

Analysis of Video Game Dataset

Client: **SONY**



by Dat Mai & Mingfei Ma

Sony is preparing to launch their newest generation of PlayStation, Playstation 5 (PS5)

Objectives

01

FIND THE
SONY'S GAME
DESERVE A
SEQUENCE.

02

SELECT THE
RIGHT GENRE,
RATING FOR
SONY'S NEW
GAME.

03

EXTRA
INTERESTING
THING WE HAVE
LEARN FROM
THE ANALYSIS.

DATA CLEANING & ADAPTATION

Raw Video Game Sales Dataset

Name	Platform	Year_of_Release	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales	Critic_Score	Critic_Count	User_Score	User_Count	Developer	Rating
Wii Sports	Wii	2006	Sports	Nintendo	41.36	28.96	3.77	8.45	82.53	76	51	8.0	322	Nintendo	E
Super Mario Bros.	NES	1985	Platform	Nintendo	29.08	3.58	6.81	0.77	40.24	NA	NA	NA	NA	NA	NA
Mario Kart Wii	Wii	2008	Racing	Nintendo	15.68	12.76	3.79	3.29	35.52	82	73	8.3	709	Nintendo	E
Wii Sports Resort	Wii	2009	Sports	Nintendo	15.61	10.93	3.28	2.95	32.77	80	73	8.0	192	Nintendo	E
Pokemon Red/Pokemon Blue	GB	1996	Role-Playing	Nintendo	11.27	8.89	10.22	1.00	31.37	NA	NA	NA	NA	NA	NA
Tetris	GB	1989	Puzzle	Nintendo	23.20	2.26	4.22	0.58	30.26	NA	NA	NA	NA	NA	NA
New Super Mario Bros.	DS	2006	Platform	Nintendo	11.28	9.14	6.50	2.88	29.80	89	65	8.5	431	Nintendo	E
Wii Play	Wii	2006	Misc	Nintendo	13.96	9.18	2.93	2.84	28.92	58	41	6.6	129	Nintendo	E

Lots of unnecessary information

About Sony

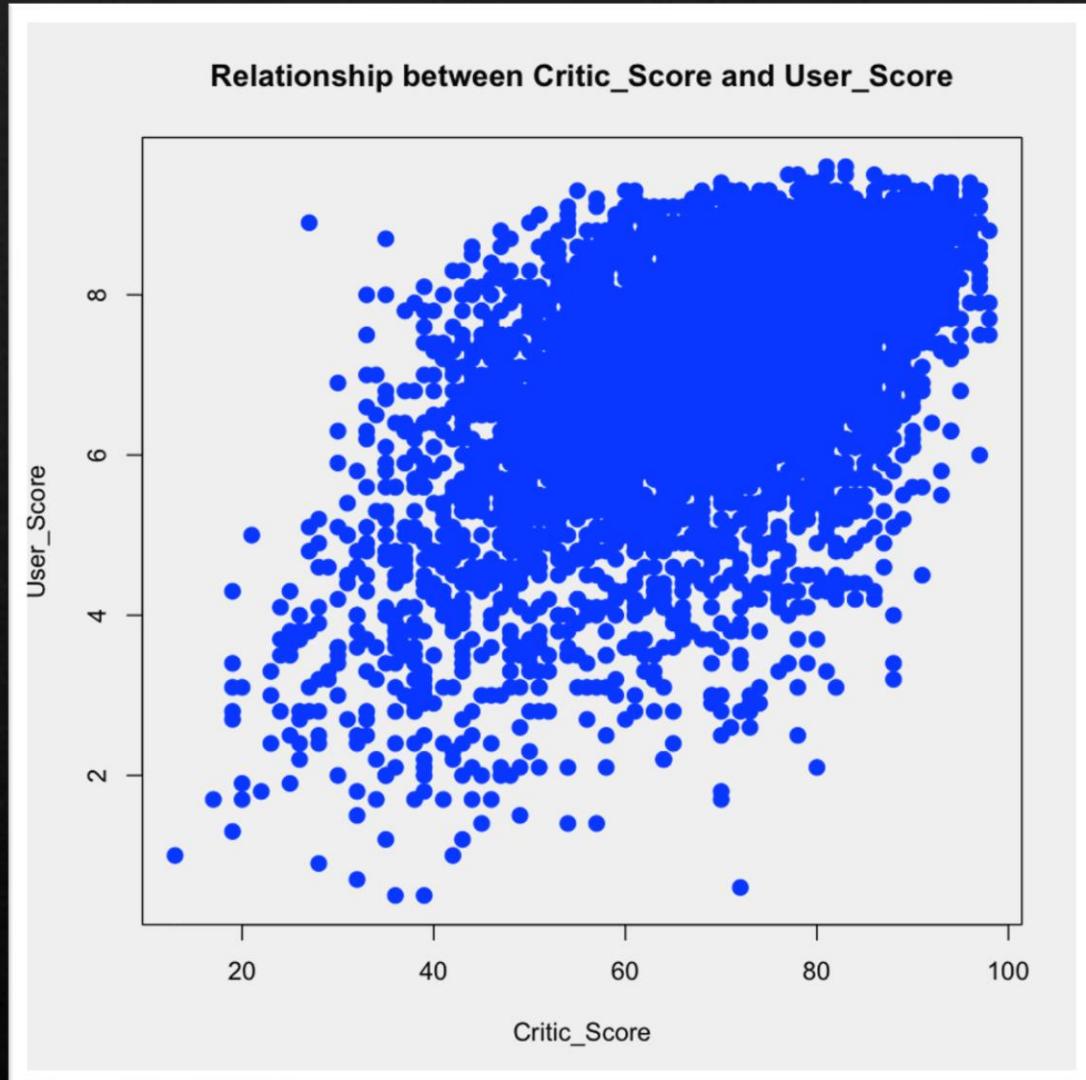
- ❖ Sony Computer Entertainment (SCE) or Sony Interactive Entertainment (SIE)
- ❖ Sony has been developing PlayStation home video game consoles, accessories and services lineup since 1994. => We do not analyze other platforms which belong to Sony competitors.
- ❖ Sony is a multinational company, releasing their own games and also help publishing other games. => We do not take developers into account on this analysis.

