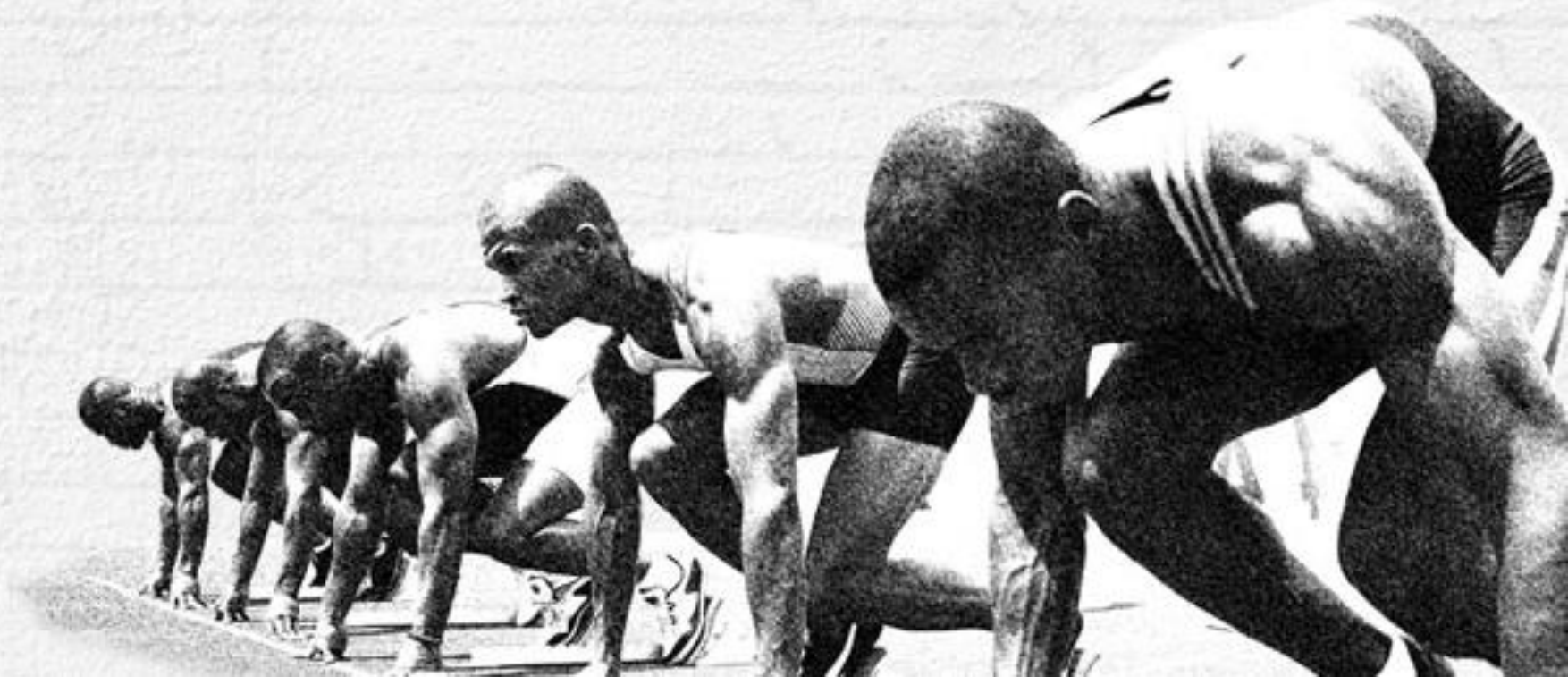



SAP BO to Power BI Migration

Approach and Best Practices

Hariharan Rajendran

Microsoft MVP, MCT



Diamond Knowledge Partner  Microsoft

About {Hari}haran

- Microsoft MVP in Data Platform
- MCT & CompTIA Class Room Trainer
- Power BI User Group Leader – Chennai
- Expertise in Data & BI
- Presented many sessions in conferences and summits
- Blog – [Hariharan Rajendran | Data Awareness Programme \(dataap.org\)](https://dataap.org/hariharan-rajendran/)
- YouTube – Hari's BI
- LinkedIn – imhariharanr
- Twitter - @imhariharanr



Let us be interactive!!

- Are You currently working on SAP BO to Power BI migration projects?
- Type "Yes" or "No"
- What is your experience in the migration projects?



POWER BI & SAP BO PROFESSIONALS



Agenda

- Migration Approach
- Prepare Yourself
- Architecture
- Semantic layer
- How it Works?
- Report & Consumption Layer
- Choose Right Option
- Considerations



Migration Approach

- We don't have automated setup for SAP BO to Power BI Migration.
- Build from scratch.
- Pain point – Legacy BI tools - Export requirements
- Understand technical difficulties
- New & Modified Requirements - Business Users



Convince Business Users

- Business users are used with SAP BO reports – for more years
- Split the business users into different groups
 - Ready to adopt new technologies – ok to adjust with the functionalities
 - Need exact function in new platform
 - Export and further analyse in Excel



How to Measure a Successful Migration Approach?

