

## Power BI - Dashboard/Report Making - Lecture 10

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### ASSIGNMENT: TIME INTELLIGENCE

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Add the following measures to the model:

1. Previous Month Returns
2. Previous Month Orders
3. Previous Month Profit
4. Order Target (10% increase over previous month)
5. Profit Target (10% increase over previous month)
6. 90-day Rolling Profit

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Previous Month Returns =

```
CALCULATE(  
    [Total Returns],  
    DATEADD(  
        'Calendar Lookup'[Date],  
        -1,  
        MONTH))
```

Previous Month Order =

```
CALCULATE(  
    [Total Orders],  
    DATEADD(  
        'Calendar Lookup'[Date],  
        -1,  
        MONTH))
```

---

Previous Month Profit =

```
CALCULATE(  
    [Total Profit],  
    DATEADD(  
        'Calendar Lookup'[Date],  
        -1,  
        MONTH))
```

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Order Target =

```
[Previous Month Order] * 1.1
```

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Profit Target =

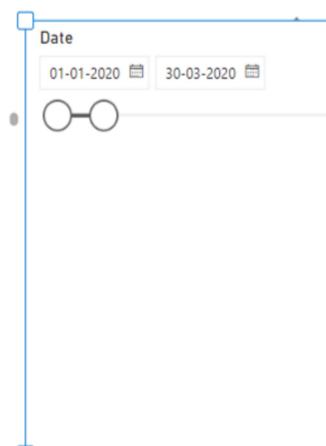
```
[Previous Month Profit] * 1.1
```

Year	Total Returns	Previous Month Returns	Total Orders	Order Target	Previous Month Order	Total Profit	Profit Target	Previous Month Profit
日			1	1				
2020	85	72	2,630	2,534.40	2304	\$26,01,605	26,01,252.67	\$23,64,775
January	4		184			\$2,35,815		
February	4	4	165	202.40	184	\$2,12,187	2,59,396.09	\$2,35,815
March	9	4	198	181.50	165	\$2,59,085	2,33,405.96	\$2,12,187
April	14	9	204	217.80	198	\$2,63,032	2,84,993.72	\$2,59,085
May	11	14	206	224.40	204	\$2,66,276	2,89,335.22	\$2,63,032
June	4	11	212	226.60	206	\$2,70,068	2,92,904.08	\$2,66,276
July	3	4	247	233.20	212	\$1,96,683	2,97,075.01	\$2,70,068
August	6	3	278	271.70	247	\$2,18,355	2,16,351.00	\$1,96,683
September	2	6	196	305.80	278	\$1,40,516	2,40,190.92	\$2,18,355
October	10	2	223	215.60	196	\$1,68,582	1,54,567.59	\$1,40,516
November	5	10	191	245.30	223	\$1,34,176	1,85,439.74	\$1,68,582
December	13	5	326	210.10	191	\$2,36,830	1,47,593.34	\$1,34,176
2021	764	614	10,695	9,861.50	8965	\$39,67,032	38,65,608.27	\$35,14,189
January	8	13	242	358.60	326	\$1,82,044	2,60,513.09	\$2,36,830
February	8	8	267	266.20	242	\$2,00,044	2,00,248.51	\$1,82,044
March	8	8	266	293.70	267	\$1,99,611	2,20,048.42	\$2,00,044
April	5	8	290	292.60	266	\$2,09,521	2,19,571.76	\$1,99,611
May	10	5	329	319.00	290	\$2,33,013	2,30,473.48	\$2,09,521
June	8	10	312	361.90	329	\$2,27,745	2,56,313.91	\$2,33,013
July	45	8	506	343.20	312	\$3,42,622	2,50,518.97	\$2,27,745
Total	1,809	1643	25,165	25,319.80	23018	\$1,04,57,600	1,06,54,638.35	\$96,86,035

90 - Days Rolling Profit =

```
CALCULATE(
    [Total Profit],
    DATESINPERIOD(
        'Calendar Lookup'[Date],
        MAX('Calendar Lookup'[Date]),
        -90,
        DAY))
```