Plot to see if **User_Score**
can replace **Critic_Score**

They have no connections
between two kinds of score

ADAPTATION:

$$\text{Total_Scores} = (\text{Critic_Score} + \text{User_Score})/2$$



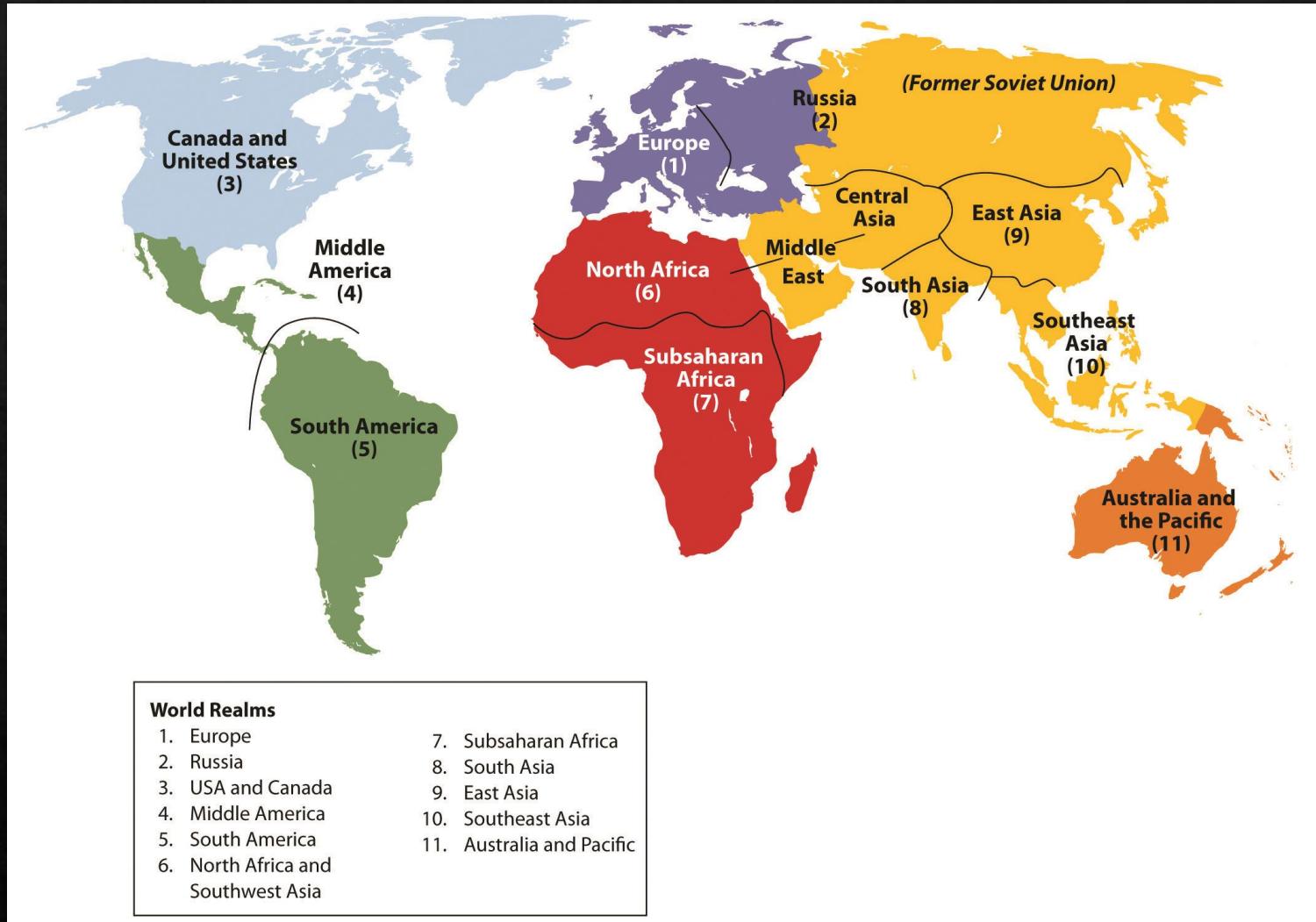
Combining Sale Regions

There are 4 regions in dataset:
NA_Sales, EU_Sales, JP_Sales,
Other_Sales

ADAPTATION:

$$\text{Western_Sales} = \text{NA_Sales} + \text{EU_Sales}$$

$$\text{Eastern_Sales} = \text{JP_Sales} + \text{Other_Sales}$$



	Name	Genre	Publisher	Western_Sales	Eastern_Sales	Global_Sales	Total_Score	Rating	Year_of_Release
1	Wii Sports	Sports	Nintendo	70.32	12.22	82.53	7.80	E	2006
3	Mario Kart Wii	Racing	Nintendo	28.44	7.08	35.52	8.25	E	2008
4	Wii Sports Resort	Sports	Nintendo	26.54	6.23	32.77	8.00	E	2009
7	New Super Mario Bros.	Platform	Nintendo	20.42	9.38	29.80	8.70	E	2006
8	Wii Play	Misc	Nintendo	23.14	5.77	28.92	6.20	E	2006
9	New Super Mario Bros. Wii	Platform	Nintendo	21.38	6.94	28.32	8.55	E	2009
12	Mario Kart DS	Racing	Nintendo	17.18	6.03	23.21	8.85	E	2005
14	Wii Fit	Sports	Nintendo	16.95	5.75	22.70	7.85	E	2007
15	Kinect Adventures!	Misc	Microsoft Game Studios	19.89	1.93	21.81	6.20	E	2010
16	Wii Fit Plus	Sports	Nintendo	17.50	4.30	21.79	7.70	E	2009

