TURTLE GAMES

AN ANALYSIS INTO CUSTOMERS AND SALES

Gavin van de Bunt

ON BEHALF OF LONDON SCHOOL OF ECONOMICS

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1. Introduction and business context

This report describes the approach and findings from a data analysis study on customer and sales data for Turtle Games. Turtle Games is a game manufacturer and retailer with a global customer base. The company manufactures and sells its own products, along with sourcing and selling products manufactured by other companies. Its product range includes books, board games, video games, and toys. The company collects data from sales as well as customer reviews, which have been used for this analysis.

The **key business objective** for Turtle Games is to improve overall sales performance by utilising customer trends.

To improve overall sales performance, Turtle Games has come up with a set of key questions. These questions will be explored throughout this analysis. Turtle Games wants to understand:

1. How customers accumulate loyalty points.
2. How groups within the customer base can be used to target specific market segments.
3. How social data (e.g. customer reviews) can be used to inform marketing campaigns.
4. The impact that each product has on sales.
5. How reliable the sales data is (e.g. normal distribution, skewness, or kurtosis).
6. What the relationship(s) is/are (if any) between North American, European, and global sales?

The following chapters will describe the analytical approach used, the visualisations used and resulting insights, the patterns and predictions that can be derived from the data and concludes with recommendations for future research.

2. Data input

The complete set of analysis files can be found in the accompanying Jupiter Notebook, uploaded in a public GitHub repository (https://github.com/G-Bunt/LSE_Turtle_Games). Below a brief description of the various key elements.

There are two input files that serve as the basis for the analysis in this report:

1. turtle_reviews.csv – details on customers and feedback
2. turtle_sales.csv – details on video game sales figures in North America, Europe and worldwide.

The client also provided metadata including available fields and a description of each field, which can be found in Appendix A of this report.

In order to follow the same logical order as both the business questions and the analysis (Python and R) documents, the next sections will be split into:

- Python analysis which focuses on the Turtle Games reviews insights through a Jupyter Notebook.
- R analysis which focuses on the Turtle Games sales insights through an R script.

In the final conclusions and recommendations section, the entire analysis will be looked at holistically to provide relevant business insights.

3. Exploring Customer and Reviews data in Python

The required libraries and packages were loaded and Pandas was used to import the turtle_reviews.csv file which is the basis for the entire Notebook.

Basic data exploration was performed to check:

- Data quality: no null values were detected, remuneration and spending_score columns were renamed for ease of use.
- Data relevance: language and platform columns were dropped per business instruction.
- Data structure: .info and .describe functions were used to get a glimpse of the data.

4. Linear regression on customer loyalty point accumulation

The resulting 'reviews' DataFrame forms the basis for the rest of the analysis, starting with the first business question: "how do customers accumulate loyalty points?"

The business ask was further clarified to understand specifically whether age, remuneration and the spending score could be used to predict loyalty points. It was opted to use linear regression for this analysis, with the dependent (y) variable set as loyalty points.

A first look at the various variables through pairplots (Figure 4.1) shows some hints at a positive relationship between spending score, remuneration and loyalty points. Looking at the values for age, however, it is harder to see any patterns emerge for any of the other variables.

