

Predicting Video Game Ratings and Sales

Improving Video Game Development

By: Benjamin Lavoie

Visuals



Introduction

According to Statista, video games are the most lucrative entertainment industry.

As a video game fan, it made me wonder:

Can video game ratings and sales be predicted before release?



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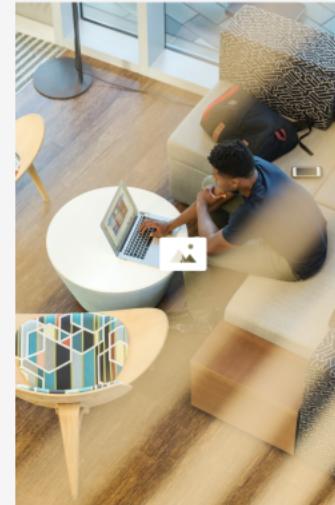


Video game predictions

I think they can.

Who could benefit from that?

- Indie developers
- Solo developers
- Game studio of any size
- Any curious video game fan



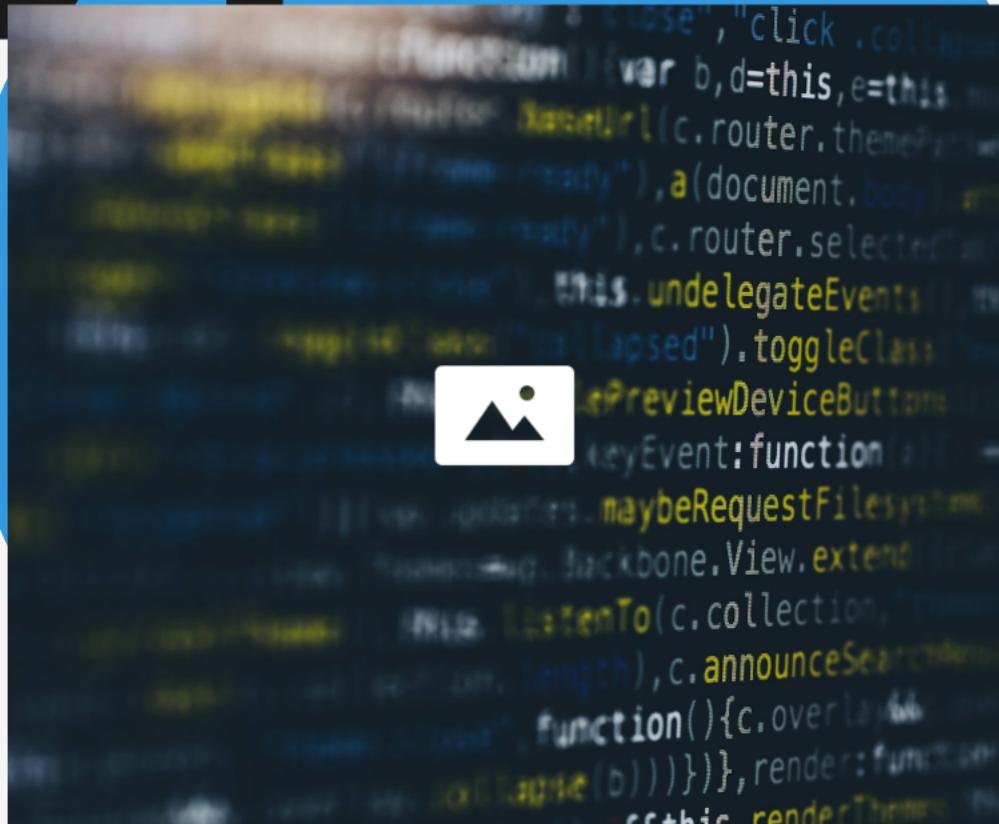
Based on what data?

3 main datapoints:

1. Game sales
2. Metacritic and OpenCritic scores
3. Game features



01



Sales Trends

Identifying sales trends and patterns in the video game industry to guide predictive strategies.