New video games sales in 21st century

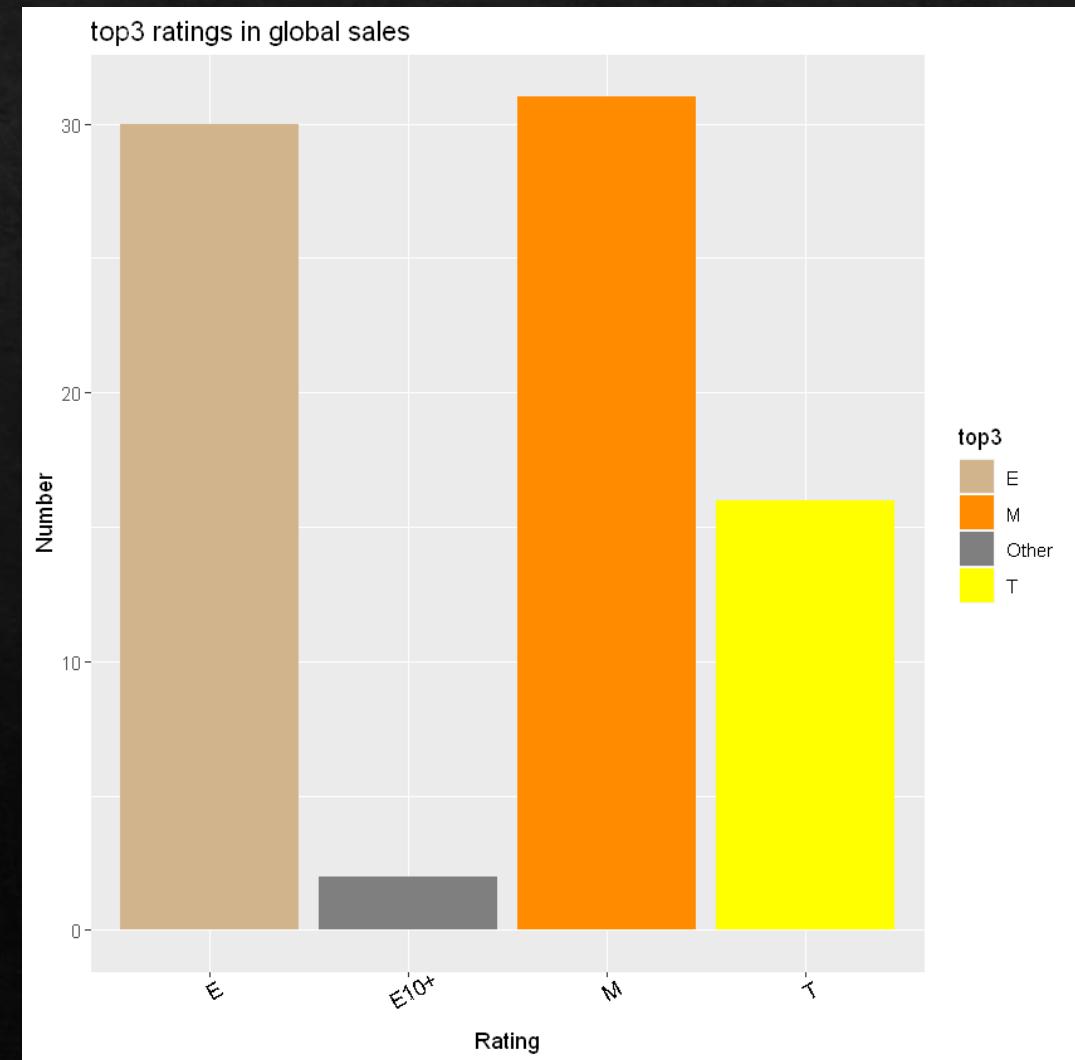
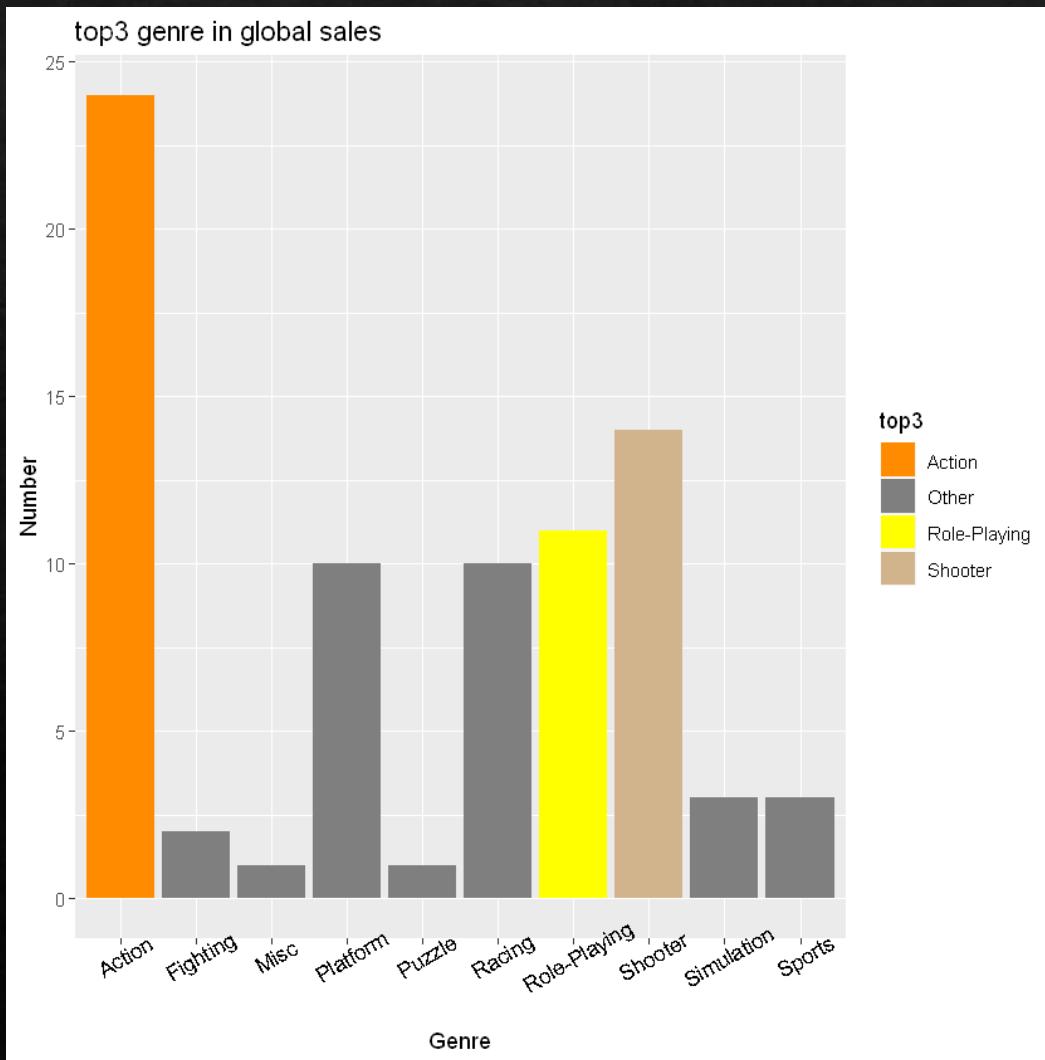
Sorted by Year_of_Release >= 2000

	Name	Platform	Genre	Publisher	Western_Sales	Eastern_Sales	Global_Sales	Total_Score	Rating	Year_of_Release
3	Mario Kart Wii	Wii	Racing	Nintendo	28.44	7.08	35.52	8.25	E	2008
4	Wii Sports Resort	Wii	Sports	Nintendo	26.54	6.23	32.77	8.00	E	2009
7	New Super Mario Bros.	DS	Platform	Nintendo	20.42	9.38	29.80	8.70	E	2006
9	New Super Mario Bros. Wii	Wii	Platform	Nintendo	21.38	6.94	28.32	8.55	E	2009
12	Mario Kart DS	DS	Racing	Nintendo	17.18	6.03	23.21	8.85	E	2005
17	Grand Theft Auto V	PS3	Action	Take-Two Interactive	16.11	4.94	21.04	8.95	M	2013
18	Grand Theft Auto: San Andreas	PS2	Action	Take-Two Interactive	9.83	10.98	20.81	9.25	M	2004
24	Grand Theft Auto V	X360	Action	Take-Two Interactive	14.80	1.47	16.27	8.90	M	2013
25	Grand Theft Auto: Vice City	PS2	Action	Take-Two Interactive	13.90	2.25	16.15	9.10	M	2002
29	Gran Turismo 3: A-Spec	PS2	Racing	Sony Computer Entertainment	11.94	3.03	14.98	8.95	E	2001