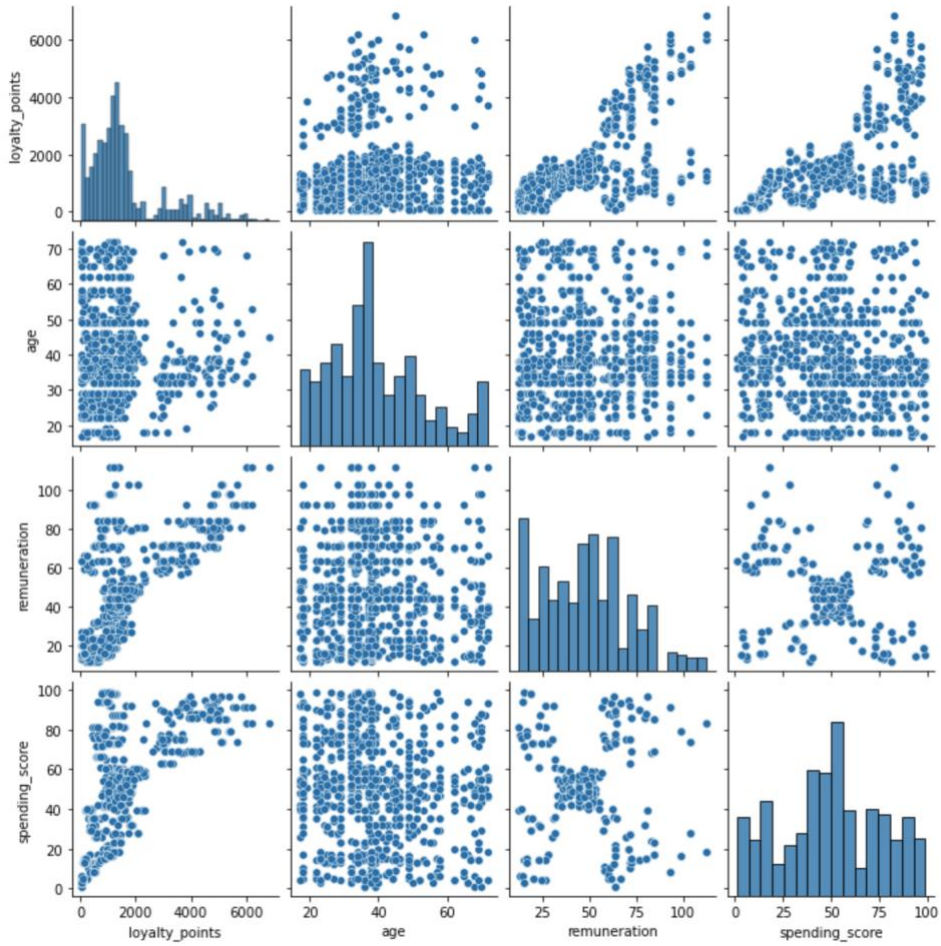

Figure 4.1: pairplot of model variables.

To further explore the business question, three simple linear regression models were created for each of the independent variables.

Age: As expected from the pairplots, age was found to be a poor predictor for loyalty with an R-squared of 0.002 and p>0.05 at 0.058. Figure 4.2 shows the poor fit of the model.

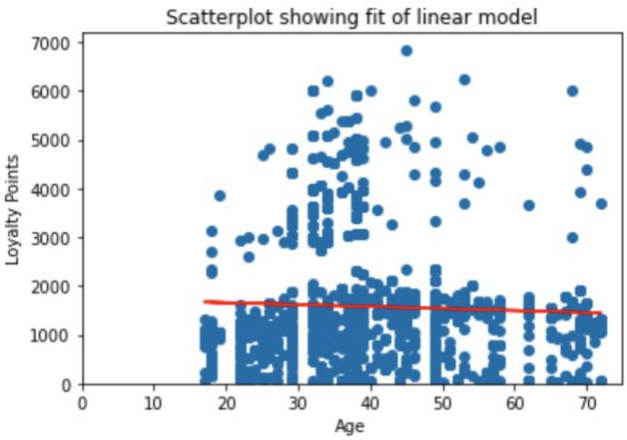

Figure 4.2: simple linear model of age vs. loyalty points.

Remuneration: This predictor was found more useful, with an R-squared of 0.380 and a p-value of 0.000 (rounded). The graph shows the improvement, although for higher scores the variance seems larger (Figure 4.3).

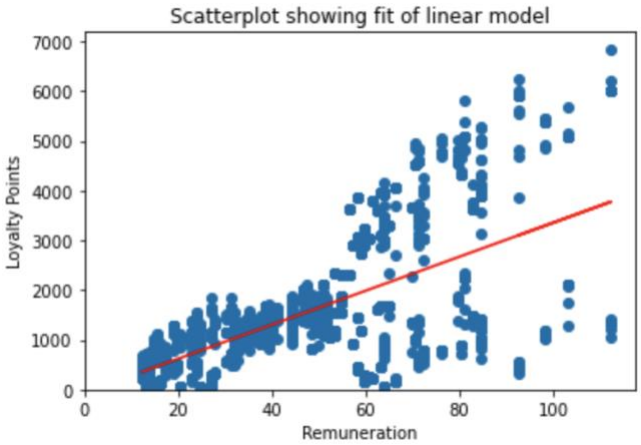

Figure 4.3: simple linear model of remuneration vs. loyalty points.

This was further examined by plotting the residuals (Figure 4.4), which also seem to be non-random and thus pointing to Heteroskedasticity. This will be explored at a later stage in the final model.

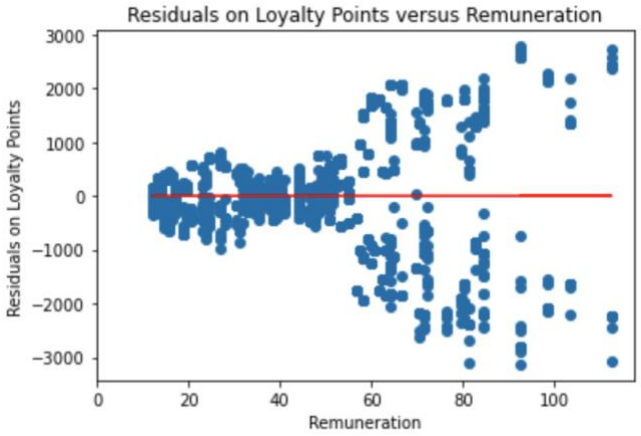

Figure 4.4: plot of residuals for remuneration vs. loyalty points.

Spending score: This predictor was also found useful, with an R-squared of 0.452 and a p-value of 0.000 (rounded). The graph (Figure 4.5) again shows a clear relationship, although similar patterns appear as with the remuneration.