Plan to meet the
project timeline

Map the features

High Adoption
Rate – Business
users & Consumers

Training

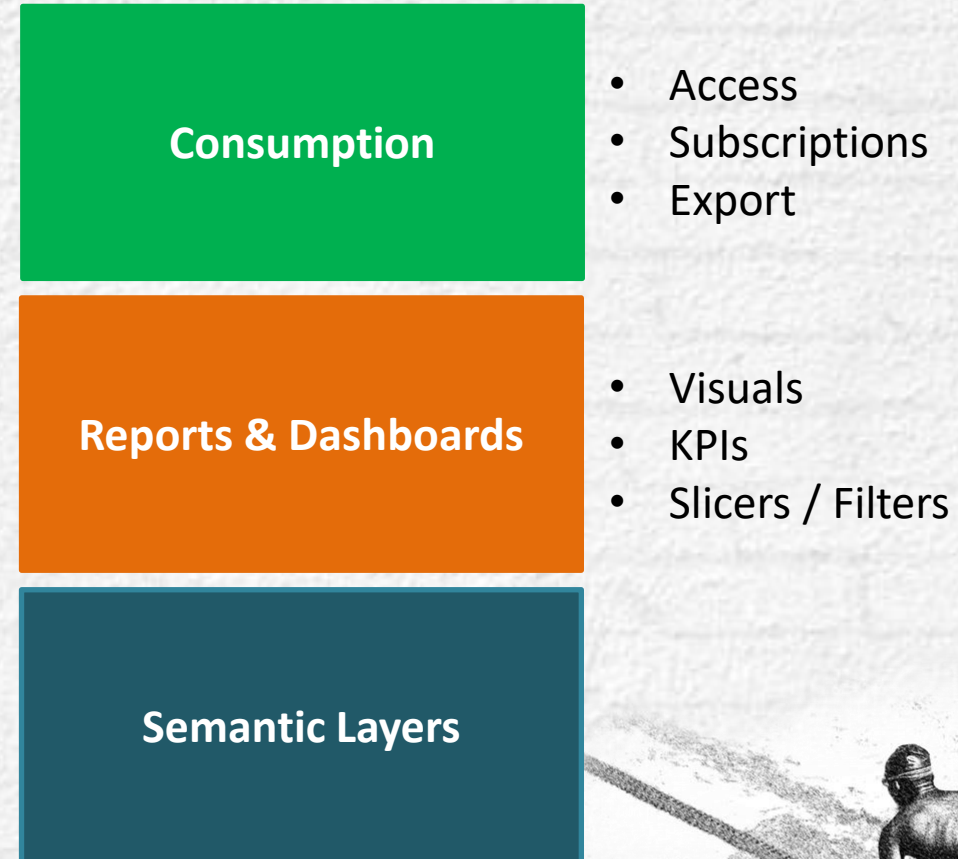
Happy Customer



Prepare Yourself

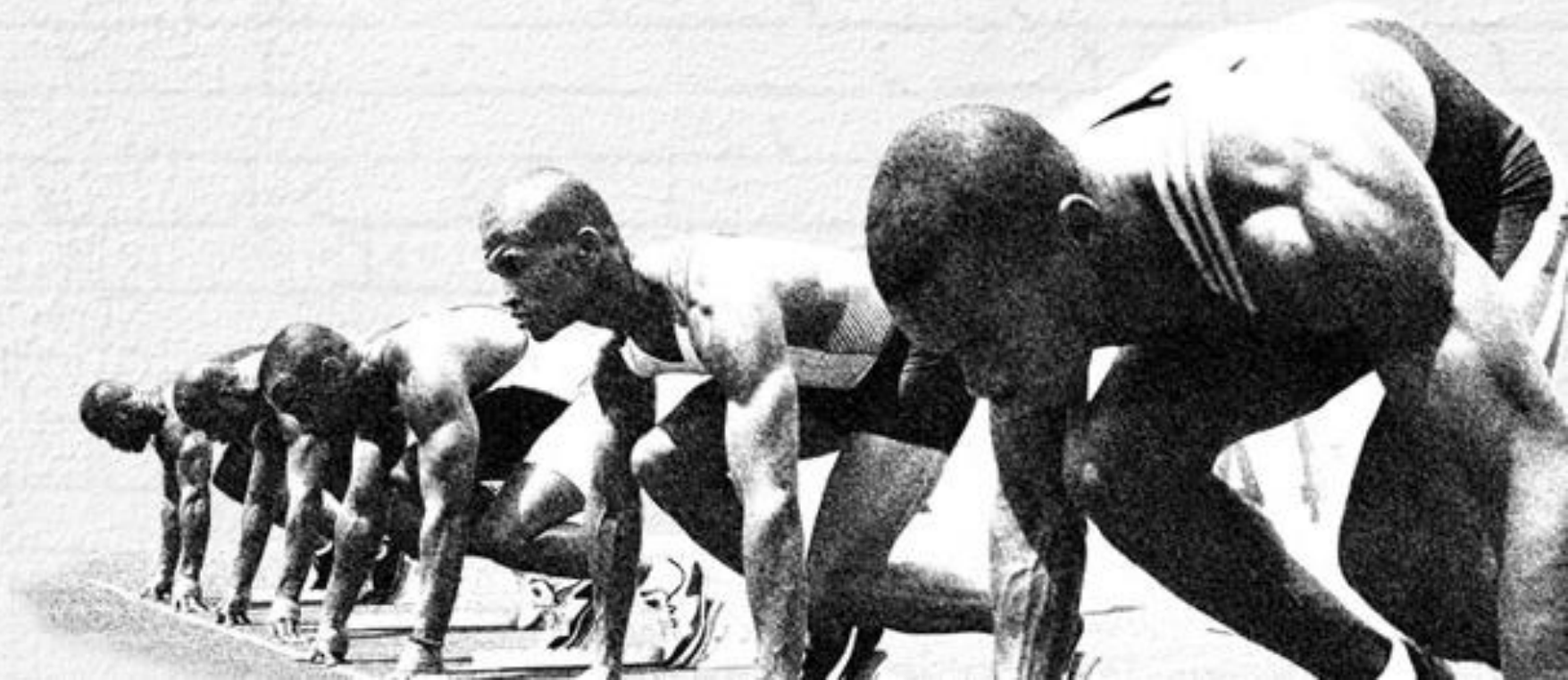
- No of reports
- No of semantic layers – Data Models
- Metadata Extractions - Possibilities
- Match the functionalities