Best games in the history

Total Score >= 8 ; Global Sales >= 5 millions

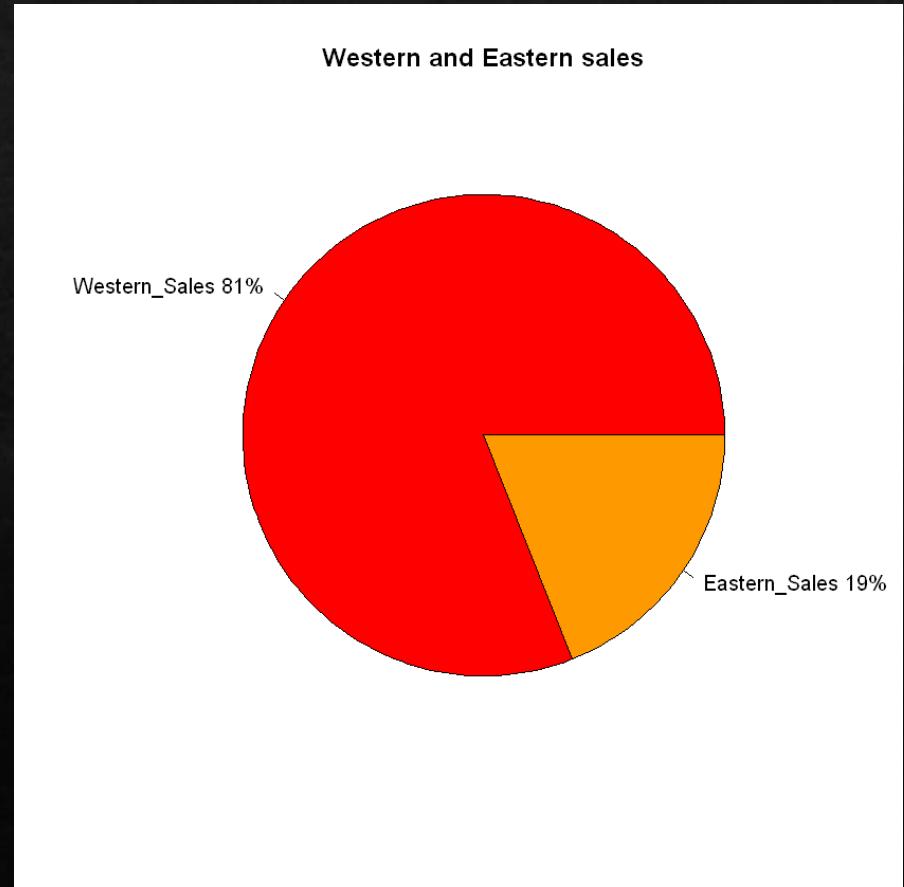
Trends in gaming industry



Portion of Western and Eastern Sales

Western_Sales has taken 81% of total sales on the world

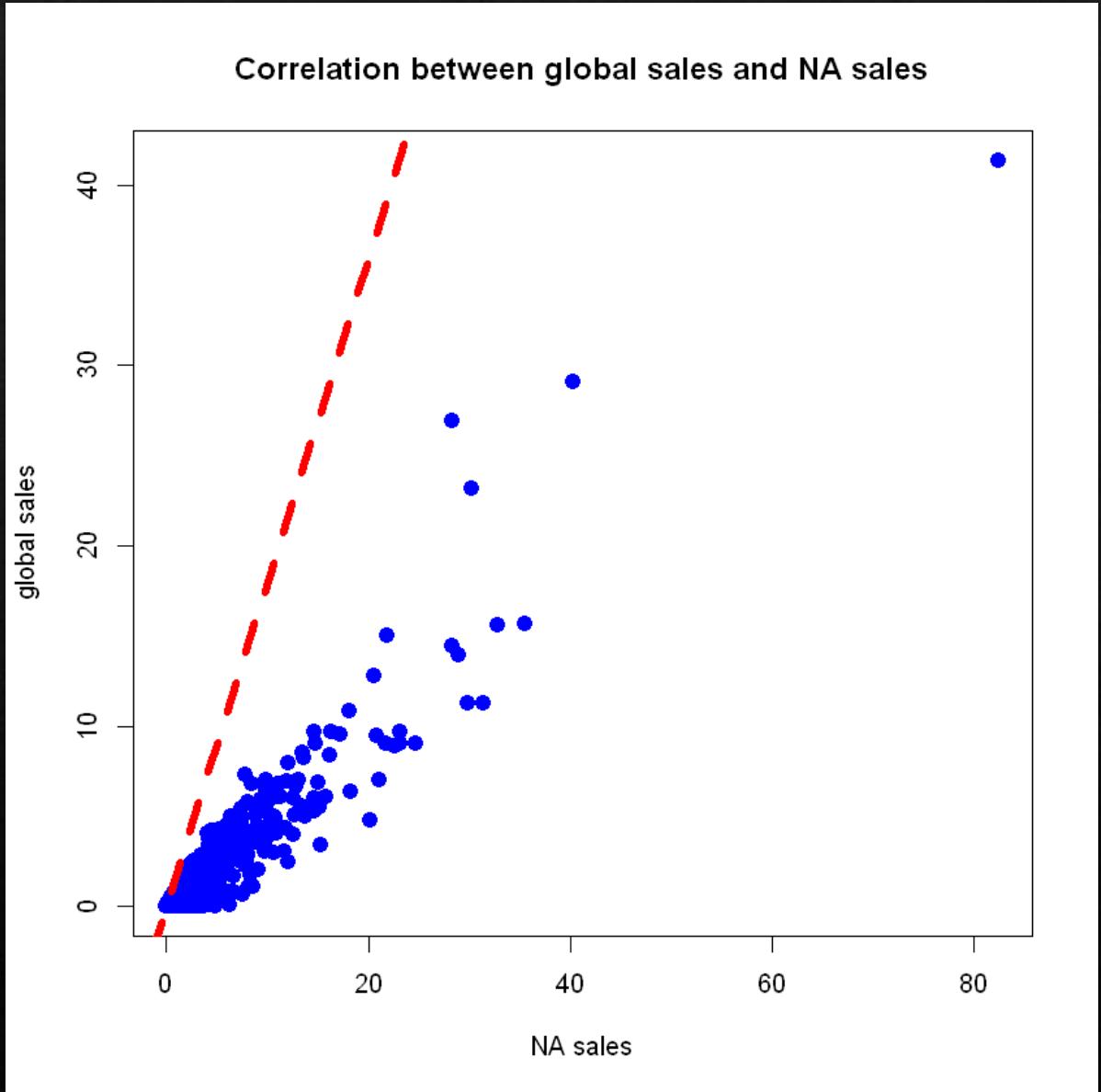
\ We predict that there will be a strong relationship between Western_Sales and Global_Sales.