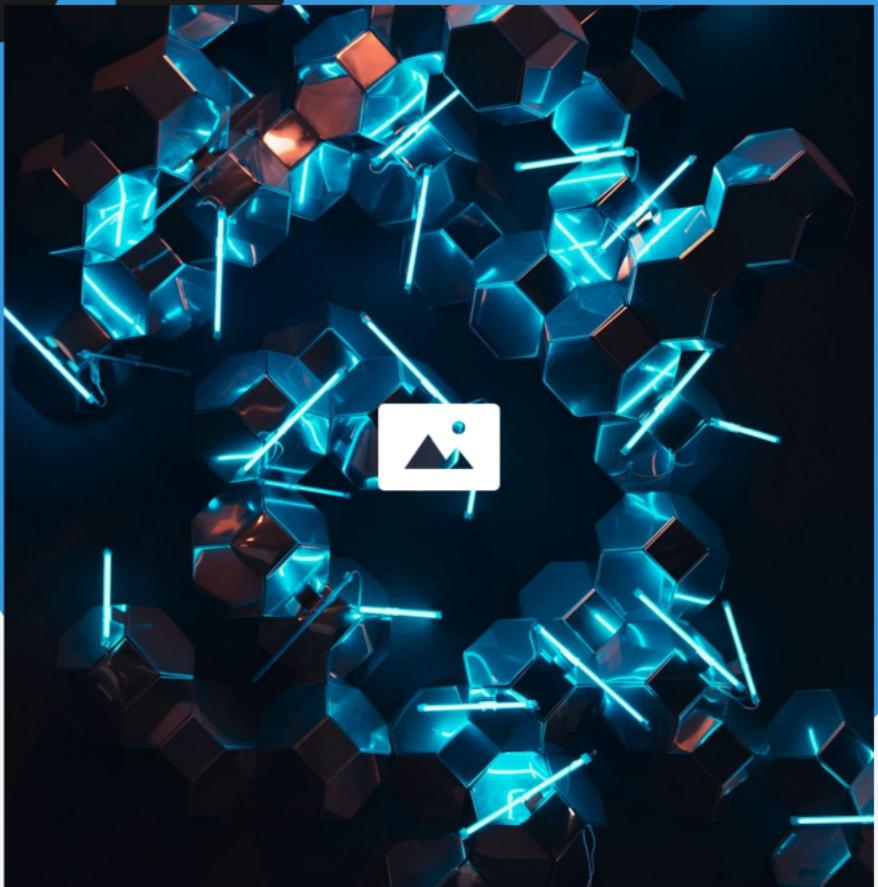
02



Game scores

Exploring data on previous game ratings and evaluating games with similar features to predict if the game will be well-received.