- Data Frequency
- Data Freshness
- Real-time Data







Architecture

Power BI & SAP BO – High Level

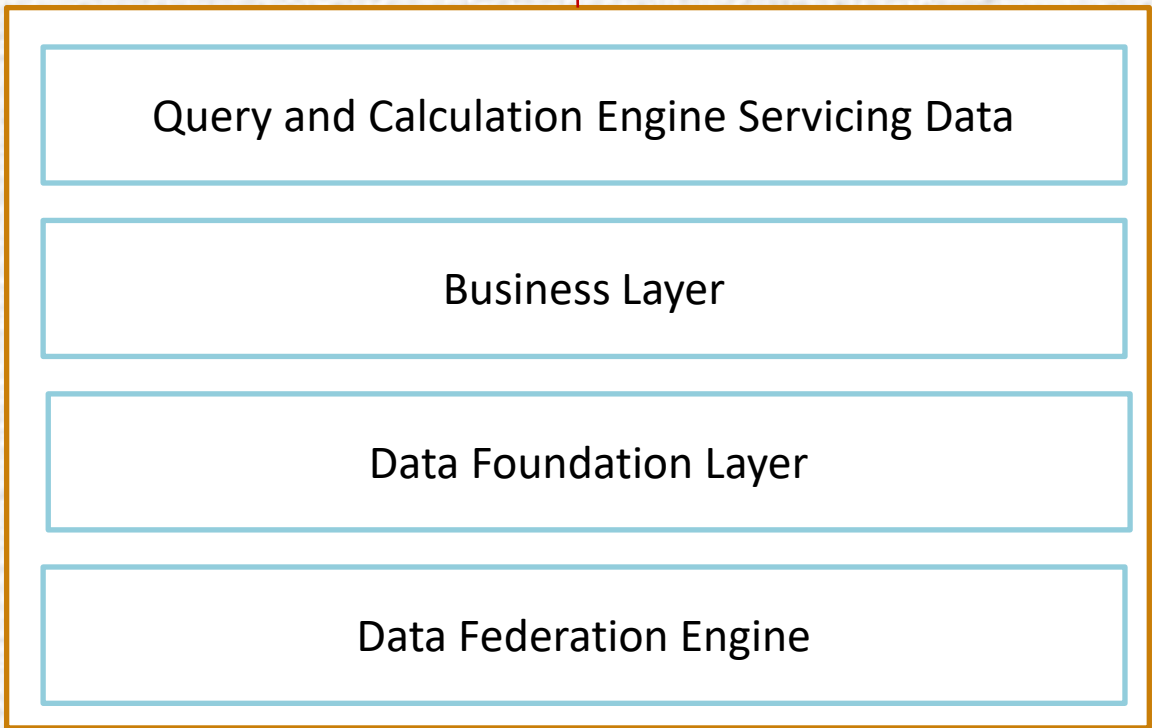


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SAP Business Objects



Visualization Tools



Information Design Tool



Data Sources

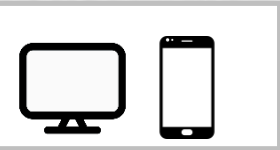


Power BI Architecture – Tools and Services

Consumption Layer