SIMPLE LINEAR REGRESSION & MULTIPLE LINEAR REGRESSION

SLR:
 $\text{Global_Sales} \sim \text{NA_Sales}$

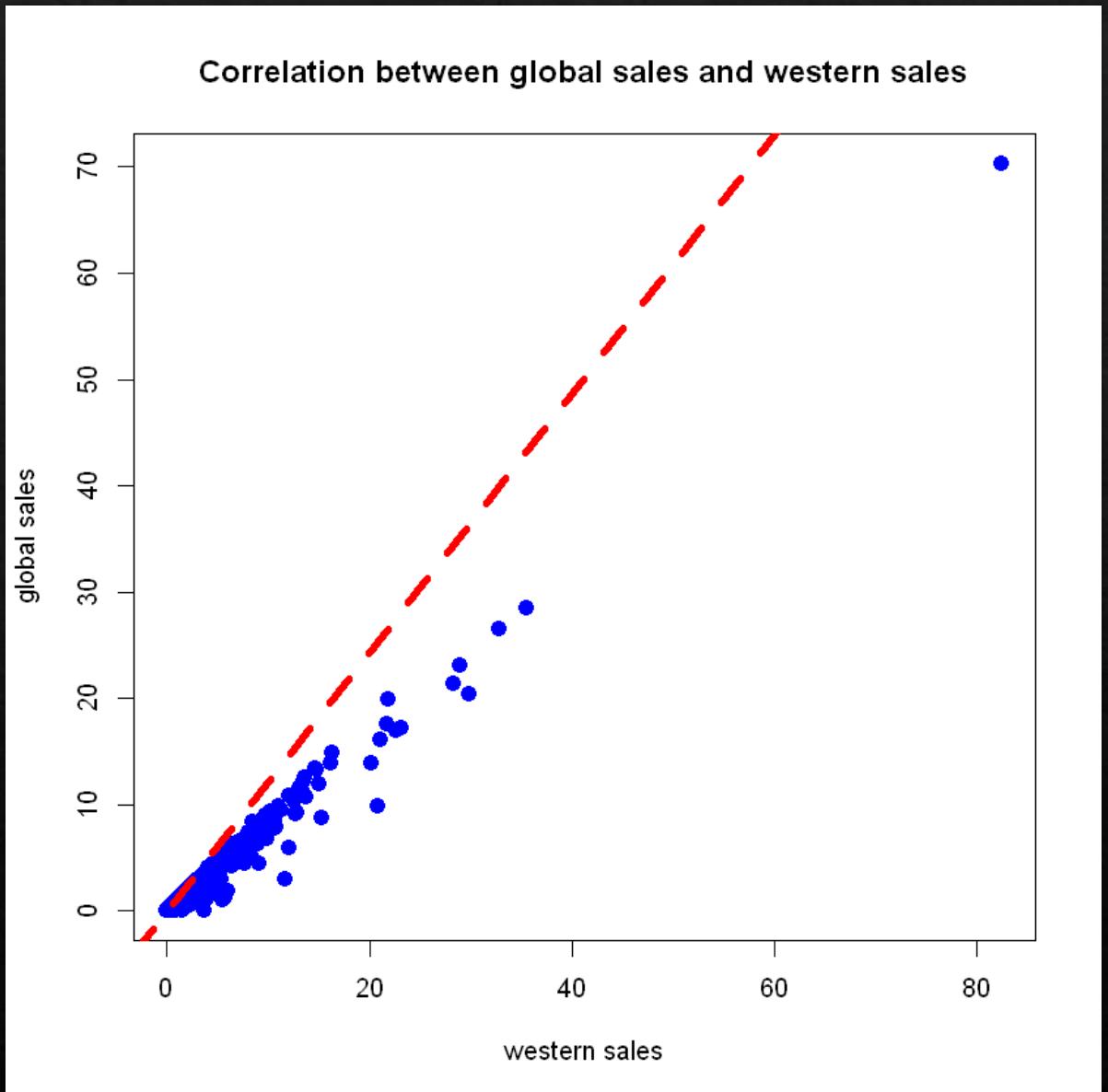
After a several SLR, we found out that NA_Sales has the largest correlation with Global_Sales .