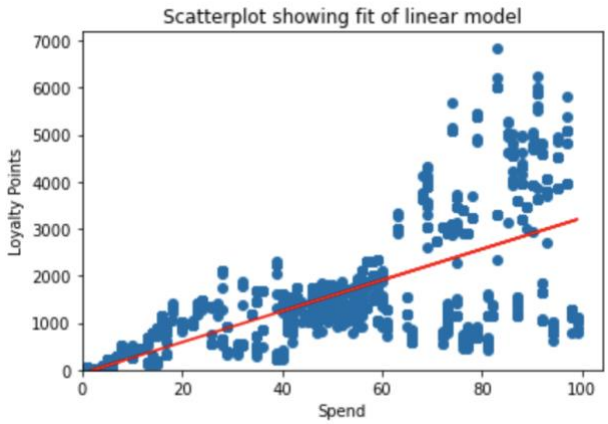

Figure 4.5: simple linear model of spending score vs. loyalty points.

These patterns again point to Heteroskedasticity, as evidenced in Figure 4.6.

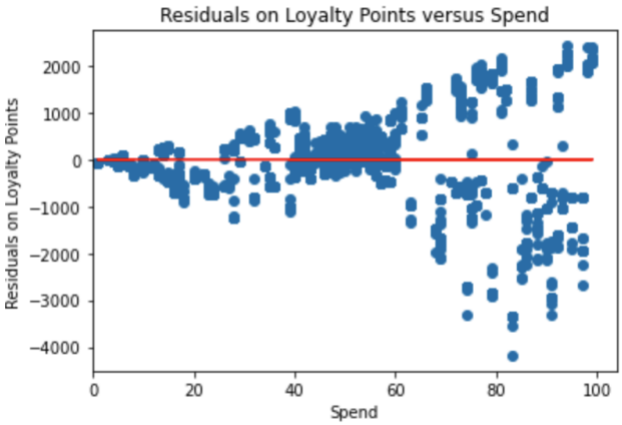

Figure 4.6: plot of residuals for spending score vs. loyalty points.

From above regression models, it was concluded that remuneration and spending score would be the key variables to understand customer loyalty point accumulation. A multiple linear regression model was created where remuneration and spending score were used to predict the loyalty points. The model was first trained on 80% of the available data, to later test the predictive strength (R-squared) on the 20% remaining test data.

During testing of various model options, it was confirmed through a Breusch-Pagan test that the resulting model was clearly heteroskedastic. It was therefore chosen to test transformations on the dependent variable (loyalty points) to address this. Ultimately a square root transformation turned out to be most effective, resulting in a p-value of 0.20 for the Breusch-Pagan test which means we accept the null hypothesis for homoskedasticity.

Other key statistics for the final model showed encouraging results:

- R-squared (and adjusted) of 0.89, meaning strong predictive strength.
- Significance for the remuneration and spending score as predictors ($p<0.01$)
- A VIF of 1.00, meaning no multicollinearity.

Conclusions for loyalty points

Going back to the original question around how customers of Turtle Games accumulate loyalty points, we can confidently say that two key deciding factors are their income and spending score. Age is surprisingly not relevant for loyalty and can be ignored for this purpose.

Turtle Games can safely use the following formula if it wishes to predict a customer's loyalty points:
Loyalty points = -4.2610 + 0.4066 * remuneration + 0.4265 * spending score

5. Customer segmentation using clustering analysis

The second business ask was to understand how groups within the customer base can be used to target specific market segments. Specifically, the interest was around creating various profiles based on remuneration and spending score. K-means clustering analysis was used to research this.

To start, basic pairplots were again created (Figure 5.1) to visually inspect whether clusters are obvious. The scatterplots seem to indicate the existence of 5 different clusters of observation, but in the Kernal Density Estimation (KDE) plots the groups are not as obvious. Therefore, more specific analysis is needed to identify the number of clusters.

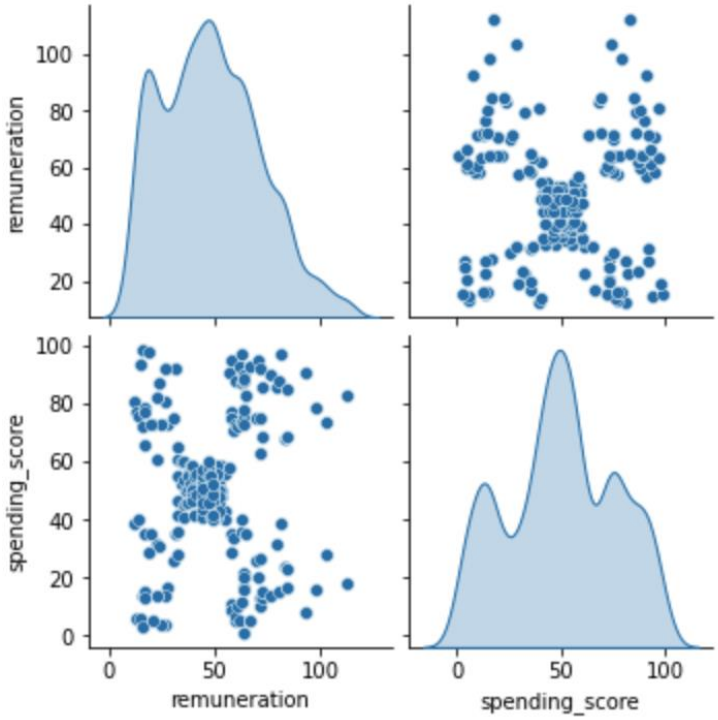

Figure 5.1: pairplot of remuneration vs. spending score, using kde as diagonal.