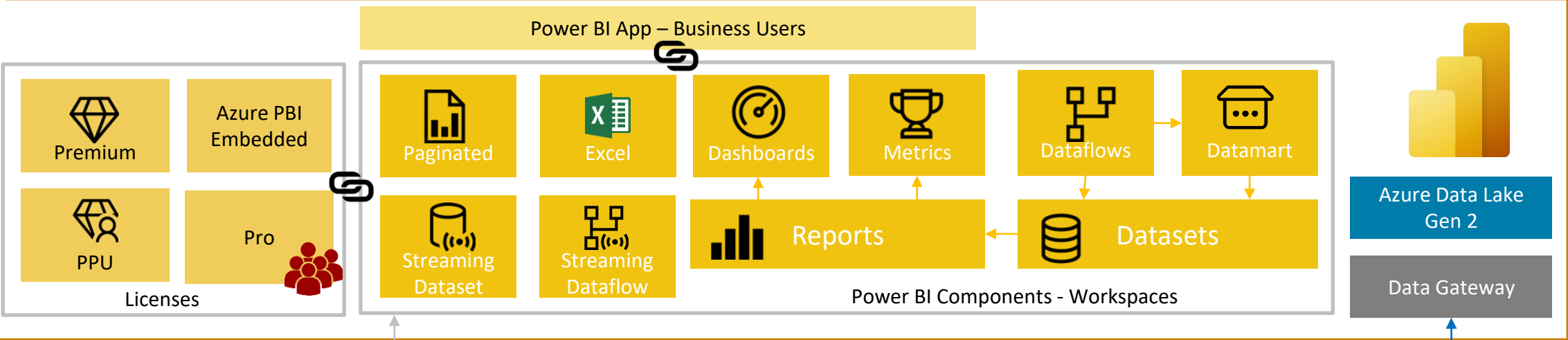
Browser and Mobile

Browser and External Tools

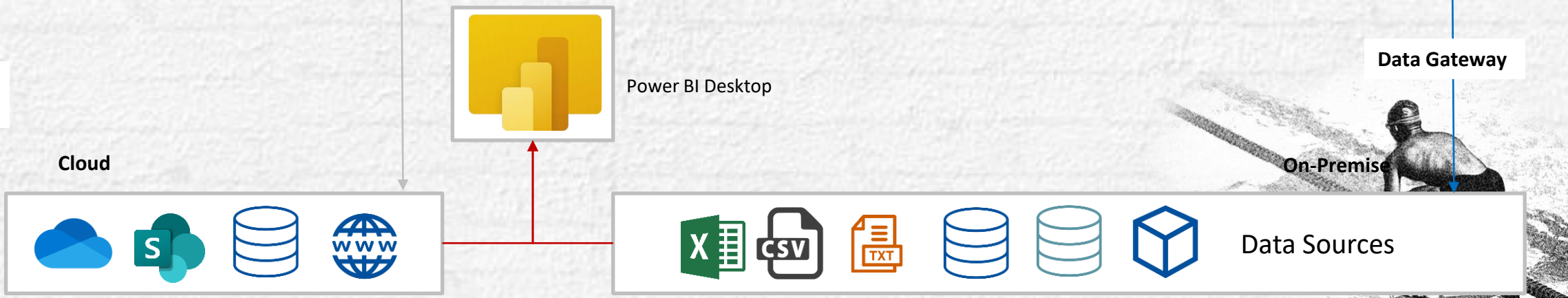


Azure AD Authentication

Power BI Eco System




Data Source & Development

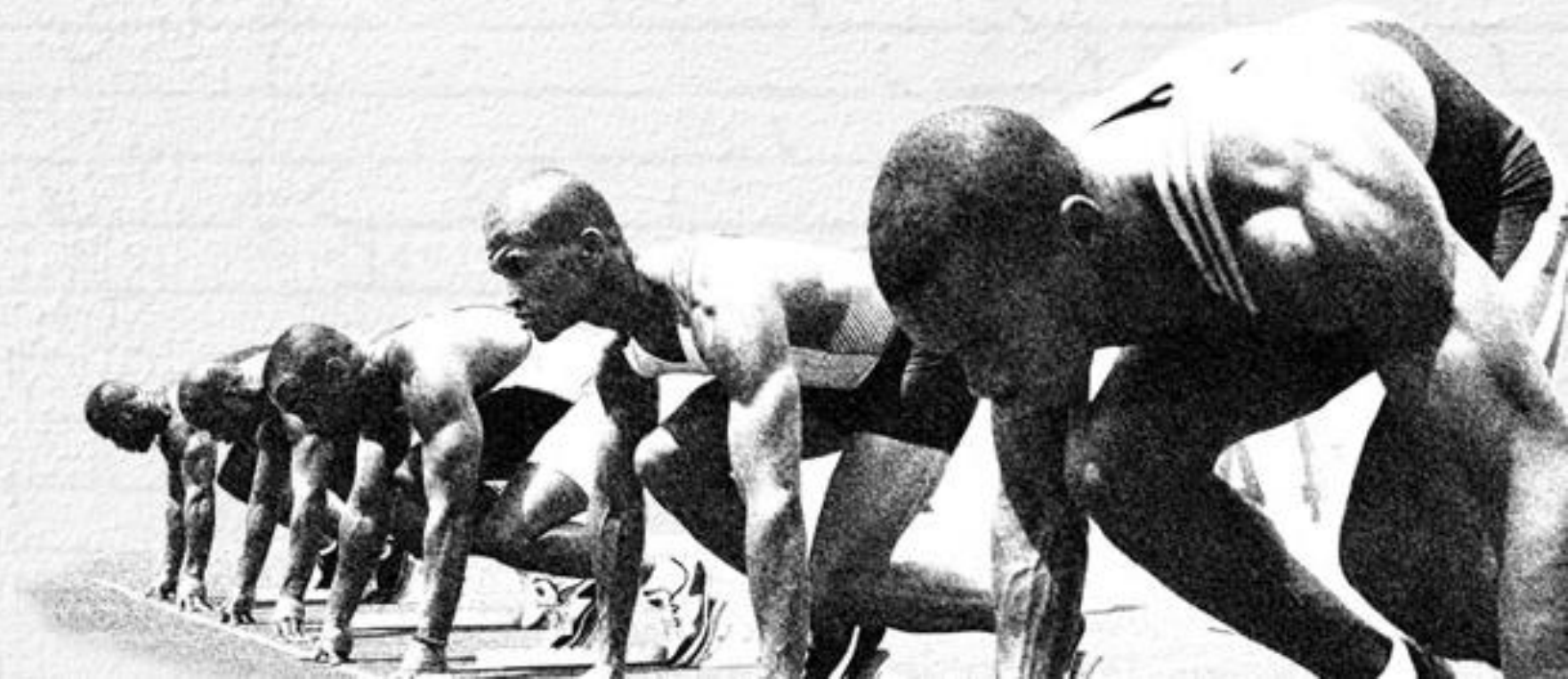


Semantic Layer

Power BI & SAP BO – High Level



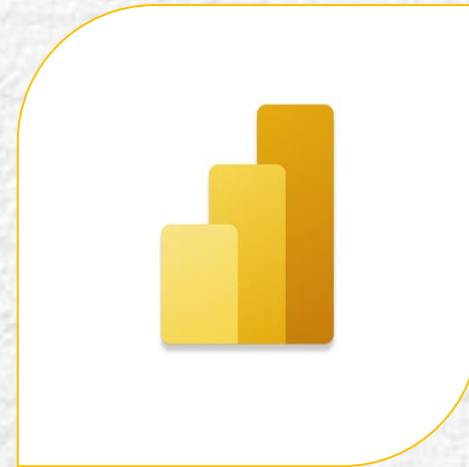
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Semantic Layer