Year	Total Profit	90 - Days Rolling Profit
19	\$4,507	\$6,02,761
20	\$12,825	\$6,15,586
21	\$5,628	\$6,21,214
22	\$8,663	\$6,29,876
23	\$7,105	\$6,36,981
24	\$17,104	\$6,54,085
25	\$7,105	\$6,61,190
26	\$10,502	\$6,71,692
27	\$4,221	\$6,75,913
28	\$11,256	\$6,87,169
29	\$8,512	\$6,95,680
30	\$5,628	\$7,01,308
31		\$3,456
April		\$3,456
Total	\$7,01,308	\$7,01,308



## DAX BEST PRACTICES

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### Know when to use calculated columns vs. measures

- Use calculated columns for filtering, and measures for aggregating values

### Use explicit measures, even for simple calculations

- Explicit measures can be referenced anywhere, and nested within other measures

### Use fully-qualified column references in measures

- This makes your DAX more readable, and differentiates column references from measure references

### Move column calculations "upstream" when possible

- Adding calculated columns at the source or in Power Query improves report speed and efficiency

### Minimize the use of "expensive" iterator functions

- Use iterators with caution, especially if you are working with large tables or complex models

## VISUALIZING DATA

In this section we'll build dynamic interactive reports, introduce visualization best practices, and explore features like bookmarks, drillthrough filters, parameters, tooltips, and more

### TOPICS WE'LL COVER:

1. Data Viz Best Practices
2. Formatting & Filtering
3. Bookmarks
4. Report Interactions
5. User Roles
6. Parameters
7. Custom Tooltips.
8. Mobile Layouts.

### GOALS FOR THIS SECTION:

- Review frameworks and best practices for visualizing data and designing effective reports and dashboards.
- Explore tools and techniques for inserting, formatting and filtering visuals in the Power BI Report view.
- Add interactivity using tools like bookmarks, slicer panels, parameters, tooltips, and report navigation.
- Learn how to configure row-level security with user roles.
- Optimize reports for mobile viewing using custom layouts.

### THREE KEY QUESTIONS

- 1 What TYPE OF DATA are you working with?

1. What TYPE OF DATA are you working with?

- Geospatial? Time-series? Hierarchical? Financial?

2. What do you want to COMMUNICATE?

- Comparison? Composition? Relationship? Distribution?

3. Who is the END USER and what do they need?

- Analyst? Manager? Executive? General public?

What TYPE OF DATA are you working with?

 Time-series

 Financial

 Geospatial

 Textual

 Categorical

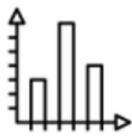
 Funnel

 Hierarchical

 Survey

The type of data you're working with often determines which type of visual will best represent it; for example, using maps to represent geospatial data, line charts for time-series data, or tree maps for hierarchical data

## What do you want to COMMUNICATE?



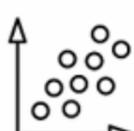
Used to compare values over time or across categories



Used to break down the component parts of a whole



Used to show the frequency of values within a series



Used to show correlation between multiple variables

### Common visuals:

- Column/Bar Chart
- Clustered Column/Bar
- Data Table/Heat Map
- Radar Chart
- Line Chart (time series)
- Area Chart (time series)

### Common visuals:

- Stacked Bar/Column Chart
- Pie/Donut Chart
- Stacked Area (time series)
- Waterfall Chart (gains/losses)
- Funnel Chart (stages)
- Tree Map/sunburst (hierarchies)