03

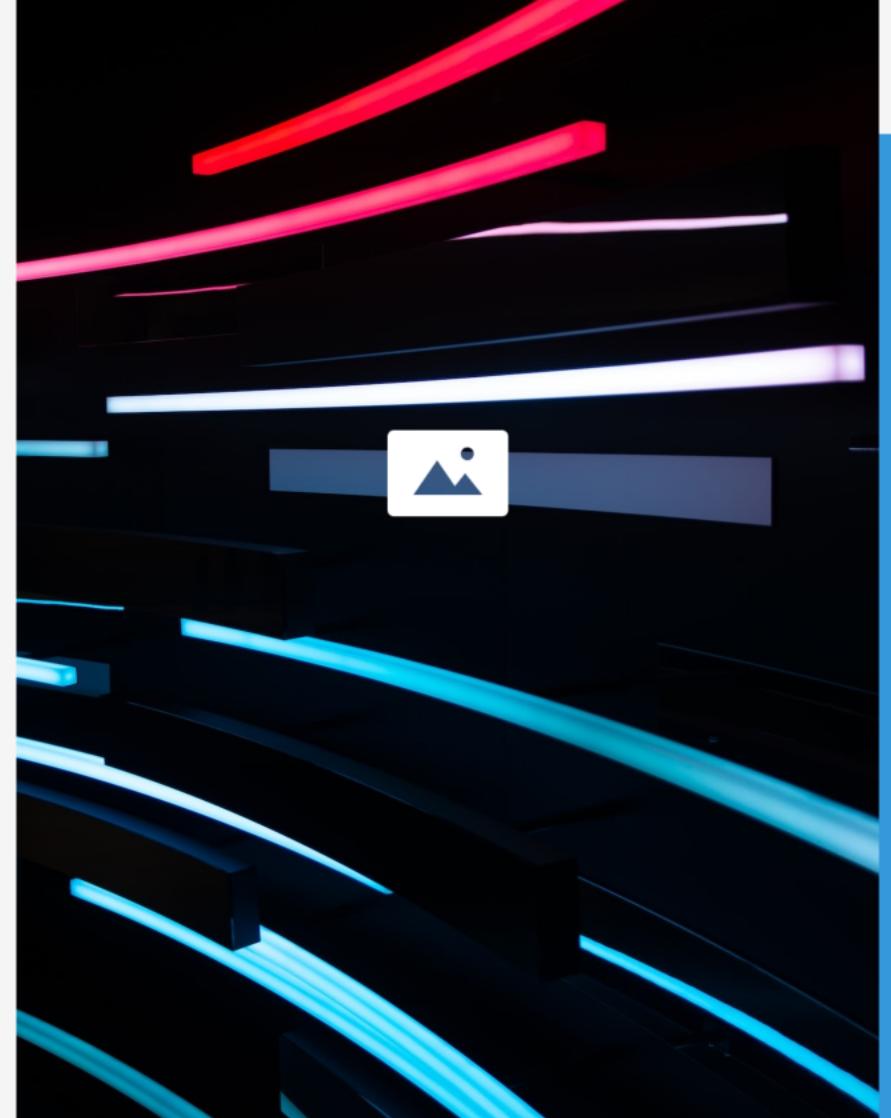


Game features

- Developer and publisher
- Number of players
- Genre
- Story-focused or Gameplay-focused
- ESRB Rating