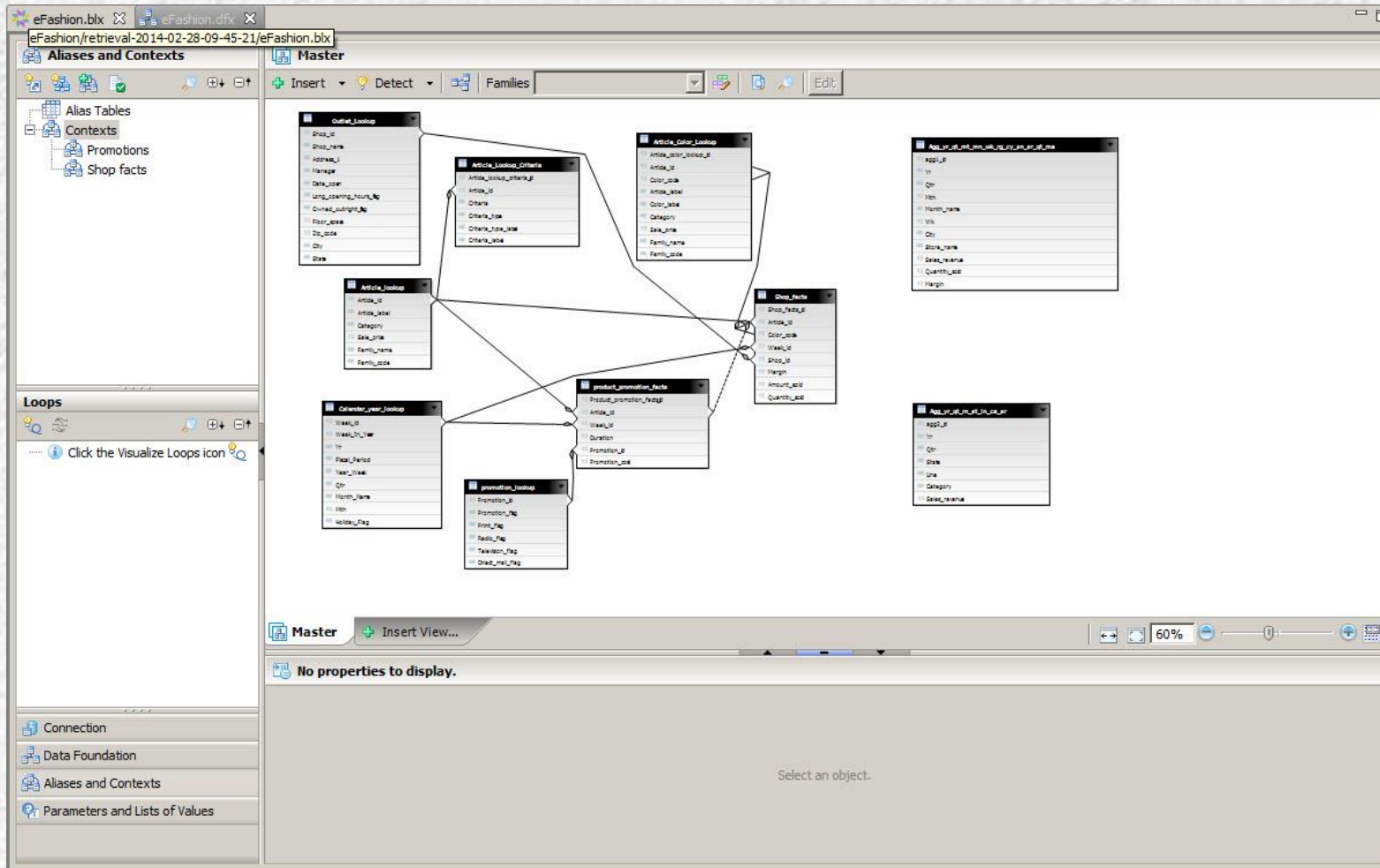
SAP BO – UNIVERSE



POWER BI – POWER BI DATA
MODEL (POWER PIVOT)