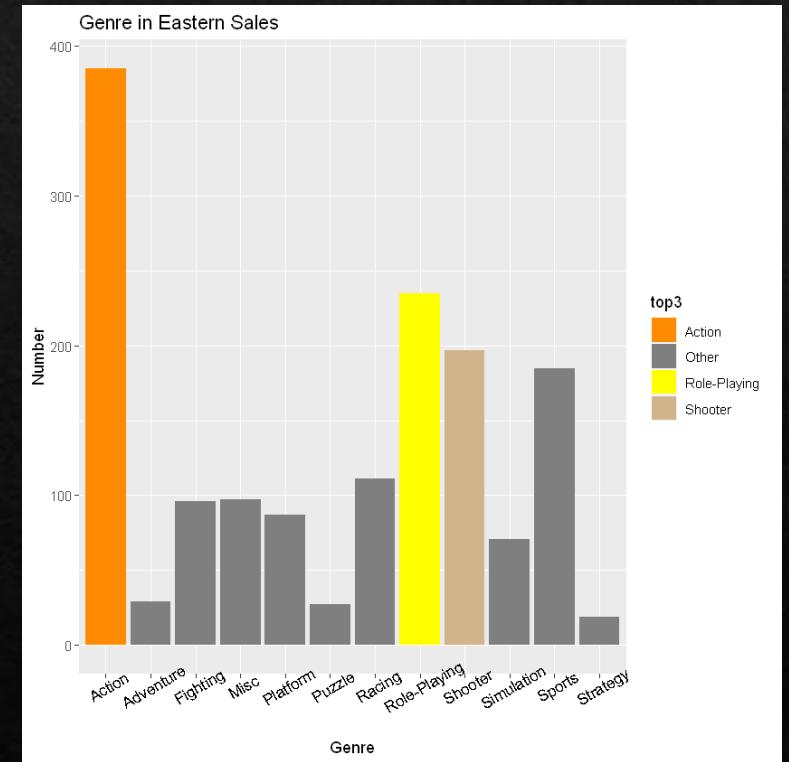
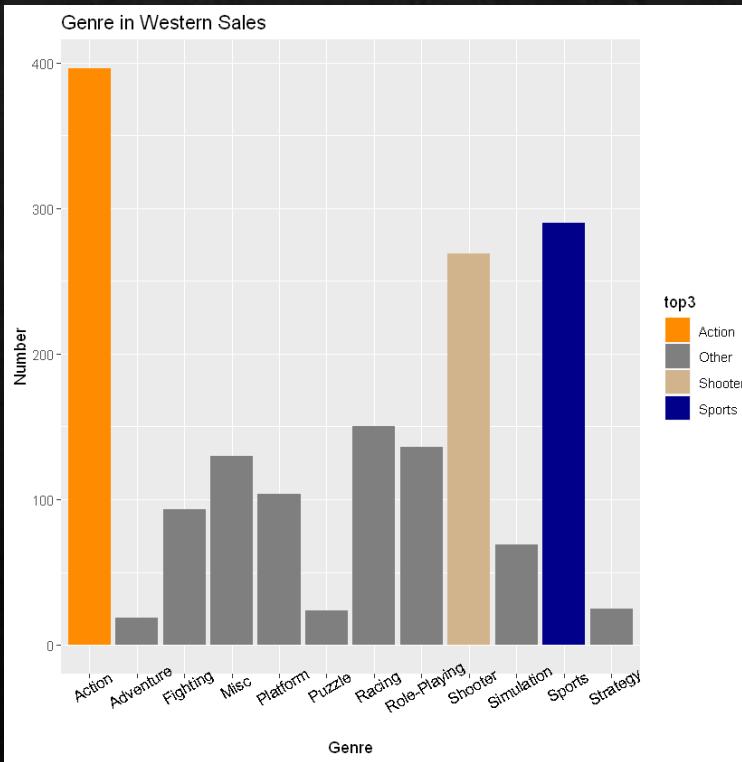
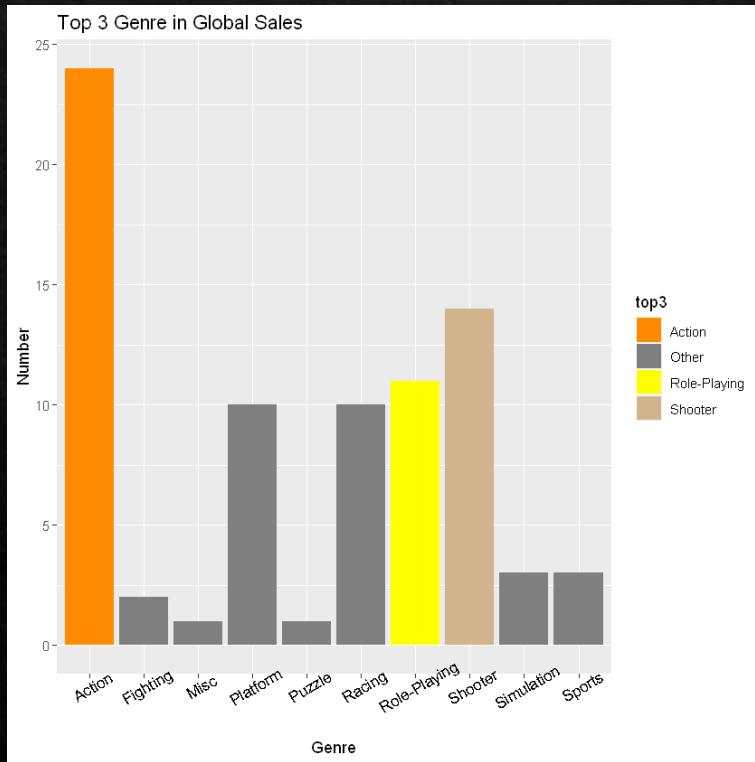
MLR:
 $\text{Global_Sales} \sim \text{NA_Sales} + \text{EU_Sales}$

Linear Model becomes more accurate
when add EU_Sales as predictor.

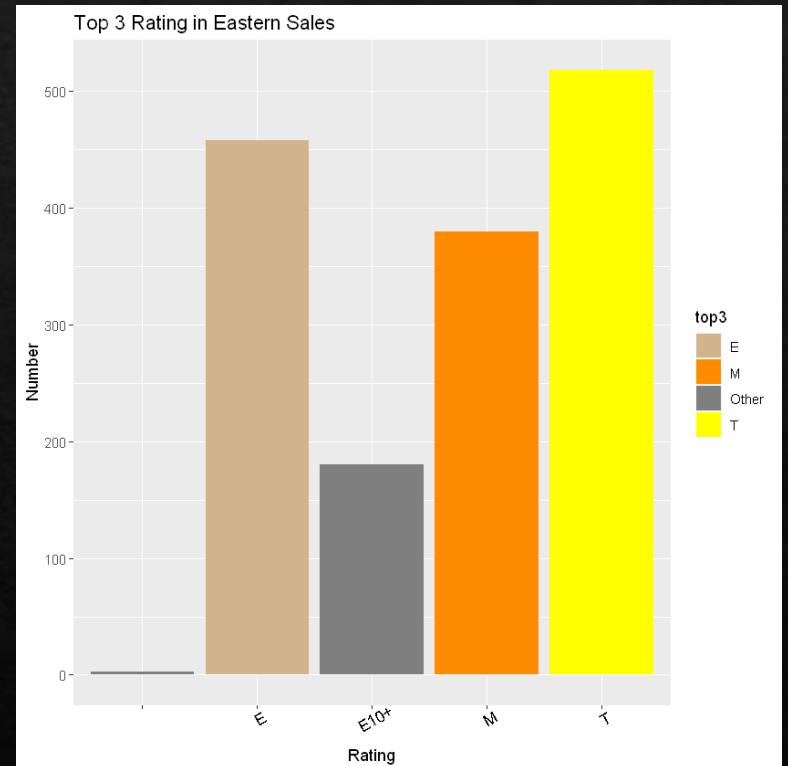
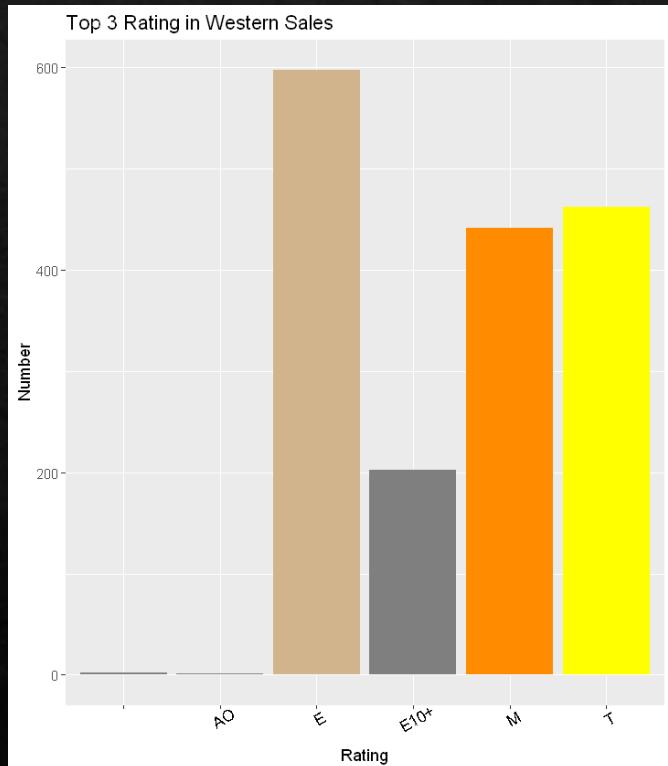
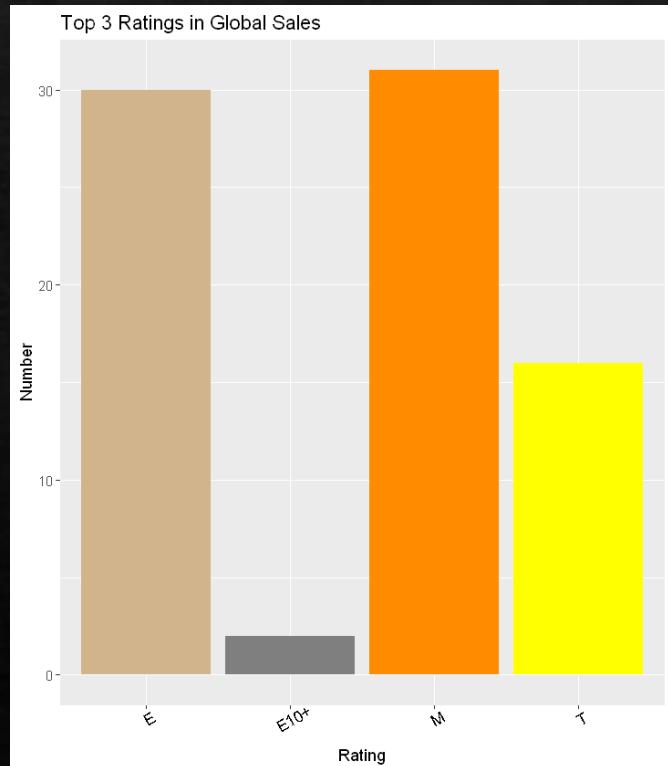
Western_Sales is more correlated to
Global_Sales, and it is better than only
NA_Sales or EU_Sales