Elbow method

Figure 5.2 below shows the resulting graph of the "Elbow" method using the kmeans fit function on the remuneration and spending score data. The line seems to bend (elbow) clearly around n=5, confirming our earlier assumption.

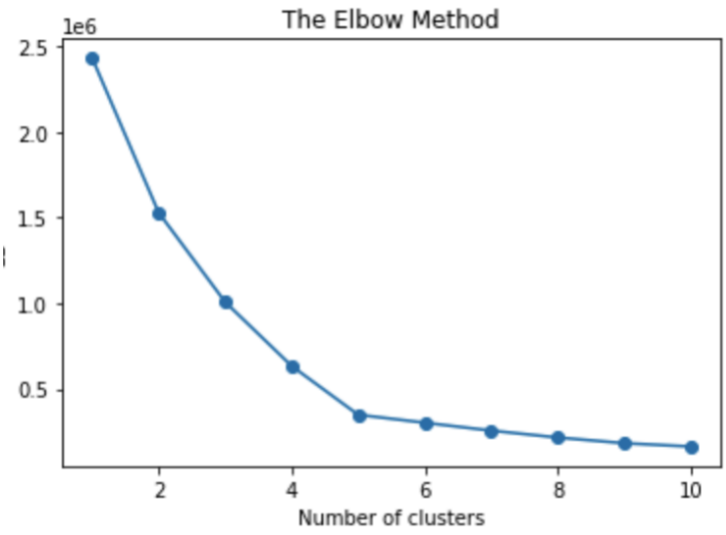

Figure 5.2: result of the elbow method for determining n of clusters.

Silhouette method

Figure 5.3 shows the results of the silhouette method for determining the number of clusters. A higher score on the y-axis is generally considered desirable. Again, the test therefore confirms the optimal number of clusters seems to be 5.

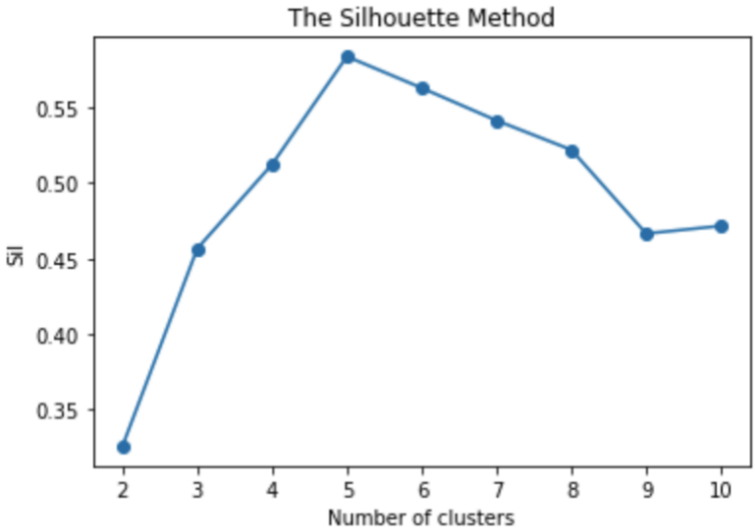

Figure 5.3: result of the Silhouette method for determining n of clusters.

In the Jupyter Notebook, experiments were made with both 4 and 6 clusters, which can be repeated by adapting the value for “n_clusters”. These again confirmed preference for 5 as the optimal number. Therefore, only results for the k-means analysis using 5 clusters are shown below (Figure 5.4).

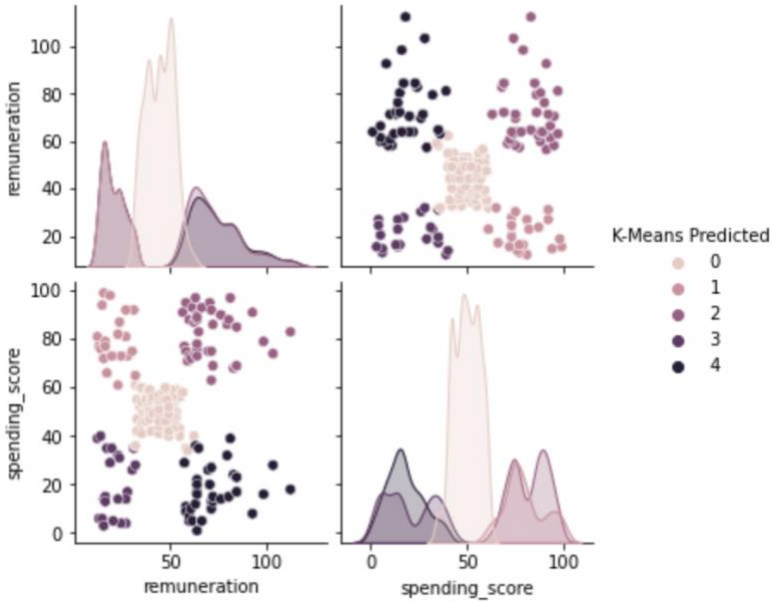

Figure 5.4: result of k-means analysis.