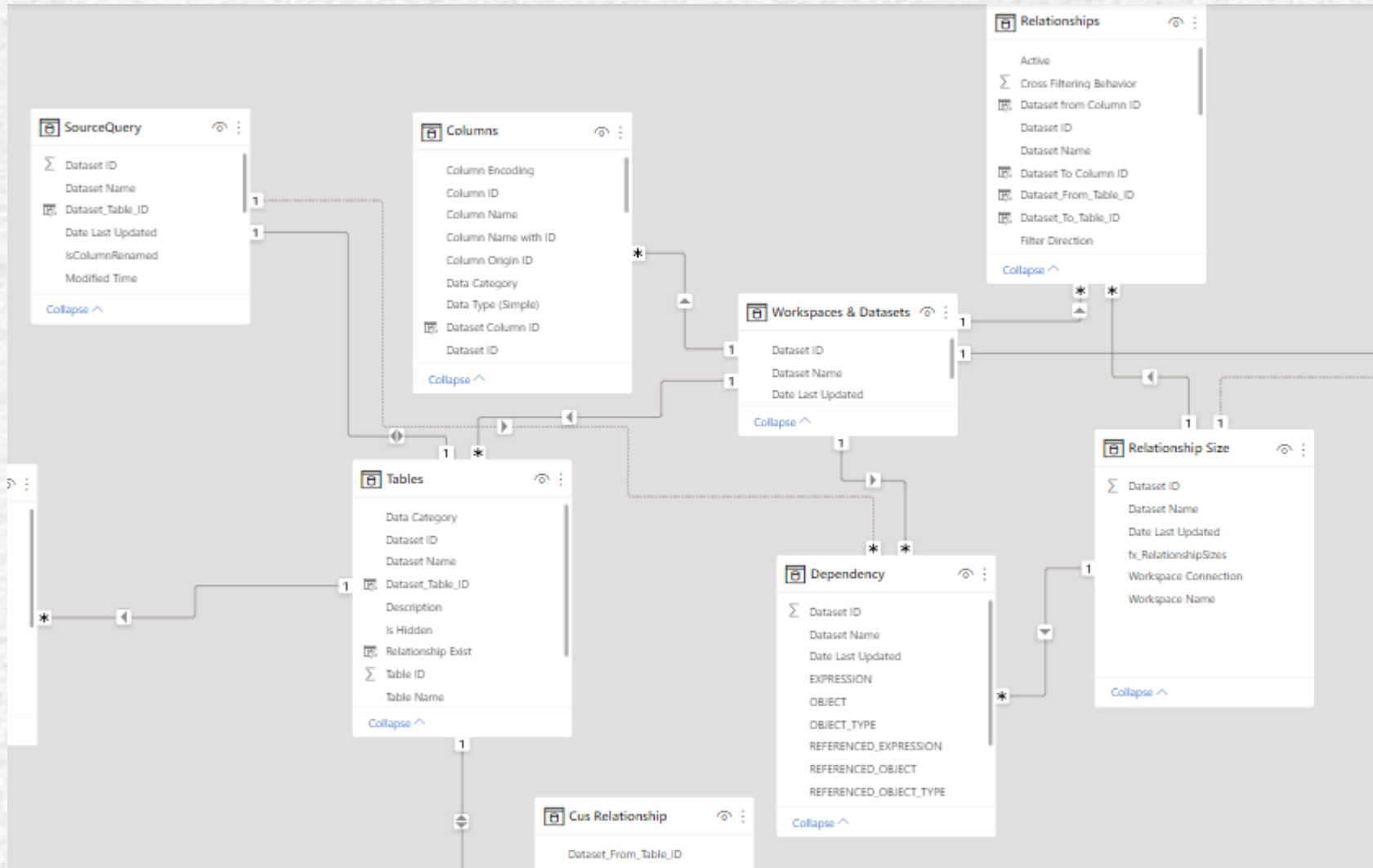
SAP BO – Universe



- Create Connection
- Create Data Foundation Layer
- Build Universe
- Build business logics & Security
- Deploy it to the repository
- Consume the universe in BO reports (Webi)
- Build the report
- Consume the report



Power BI Dataset



- Connect to Data Source
- Choose the tables
- Transformations – Power Query
- Data Load
- Build Relationships
- New business logics & RLS
- Deploy the dataset
- Create reports and dashboards