Genre Comparison



Rating Comparison



top3

- E
- M
- Other
- T

Summary

Global favorite:

- Favorite Genre in gaming industry: **Action**, **Shooter** and **Role-Playing**
- Favorite Rating in gaming industry: **M - Mature** and **E - Everyone**

Western favorite:

- Favorite Western Genre: **Action**, **Sport** and **Shooter**
- Favorite Western Rating: **E - Everyone**, **T - Teen** and **M - Mature**

Eastern favorite:

- Favorite Eastern Genre: **Action** and **Role-Playing**
- Favorite Eastern Rating: **T - Teen**, **E - Everyone** and **M - Mature**

	Name	Genre	Publisher	Western_Sales	Eastern_Sales	Global_Sales	Total_Score	Rating	Year_of_Release
10	Uncharted 4: A Thief's End	Shooter	Sony Computer Entertainment	4.35	1.04	5.38	8.60	T	2016
172	Until Dawn: Rush of Blood	Adventure	Sony Computer Entertainment	0.33	0.07	0.39	7.60	M	2016
220	PlayStation VR Worlds	Misc	Sony Computer Entertainment	0.20	0.06	0.25	6.50	M	2016
287	RIGS: Mechanized Combat League	Action	Sony Computer Entertainment	0.08	0.03	0.11	7.90	T	2016
297	DriveClub VR	Racing	Sony Computer Entertainment	0.08	0.01	0.09	7.05	E	2016
316	Here They Lie	Adventure	Sony Computer Entertainment	0.02	0.00	0.02	6.35	M	2016
319	Super Stardust Ultra VR	Shooter	Sony Computer Entertainment	0.01	0.00	0.01	6.40	E10+	2016
13	Uncharted: The Nathan Drake Collection	Action	Sony Computer Entertainment	3.78	0.84	4.62	8.35	T	2015
42	Bloodborne	Action	Sony Computer Entertainment	1.84	0.64	2.48	8.90	M	2015
54	The Order: 1886	Shooter	Sony Computer Entertainment	1.39	0.33	1.74	6.45	M	2015

New Sony's video games sales in 21st century

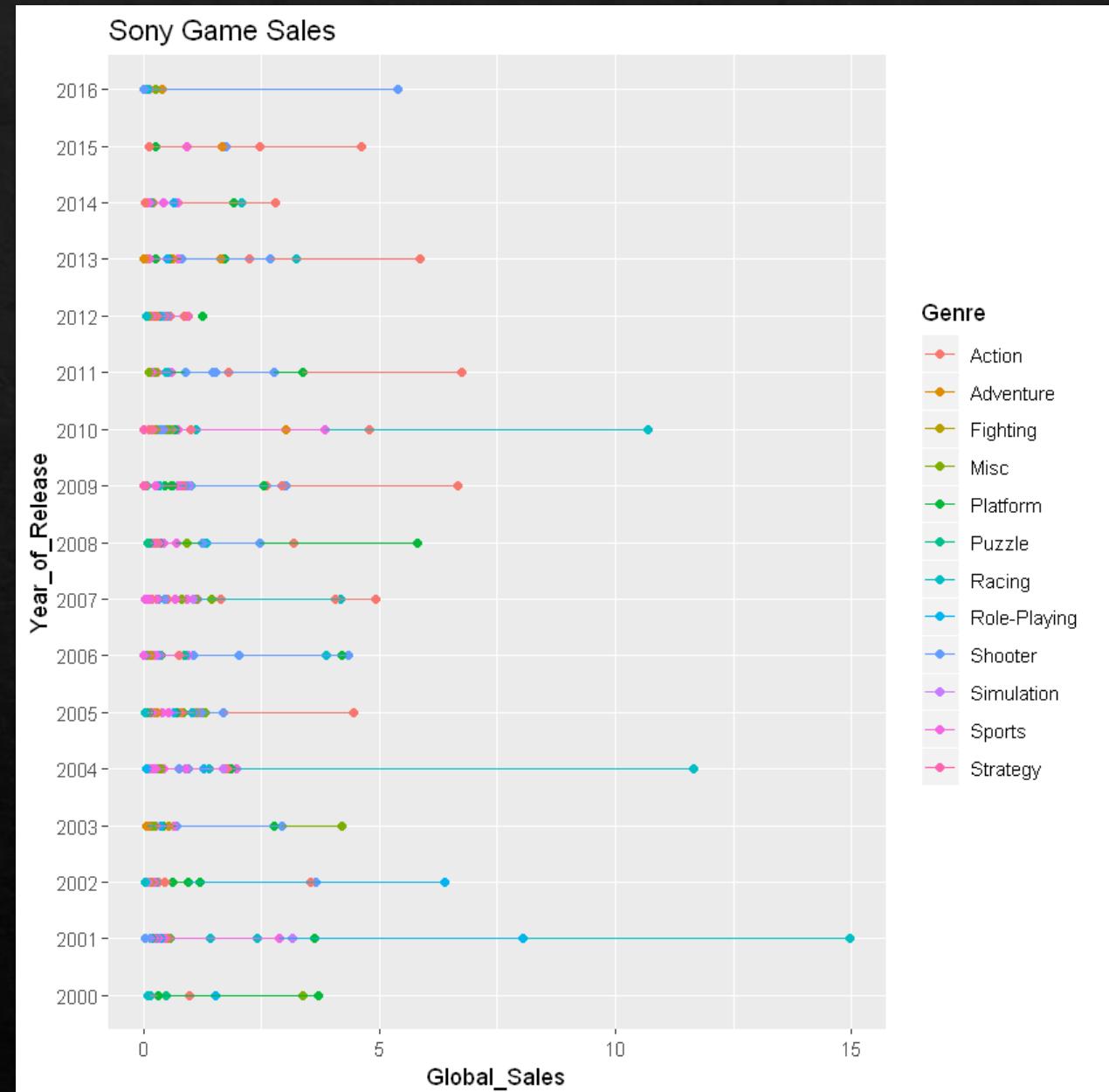
Did the same thing we did with Video Game Dataset but with only Sony games