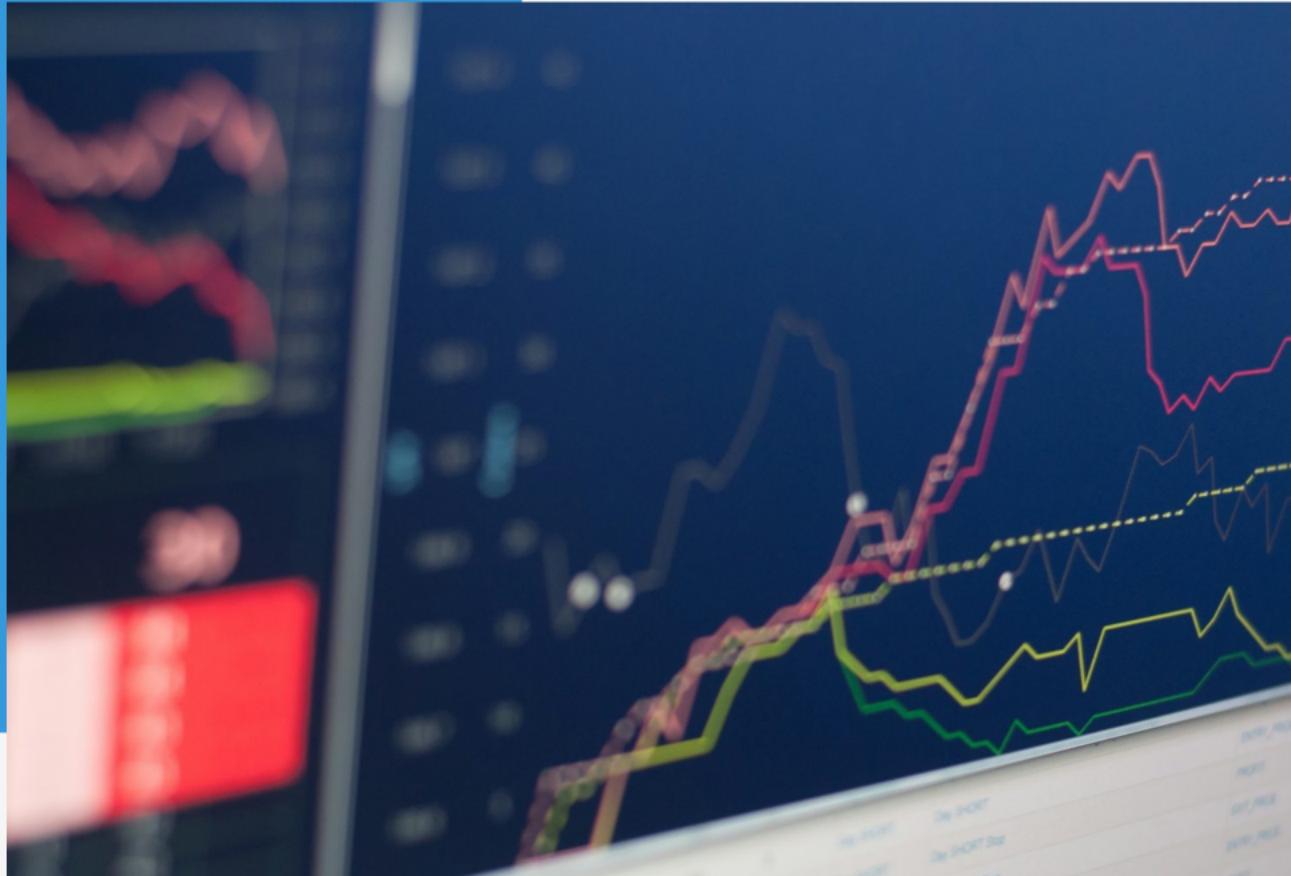
Next steps:

- Cleaning the dataset and filling the empty values as needed (still in the works)
- Trying multiple types of regression models



Next steps:

- Training the model for maximum efficiency
- Hosting the project on a website for easy utilization
- Export a clean dataframe/CSV on Kaggle for other users



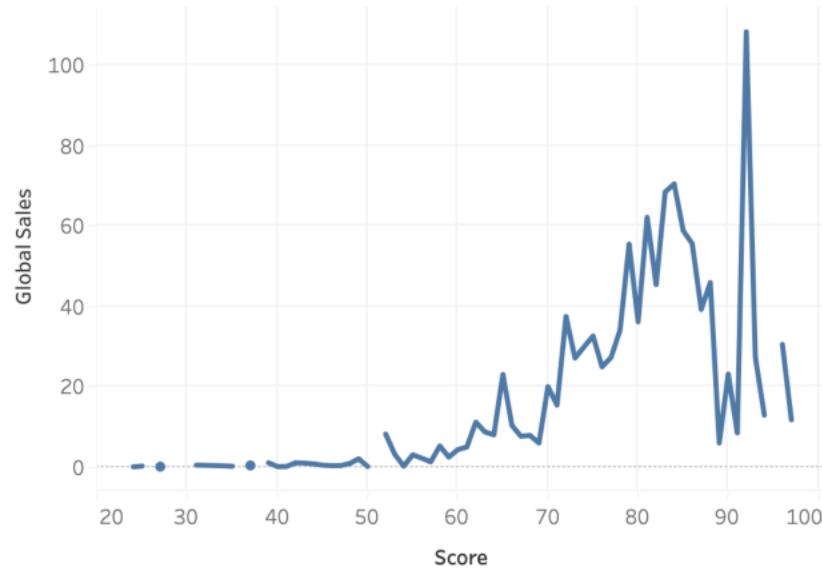
And then?