Conclusions for market segmentation

Above k-means analysis indicates that based on remuneration and spending scores, 5 clearly different customer profiles can be constructed. This information can be used by Turtle Games to create separate marketing for each of these customer groups that are tailored to their profile. Two extremes:

- Group 4 shows high remuneration (income) but a low spending score. More marketing could be directed to this group to attempt to increase their spending score.
- Group 2 shows high remuneration and high spending score. The interests of this group need to be managed carefully as these customers will likely be important for overall sales.

6. Analysis of customer sentiment through reviews

The third business ask was to understand how customer reviews can be used to inform marketing campaigns. Natural language processing was used to explore this.

Review and review summary textual data was first cleansed:

- A DataFrame was created with only the review and summary columns.
- Both columns were converted to lowercase using a lambda function.
- Regex (r'[^\w\s]) was used to remove punctuation.

Then the reviews were checked for duplication. Please note the decision was ultimately made **not** to remove duplicates, as applying the .duplicated function showed that duplicates in this context are to be expected (e.g. “five stars” is a very common review text) and removing these would significantly impact perception of sentiment and omit valuable insights.

The cleaned dataset was then tokenized and converted to lists to facilitate the removal of stopwords for the creation of the wordclouds. After conversion to strings, both for the reviews (figure 6.1) and summaries (figure 6.2) a wordcloud was created.

Figure 6.1: wordcloud for reviews.

Figure 6.2: wordcloud for review summaries.

While by no means scientific, both wordclouds overall show positive tendencies, with words as “great”, “fun”, “love”, “good”, “five” and “stars” popping out. This also becomes clear when reviewing the 15 most used words across reviews (figure 6.3) and summaries (figure 6.4).

Figure 6.3: 15 most used words in reviews.

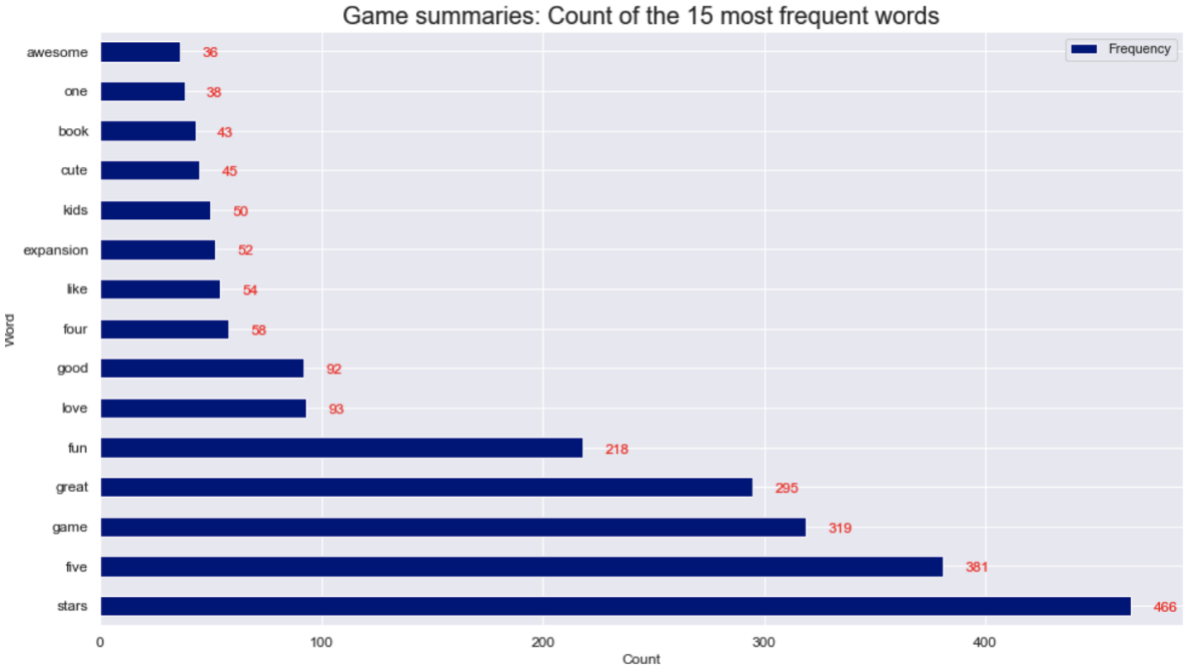

Figure 6.4: 15 most used words in summaries.

To further confirm the positive tone, sentiment analysis was done to generate polarity scores. These range from -1 (very negative) to +1 (very positive), with 0 being neutral. Figures 6.5 and 6.6 show the polarity score distribution across all reviews and summaries.