Sony Game Sales

Sony had high sales in Racing and Action games.

Customers have aware that Sony used to make good **Racing** and **Action** games over the years.

\ Sony should continue to focus on **Action** and **Racing** games to keep **customers'** awareness and top of mind.



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10	Uncharted 4: A Thief's End	Shooter	Sony Computer Entertainment	4.35	1.04	5.38	8.60	T	2016
8	The Last of Us	Action	Sony Computer Entertainment Europe	4.59	1.27	5.87	9.30	M	2013
5	Uncharted 3: Drake's Deception	Action	Sony Computer Entertainment	5.52	1.22	6.74	8.75	T	2011
6	Uncharted 2: Among Thieves	Action	Sony Computer Entertainment	5.47	1.19	6.66	9.20	T	2009
9	LittleBigPlanet	Platform	Sony Computer Entertainment	4.78	1.04	5.82	8.15	E	2008
2	Gran Turismo 4	Racing	Sony Computer Entertainment	3.02	8.63	11.66	8.70	E	2004
7	Kingdom Hearts	Role-Playing	Sony Computer Entertainment	4.84	1.56	6.40	8.65	E	2002
1	Gran Turismo 3: A-Spec	Racing	Sony Computer Entertainment	11.94	3.03	14.98	8.95	E	2001
4	Final Fantasy X	Role-Playing	Sony Computer Entertainment	4.98	3.06	8.05	8.95	T	2001

Sony's best games

Total Score >= 8 ; Global Sales >= 5 millions

Only 9 Sony's games passed the test.

Maximize Sales

Global favorite:

- Favorite Genre in gaming industry: **Action**, **Shooter** and **Role-Playing**
- Favorite Rating in gaming industry: **M - Mature** and **E – Everyone**

Western favorite:

- Favorite Western Genre: **Action**, **Sport** and **Shooter**
- Favorite Western Rating: **E - Everyone**, **T - Teen** and **M – Mature**

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All the existing games of Sony deserve a sequence because they all match with current trend in gaming industry.

CONCLUSION & RECOMMENDATION

The Chosen One

FIND THE
SONY'S GAME
DESERVE A
SEQUENCE.

\ That will be **The Last Of Us** and
release it on Sony platform, which
is **PlayStation** \

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SELECT THE
RIGHT GENRE,
RATING FOR
SONY'S NEW
GAME.

The Right Game?

\ The right game should be in
Action, ESRB Rating can be
Everyone or **Teen**.

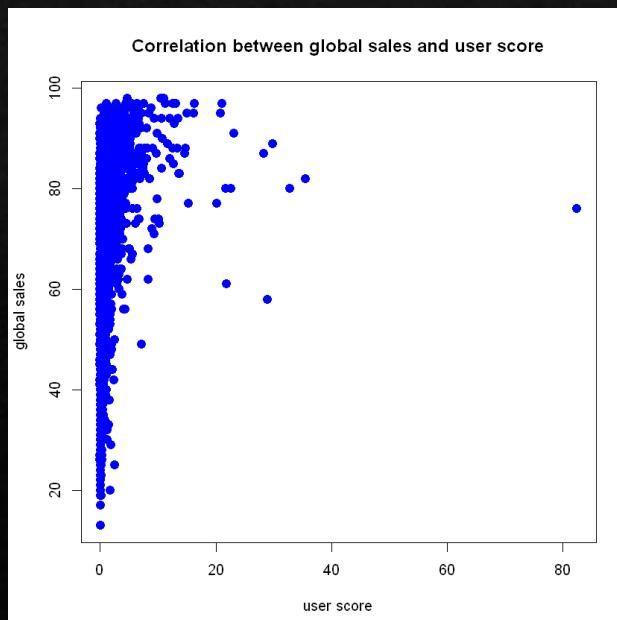
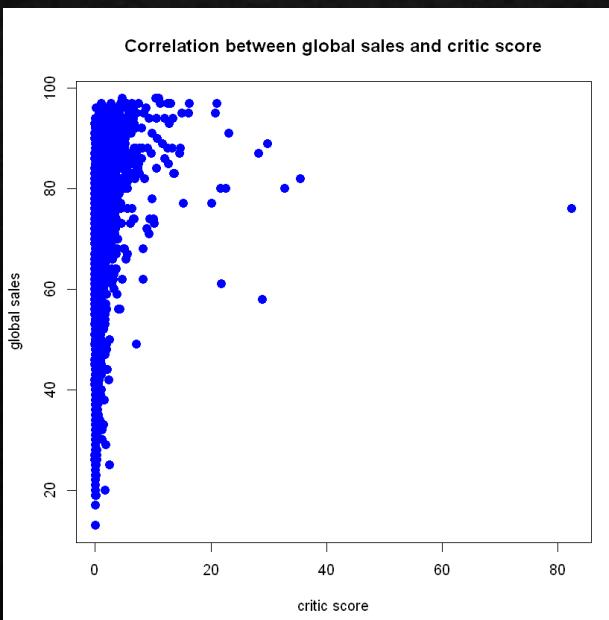
We make this **recommendation**
based on the **experience Sony have**



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Don't waste your money

EXTRA
INTERESTING
THING WE HAVE
LEARN FROM THE
ANALYSIS.



\ Scores DO NOT have important
role in sales.

We do not recommend Sony to buy
scores from critics or seeding for
users' review. \