Hopefully, I can continue to update the dataset and the models every quarter, every 6 months or every year

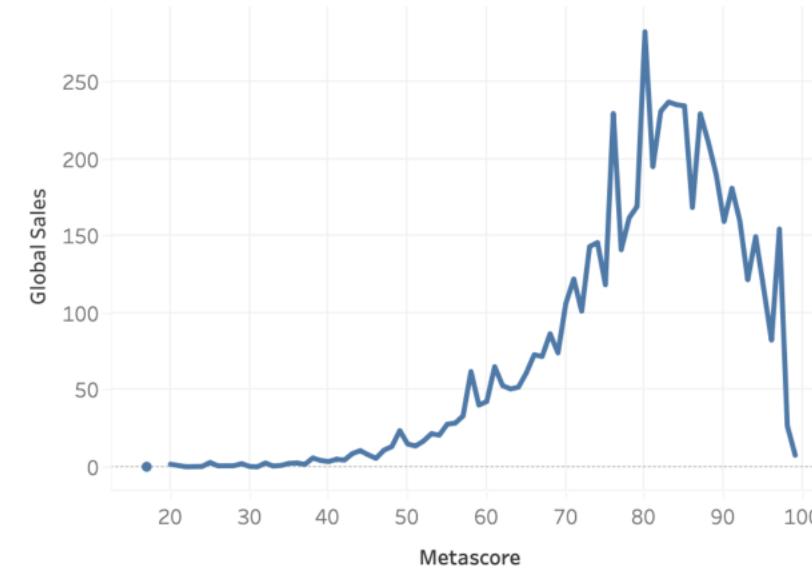


As for now, here are my findings

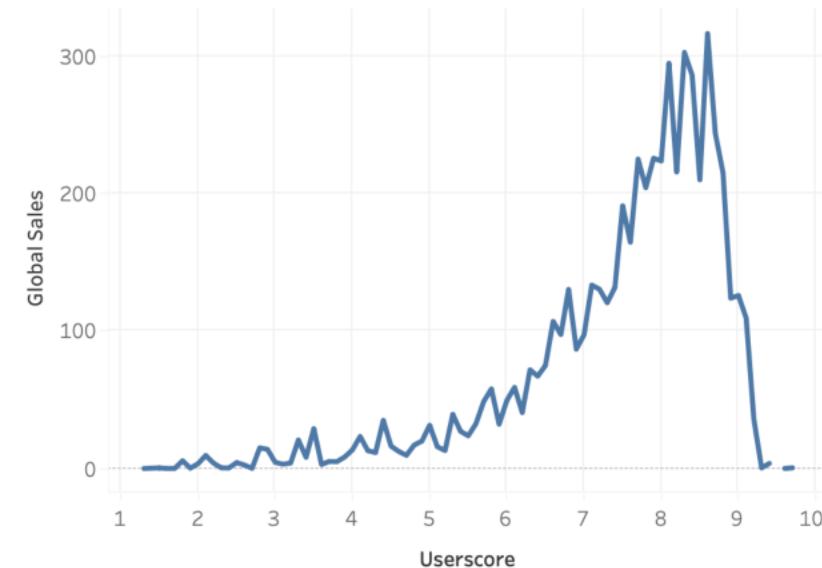
Global Sales per OpenCritic Score