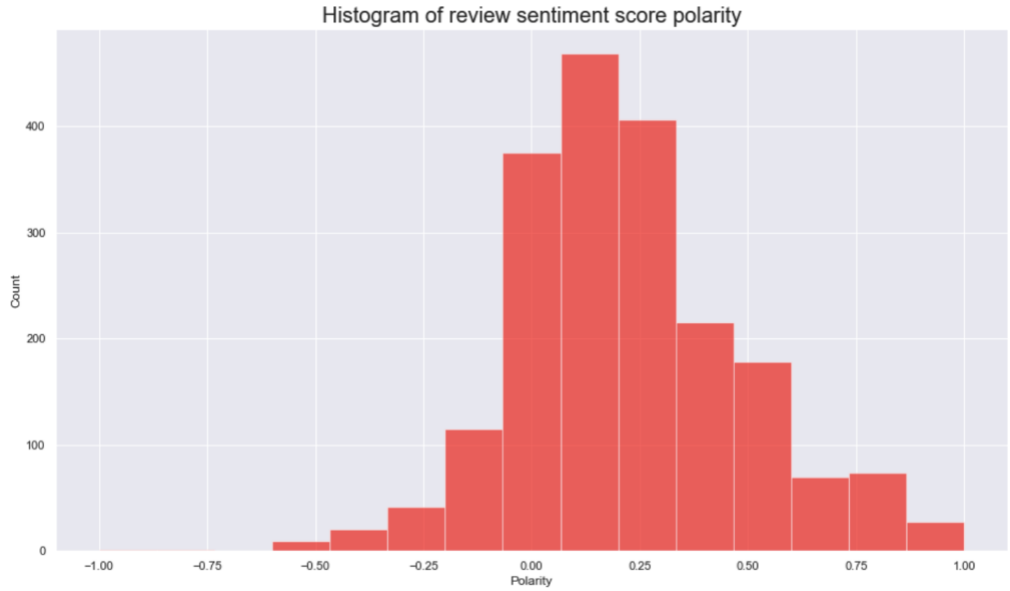

Figure 6.5: review polarity score distribution.

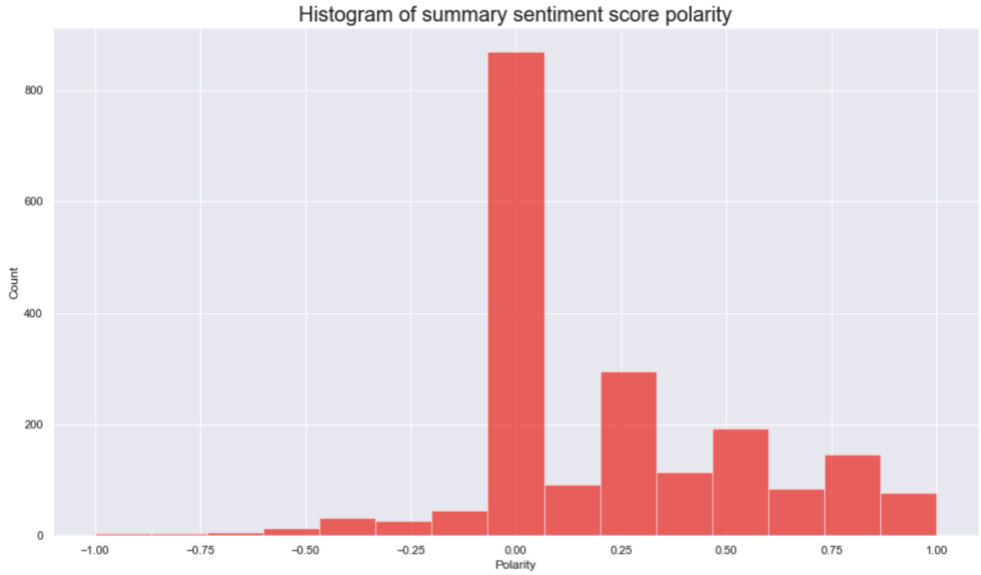

Figure 6.6: summary polarity score distribution.

Both of these histograms back our earlier suspicion with numbers: the overall sentiment is clearly positive, both measured through full reviews and through the summaries. For the Turtle Games marketing, this can be taken as encouraging news, and marketing material can be crafted that is aimed at the 'happy customer'.

A final piece of sentiment analysis was done to identify the overall 20 most positive and negative reviews for Turtle Games. To identify this, a composite polarity score was created that sums up the polarity for both the review and its respective summary. Appendix B contains the full results table of this analysis, but below key learnings:

Positive reviews: interestingly enough, it seems that many of the positive reviewers are not the end consumers of the purchased games. There is a lot of mention of (grand)kids in the text. This is an important piece of information for Turtle Game marketing to take into account.

Negative reviews: as in the positive reviews, kids are mentioned several times, but another interesting theme seems to be the perceived difficulty of the games. This could mean several things, such as the

advertising targeting the wrong audience, or simply improvements are needed in some of the games to make instructions clearer.

7. Python analysis wrap-up

The above sections focused on the first three business questions, answered through analysis in Python. The upcoming sections continue with the remaining business questions but will shift their focus to R as the tool of choice. A final wrap-up will focus on the overall business insights and recommendations for Turtle Games management.