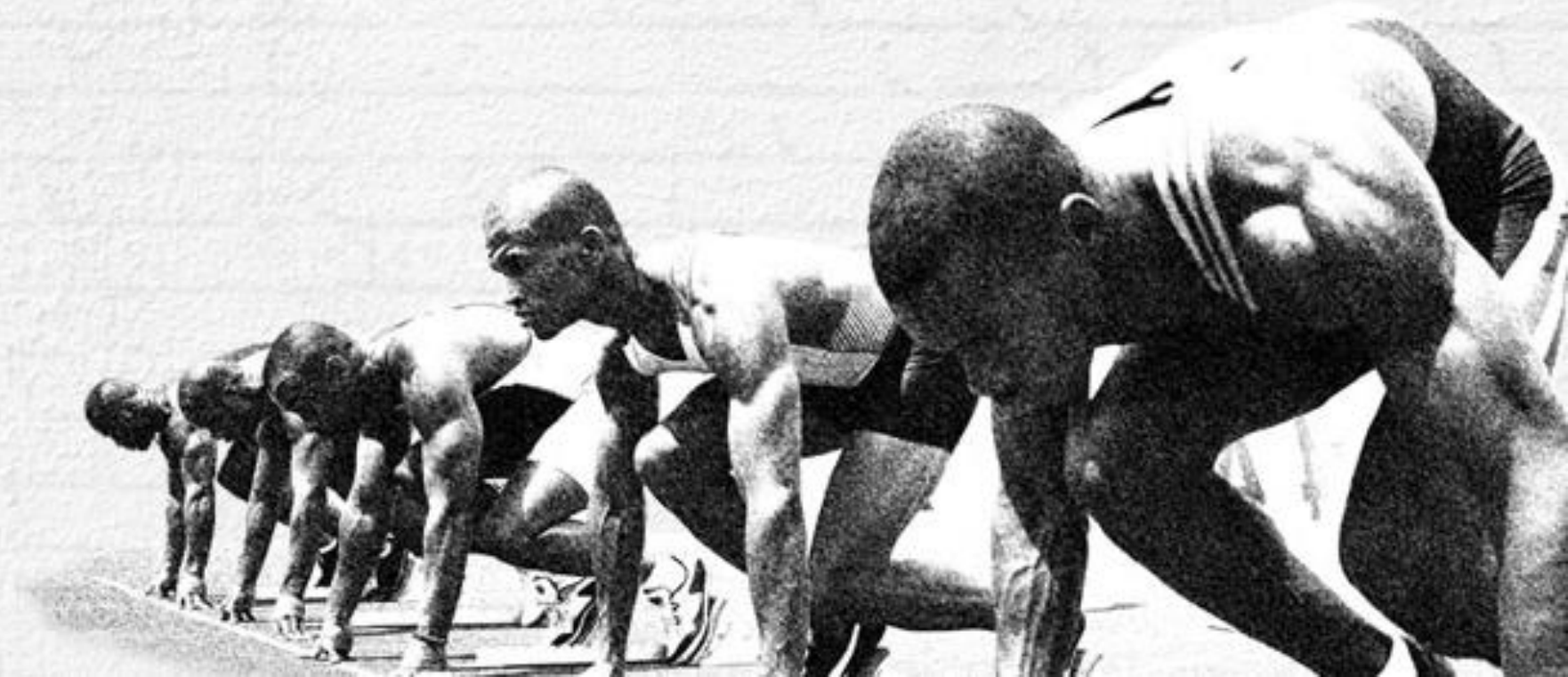
Approach – Semantic Layer


- Don't convert the whole BO universe to Power BI dataset (data model). Say "No" to one-to-one
- Choose "Import" (In-memory) always for better performance.
- Incremental Refresh
- Row Level Security
- Shared Datasets



How it works?

SAP BO & Power BI



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How SAP BO Works?

- Universe can be built with hundreds of tables – Prebuilt or custom calculated tables.
- Report can take the required fields from different business folders – Drag and Drop
- Custom SQL is also supported
- SQL script will be generated based on the fields that are added into the report data source. It will be simple or complex based on the joining conditions defined in the universe.
- One Universe can serve more number of reports
- Universe - Data will not be stored. Just a meta data.
- Apply filters to avoid pulling huge amount of data.
- One report can have multiple data sources (subsets from one or more BO universe).



How Power BI Works?

- It can be import or direct query / live connection
- Data will be stored in-memory so it will be difficult to handle more number of tables if they are huge in size. We can handle them using Direct query.
- Composite models