Global Sales per Metacritic Score



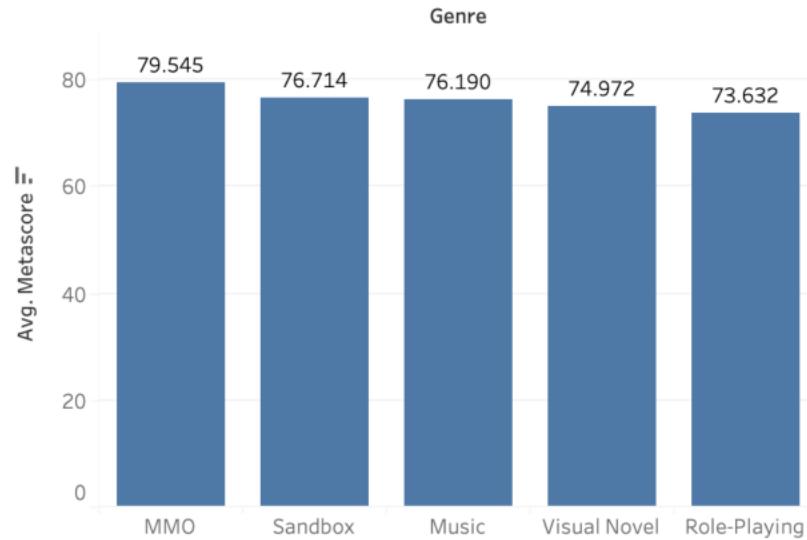
Global Sales per User Score



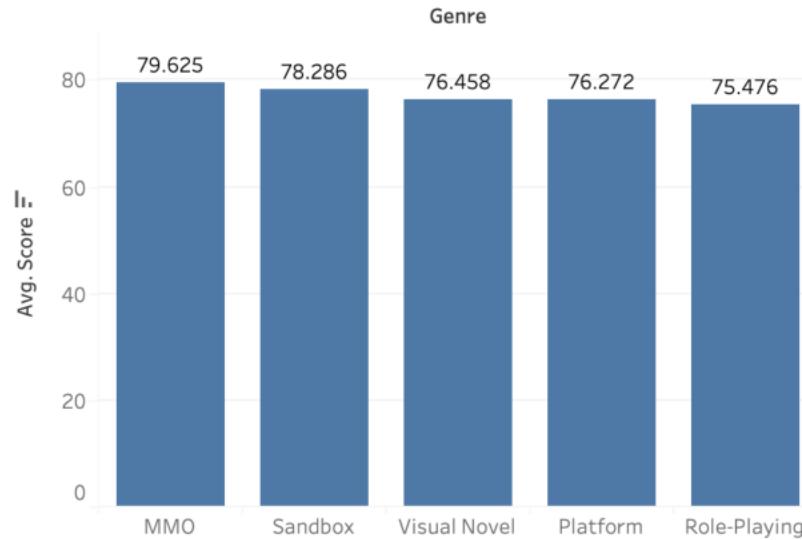
Global sales and ratings have some correlation, but not completely.

For now, user scores seem to be the most accurate.