### Common visuals:

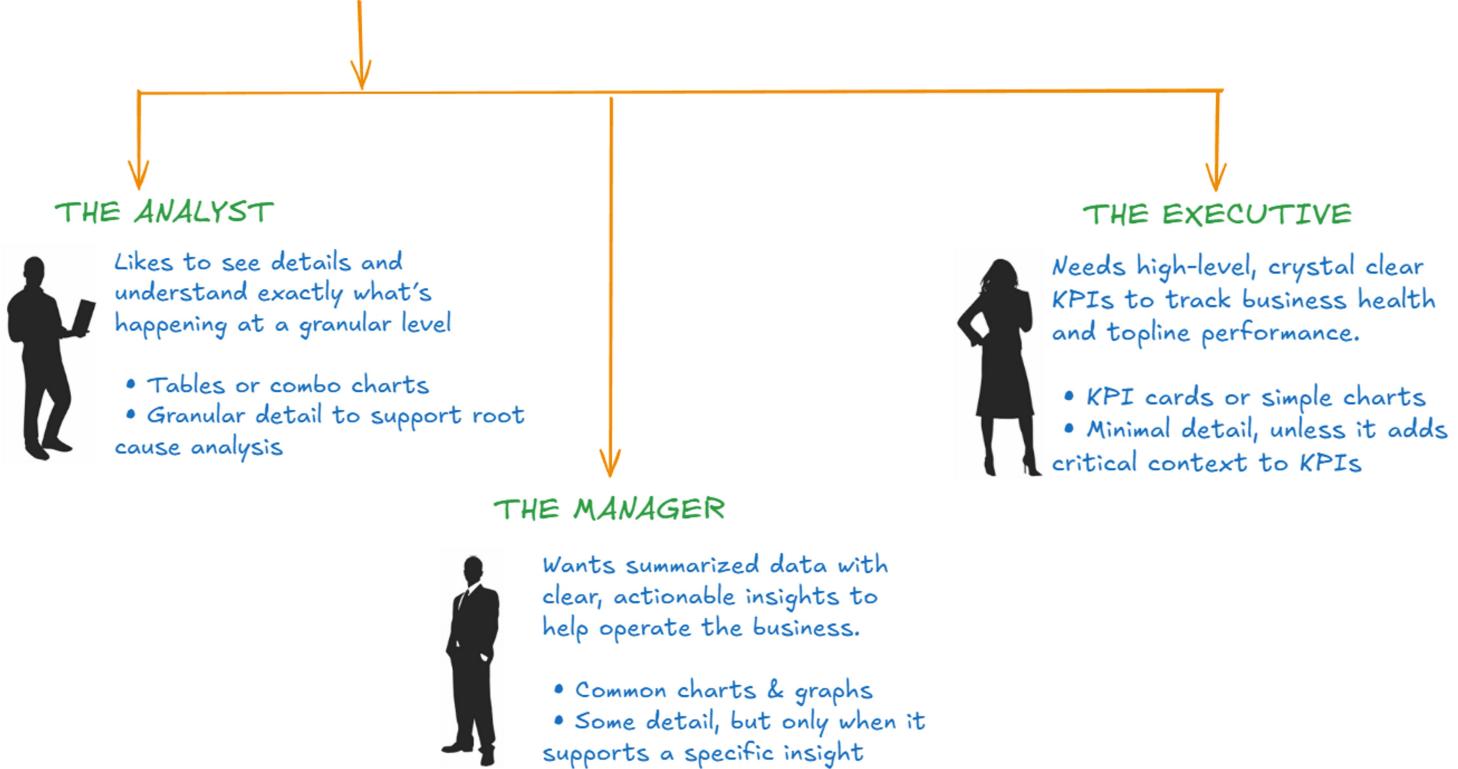
- Histogram
- Density Plot
- Box & Whisker
- Scatter Plot
- Data Table/Heat Map
- Map/Choropleth(geospatial)

### Common visuals:

- Scatter Plot
- Bubble Chart
- Data Table/Heat Map
- Correlation Matrix

Keep it simple! While there are hundreds of charts to choose from, basic options like bars and columns, line charts, histograms and scatterplots often tell the simplest and clearest story.

