RISE 2.0 BY BCG U

IU 3.3.8 Power BI Technical Test

RISE 2.0 Business & Data Analytics

AUG 2023

Instructions:

1. You have **2.5 hours** to complete this technical test using Power BI Desktop.
2. Follow the instructions in the following slides to create a dashboard report.
3. All data preparation and visualizations must be done in the same Power BI Desktop file.
4. Save your file as "**PowerBI_test_<your full name>.pbix**" for submission.
5. Remember to save your file intermittently.

Power BI Technical Test

Background

- Sony Interactive Entertainment (SIE) is a multinational video game and digital entertainment company wholly owned by Japanese multinational conglomerate Sony.
- SIE's management aims to perform competitors' analysis, focusing on regional and global trends on the sales of video games across the various gaming platforms.
- You are an analyst tasked to create a dashboard report using Power BI Desktop, in order to help SIE management understand the key insights from the competitors' analysis.

Power BI Technical Test

Data Understanding

10 min

1. You are provided with four datasets:
   i. video_game_genres.csv
   ii. video_game_platforms.csv
   iii. video_game_publishers.csv
   iv. video_game_sales.csv

2. Data Dictionary:

video_game_genres.csv	
Genre ID	Unique ID of each game genre
Genre	Name of each game genre

video_game_platforms.csv	
Platform ID	Unique ID of each gaming platform
Platform Name	Name of each gaming platform type

Power BI Technical Test

Data Understanding

2. Data Dictionary (continued):

video_game_publishers.csv	
Publisher ID	Unique ID of each game publisher
Publisher Name	Name of each game publisher

video_game_sales.csv	
Rank	Ranking of game based on total global sales
Game Name	Unique name of game
Publish Year	Year that the game was released
Platform ID	ID of platform that game was released on
Genre ID	ID of game genre
Publisher ID	ID of game publisher
NA_Sales	Total sales of game in North America (in thousands USD)
EU_Sales	Total sales of game in Europe (in thousands USD)
JP_Sales	Total sales of game in Japan (in thousands USD)
Other_Sales	Total sales of game in other regions (in thousands USD)

Power BI Technical Test

Q1: Data Loading and Preparation

10 min

a. In a new Power BI Desktop file, import the **video_game_sales** dataset first.

b. Update the **Publish Year** data type to Date format.

c. Remove rows with missing values in the **Publish Year** column.

d. Add the **video_game_genres**, **video_game_platforms** and **video_game_publishers** data sources.

e. Verify that the relationships of all four data tables are automatically and correctly created by Power BI Desktop in Model View.

Power BI Technical Test

Q2: Dashboard 1

50 min

Create a sales report for **North America (NA)** for releases from **2012 to 2016** only.

a. In **Report View**, rename Page 1 to "**NA Sales**", and create a title for this page using a text box - "**Overview of Video Game Sales in North America (2012-2016)**".
b. Create the relevant **page filter(s)**.
c. Under the **video_game_sales** table, create a new measure **"NA Average Sales"**.
d. Create a multi-row card for the **top 3 platforms** and their corresponding **NA Average Sales**.
e. Create a vertical bar chart for the **total NA Sales** based on **platforms**.
f. Create donut chart to display the proportions of **total NA Sales** by **genre**.
g. Create a tree map to display the **top 10 publishers** and the corresponding **NA Average Sales**.
h. Create a card to display the **top grossing game title** based on **NA Average Sales**.

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Q3: Dashboard 2

60 min

Create a sales report for **Japan** across **all years**.

a. Create a new page and rename it as "**JP Sales**", and create a title for this page using a text box – **"Overview of Video Game Sales in Japan across all years"**.

b. Create a ribbon chart for the trend of the **top 5 genres** by **total JP Sales** across all years.

c. Under the **video_game_sales** table, create the new measure "**JP Average Sales**".

d. Create a line and clustered column chart to compare the **average sales** figures between **Japan and North America** aross all years. Use the bar chart for Japan sales and line chart for North America sales.

e. Enable the Zoom slider on the line and clustered column chart for the **x-axis** and **both y-axes**.

f. Under the **video_game_sales** table, create the new measure "**Count of Sales**".

g. Create a stacked area chart to show the **total number of transactions** based of **platforms** across all years.

h. Create a table to show the **game name, genre, platform name, publisher name** and **JP Sales** for **the top 5 grossing game titles** based **on total JP Sales across all years**. Sort the table in descending order by sales.

i. Create a slicer based on the **publisher names**.

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Q4: Dashboard Design Principles

15 min

Review your dashboards and ensure that good dashboard design principles have been applied across all of them.

a. Ensure appropriate titles, axis labels, and data labels are on all visuals where necessary.

b. Ensure appropriate positioning, sizing, and alignment of charts on each page.

c. Ensure overall intuitiveness and ease of use of dashboards.

Power BI Technical Test

End of Test Submission

5 min

1. If you have yet to do so, save and rename your Power BI Desktop file as "**PowerBI_test_<your full name>.pbix**".

2. Follow the instructions of the TA and submit only your Power BI Desktop file (.pbix file).

3. Congratulations! You have completed the Power BI technical test!


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