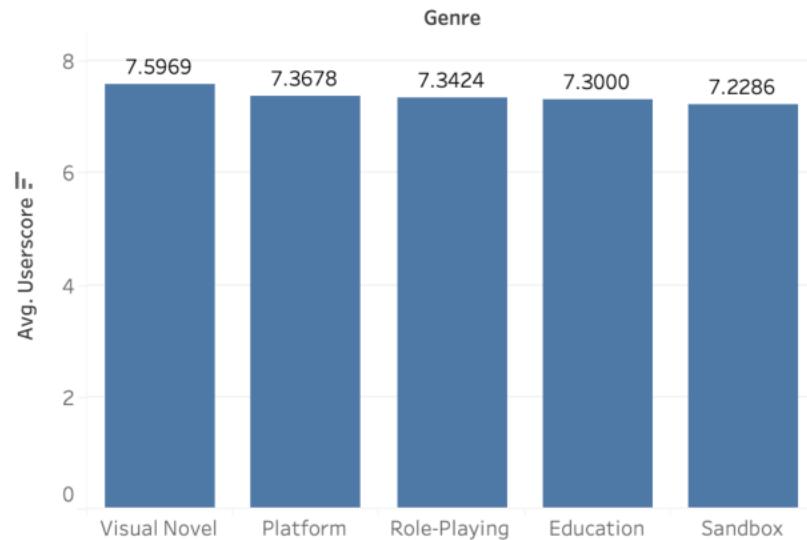
Top 5 Average Metascore per Genre



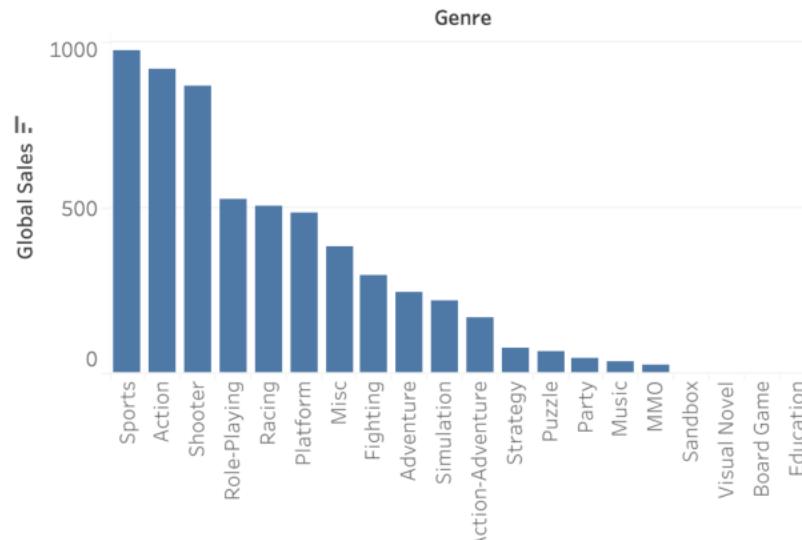
Top 5 Average OpenCritic Score per Genre



Top 5 Average Userscore per Genre



Global Sales per Genre



The top 5 genres is different, depending on which type of scores we are checking.

Top 3 genres per sales are Sports, Action and Shooter. However, none of them are in any top 4 of the best-scored games.

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The collage includes:

- A large blue circle containing the word "Visuals".
- A screenshot of a video game prediction interface showing a list of games and their details.
- A dashboard titled "Video game predictions" with sections for "Based on sales detail" and "Based on sales history".
- A central illustration of a 3D bar chart with people interacting with it, representing data analysis.
- A pie chart and line graph on a screen.
- A flowchart on a pink board.
- Three numbered circular icons at the bottom left:
 - 01 Sales Trends**: Identifying sales trends and patterns in the video game industry to guide predictive strategies.
 - 02 Game scores**: Exploring data on previous game reviews to identify key user features to predict if the game will be well-received.
 - 03 Game features**: Developer and publisher, Number of players, Game, Story-focused or Gameplay-focused, ESRB Rating.
- A keyboard in the foreground.
- Text boxes on the right:
 - Introduction**: According to Statista, video games are the most lucrative entertainment industry. As a video game fan, it made me wonder: Can video game ratings and sales be predicted before release?
 - Conclusion**: Accurate prediction models can greatly benefit indie game developers in pricing and timing their games for success.
 - Next steps**: Using the insights and all the insights we have on手books of the market, I'm going to build a model for predicting sales and ratings for future games.
 - Final step**: Using the model to update the prediction every quarter, review & monitor many game.

Conclusion

Accurate prediction models can greatly benefit indie game developers in pricing and timing their games for success.

For this reason, I can't wait to finish the cleaning and the EDA, and start working with different regression models.

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- A large blue circle containing the word "Visuals".
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- A dashboard titled "Video game predictions" with sections for "Based on sales detail" and "Based on sales history".
- An illustration of a person standing on a bar chart, with another person pointing at a line graph above them.
- A green line graph with circular markers, with a person pointing at it.
- A pink box labeled "Conclusion" with the text: "Accurate prediction models can greatly benefit indie game developers in pricing and timing their games for success."
- A text box: "For this reason, I can't wait to finish the cleaning and the EDA, and start working with different regression models."
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- A keyboard in the foreground.
- Small images of people working on laptops and a smartphone.
- Text boxes for "Next steps":
 - Using the insights and all the insights we have to build a machine learning model.
 - Fitting the model to the data by adjusting the parameters until the model fits the data well.
 - Using the model to make predictions for new games.
- Text boxes for "And next?":
 - Using the insights to update the model every time a new game comes out.
 - Having the model learn from many games.