Demo

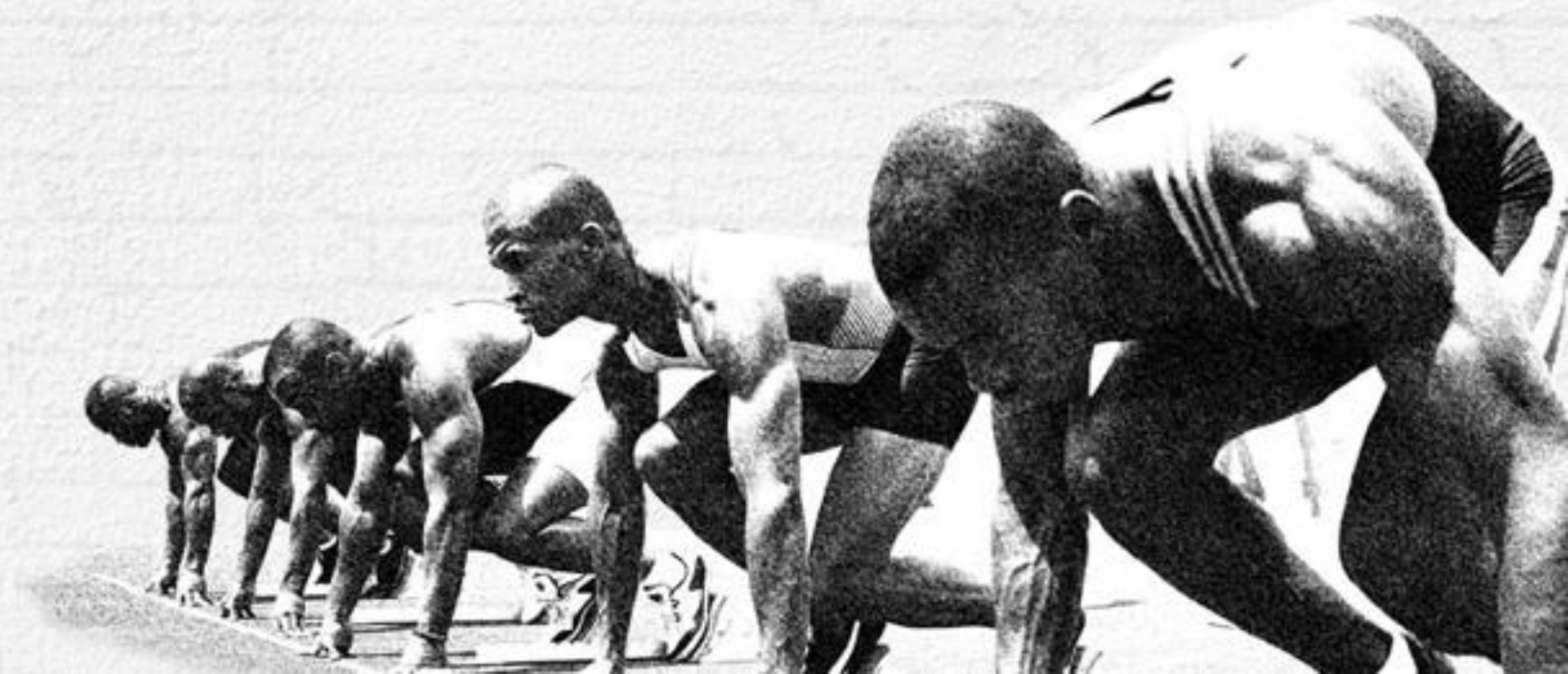
Power BI Data Model


Build Power BI data model with relationships



Reporting & Consumption Layer

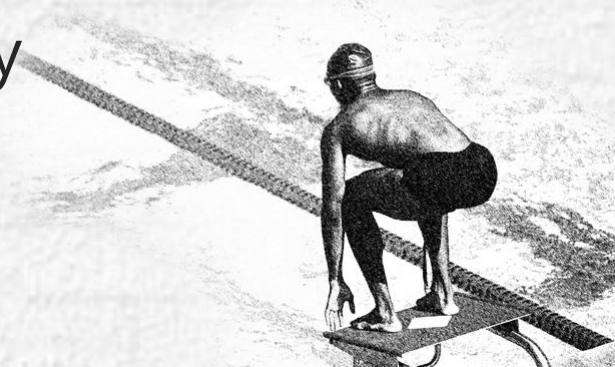
SAP BO & Power BI



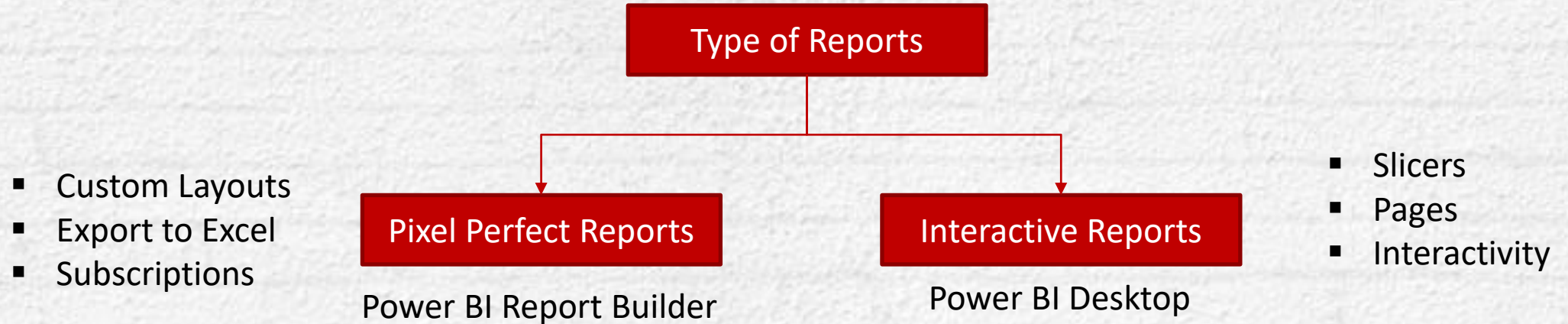
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SAP BO Reporting Functionalities

- Parameters
- Input Control
- Merge Dimensions
- Sections
- Custom Layouts
- Multiple Pages
- Export to Excel
- Subscriptions – with Attachments & Report in Email body



Choose Right Option



SAP BO Feature	Power BI Report Builder
Section	List with Page Break
Multi-Page	Text box + Bookmark + Page Break
Input Control	Paginated Report Visual + Power BI Desktop Slicers
Embed Report in Email Body - Subscription	Power BI REST API - Export report and Embed in email body





Demo

Power BI Report Features

Features to match with SAP BO



Other Considerations

- Size and slow performing databases – Consider Dataflow
- Power BI Report Server – Subscriptions to Network Drive
- Power Automate – Custom Subscription options
- SAP BO - Metadata Extract -
<https://blogs.sap.com/2020/11/06/metadata-reporting-for-web-intelligence-documents/>



Resources

- DPS 2021 Recordings – Modernize Power BI Paginated Reports
- Power BI Paginated Reports - https://www.youtube.com/watch?v=X1z67FwOSp0&list=PL_mvQc4sIR722VYDxWiD8aly_nVLhFMg
- GitHub - [rhariharaneeee/Power-BI \(github.com\)](https://github.com/rhariharaneeee/Power-BI)
- Power BI Paginated Reports in a Day - [Power BI Paginated Reports in a Day course - Power BI | Microsoft Docs](#)
- Power BI Tips and Tricks - [Hariharan Rajendran | Data Awareness Programme \(dataap.org\)](#)

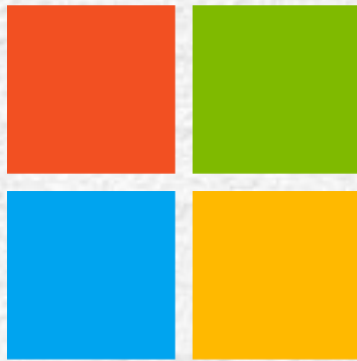


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