8. Product sales analysis using R

The following sections shift the focus from Turtle Games customer data to sales data, to answer the remaining business questions. As the sales department for Turtle Games prefers R as the language/tool of choice, so has the analysis changed.

The fourth business question to explore is the impact that each product has on sales. Therefore the turtle_sales.csv datafile was loaded (see GitHub) for analysis. As this is a new data set, the analysis starts with exploring the available data.

Per business recommendation, the following columns were removed: ranking, year, genre, publisher.

Several R preview functionalities were used to check dimensions and basic quality of the data:

- View: for an Excel-like bird-eye look.
- Dim: dimensions of the table.
- Skim to see basic statistics and confirm no null values.
- DataExplorer to get a first sense check of how variables are distributed and relate to each other. This showed strong right skew in sales data, and strong correlations between NA, EU and Global Sales.

The DataFrame was then pivoted to allow for several plots:
Boxplot (figure 8.1): confirms again the positive skew of the sales data with many positive outliers. However, these outliers are of interest to the business, as they point out the most impressive product sales. Therefore, we do keep them.

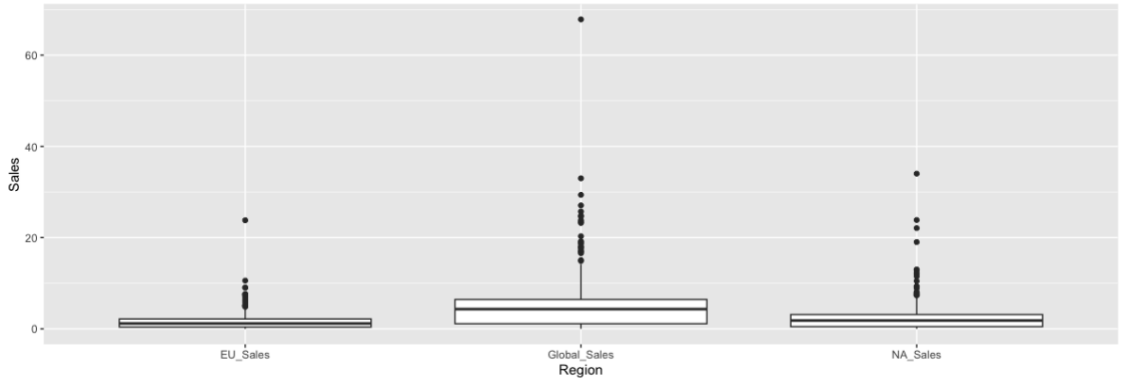

Figure 8.1: boxplots of sales data.

Histograms (figure 8.2): confirm the strong right skew of the data, but otherwise do not show surprising results.

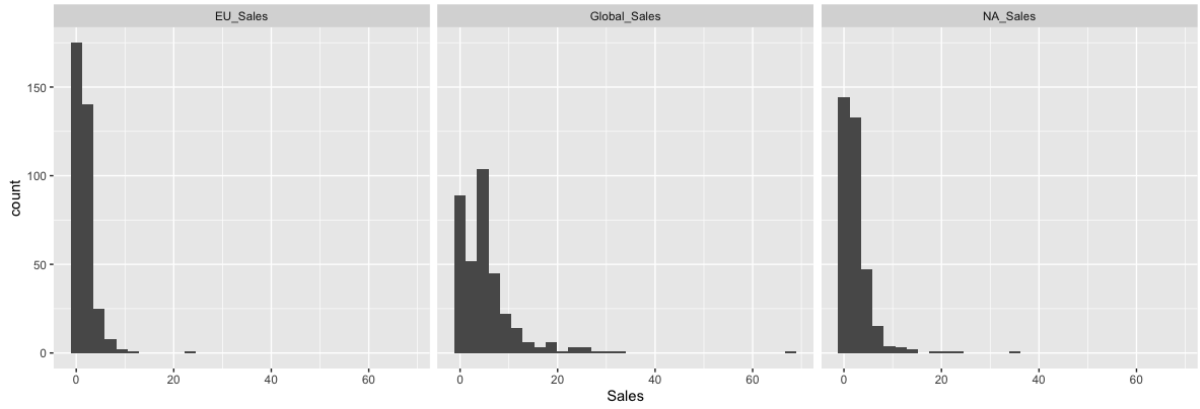

Figure 8.2: histograms of sales data.

Scatterplots (figure 8.3, 8.4, 8.5): show potential relationships between the different sales columns. Especially between the regional (EU and NA) versus Global Sales figures, there seems to be a linear trend, suggesting that Turtle Games regional sales are a good predictor for Global sales. This will be further investigated in subsequent sections.