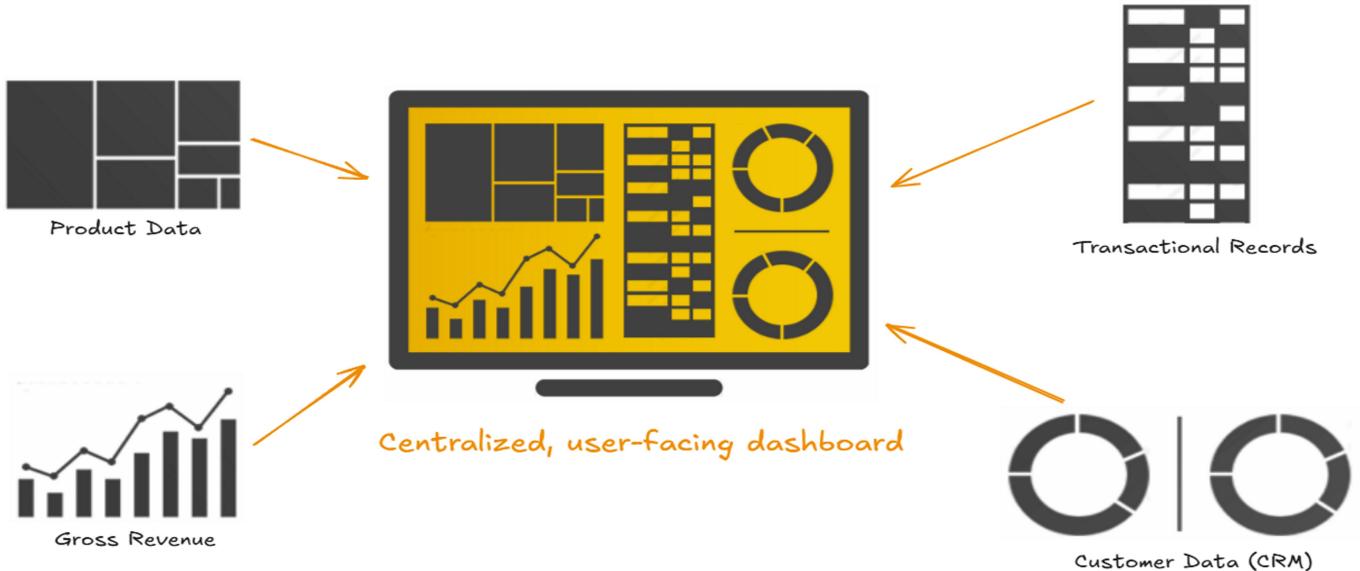
## Who is the END USER and what do they need?



How you visualize and present your data is a function of who will be consuming it; a fellow analyst may want to see granular details, while managers and executives often prefer topline KPIs and clear, data-driven insights.

## ANALYTICS DASHBOARDS

Dashboards are analytics tools designed to consolidate data from multiple sources, track key metrics at a glance, and facilitate data-driven storytelling and decision making.



## DASHBOARD DESIGN FRAMEWORK

1. Define the purpose
2. Choose the right metrics
3. Present the data effectively
4. Eliminate clutter & noise
5. Use layout to focus attention
6. Tell a clear story

A well-designed dashboard should serve a distinct purpose for a distinct audience, use clear and effective metrics and visuals, and provide a simple, intuitive user experience.

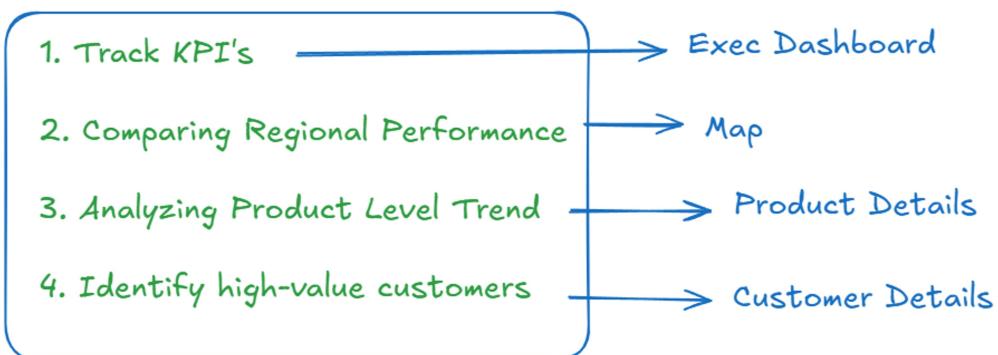
Key questions to consider:

