Strategy, ETL Strategy, Data Mart Consolidation Strategy, Information Integrity / DQ strategies, Information Governance Models, Enterprise Performance Management Strategy, Integrated BI Strategy			Mandatory to have experience in at least one of the Strategy Topics

MSBI HW, SW REQUIREMENTS AND INSTALLATION STEPS

Do we install in real-time?

In MNCs, chances are 50%.

I installed 70% times, SSDT, SSMS client components.

Remaining 30% times, the systems administration or networking team will install for you.

What we learn when we do our own installation?

- a) Sever name [instance name]
- b) Where did you install?
- c) Authentication used [credentials used]
- d) Add new components or removing existing components.

Machine is Windows 7 Sp1?

Sql Server 2012 or older

Machine is Win10 or above?

Sql Server 2012, 14, 16, 17, and 19

Installation: {on Windows 10 and Sql Server 2016/ 2017}

Two ways

1ST WAY:

- a) Single set up installation + missing components installation [SSDT + SSRS]

2ND WAY:

- b) Individual components installation [SSDT, SSMS, SQLSERVER, and SSRS SEPARATELY]

1ST WAY:

Single Setup Installation:

Click setup.exe--> Click Yes-->

Sql Installation Center--> Installation option--> New Standalone Installation-->Next-->Next-->
Ignore windows firewall warning-->Next-->

Choose radio button Perform a new Sql Server 2017 Installation--> Specify radio button free edition(Evaluation)--> Next-->I Accept the licence terms-->

Feature and selection section--> Instance Features--> Select all [uncheck Machine Learning Services {R, Python}, Polybase Query Service For External Data]-->

Specify Instance root directory-->Next-->

Choose radio button named instance: VINAYTECH

Next

Service Accounts--> Keep as it is

Next

Database Engine Configuration--> Choose Windows Authentication--> Click Add Current User

Next

Analysis Services Configuration--> Choose mode {Multidimensional / Tabular / Power Pivot}, and Choose Windows Authentication--> Click Add Current User

Next

Preview the navigations--> Install

Note:

a)It will install Database Engine, Analysis Services Instances in 2017

b) You have to install SSDT, SSMS, and Sqlserver Reporting Services separately.

There are two ways

a) Click the set up again, and use Sql Server Reporting Services option

Click the setup again, and use Sql Server Management Studio option

b) Download Sql Server Data Tools 2017 and install

Easy method of software acquiring:

Get the pen drive and collect at institute

2012 installation: The single setup.exe will install all the components {Process Same}