- Who are the end-users of your dashboard?
- What are their key business goals and objectives?
- What are the most important questions they need answers to?
- How can I present information as clearly as possible?

"" Perfection is achieved not when there is nothing more to add, but when there is nothing left to take away ""

## Sketching The Dashboard Layout....

Goals :



## 3 Key Questions :

1. Time Series , Geospatial , Hierarchical , Categorical.
2. Composition & Comparison
3. Manager.

1. What TYPE OF DATA are you working with?

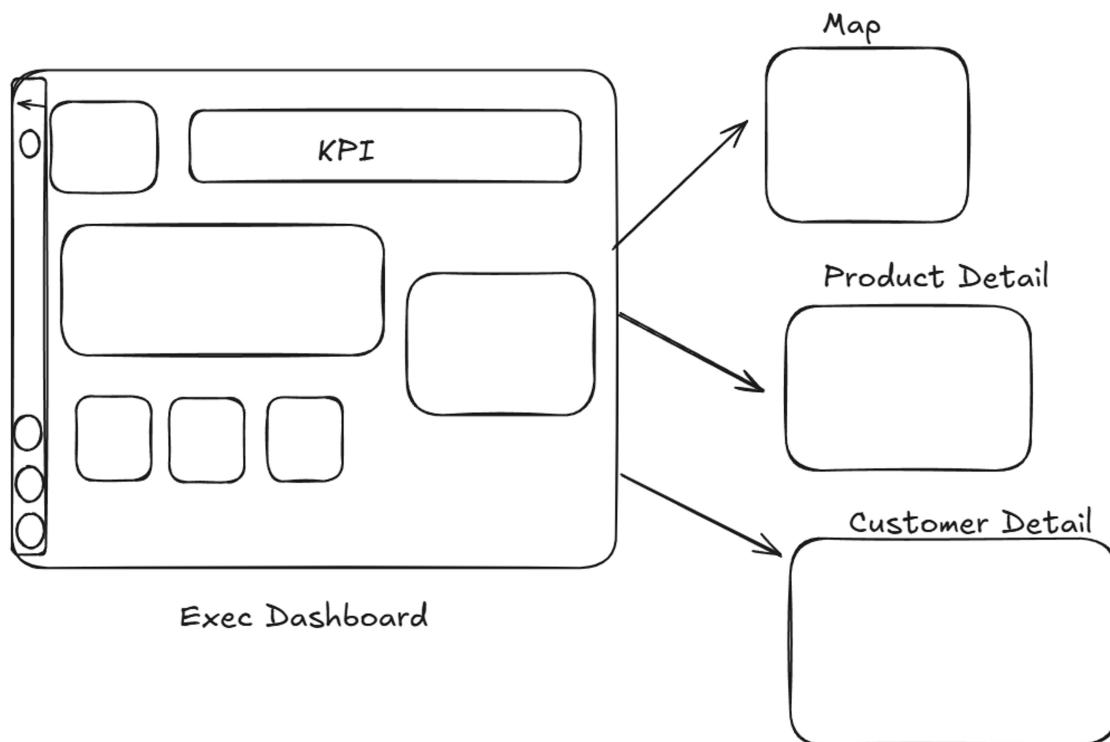
- Geospatial? Time-series? Hierarchical? Financial?

2. What do you want to COMMUNICATE?

- Comparison? Composition? Relationship? Distribution?

3. Who is the END USER and what do they need?

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## Creating Executive Dashboard.