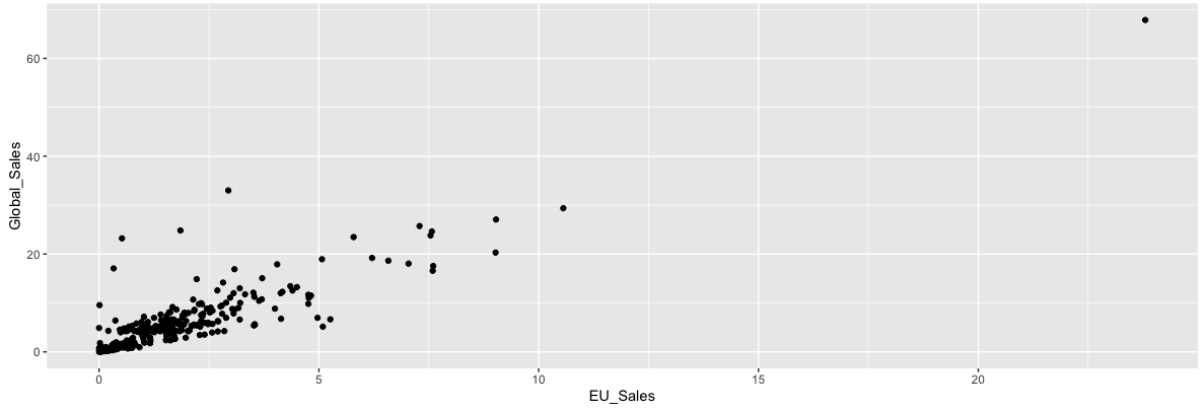

Figure 8.3: Scatterplot of EU vs. Global sales.

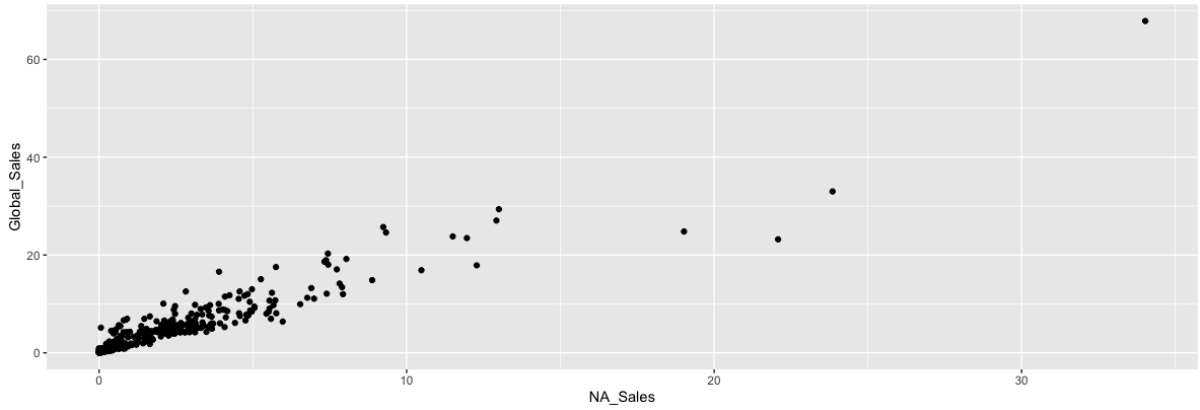

Figure 8.4: Scatterplot of NA vs. Global sales.

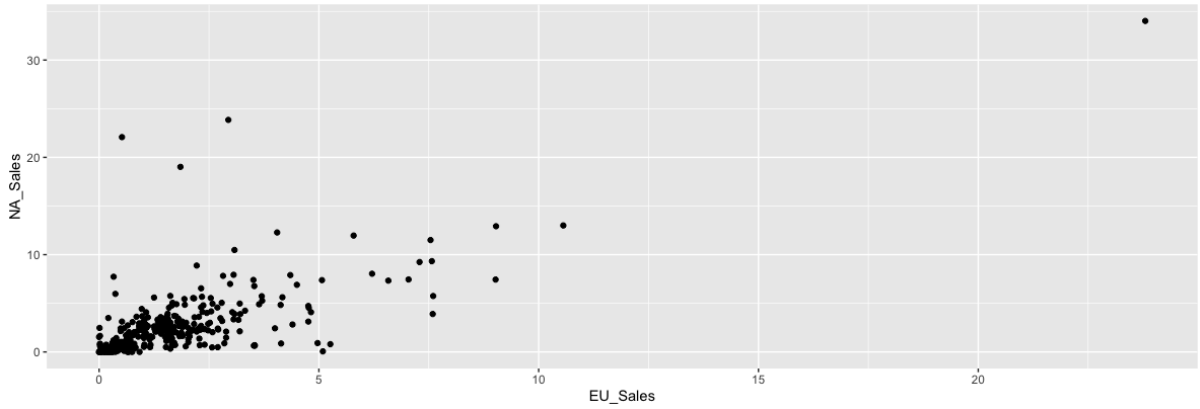

Figure 8.5: Scatterplot of EU vs. NA sales.

After exploring the review data set, performing above basic EDA, the data can be used to answer the business question related to impact of sales per product. To answer this, first the sales are grouped by product using the group_by function, and a sum of the different sales regions. Global sales were used for the ranking, as those are most relevant for Turtle Games senior management.

A plot has been created to identify the top 20 best-selling products (figure 8.6):

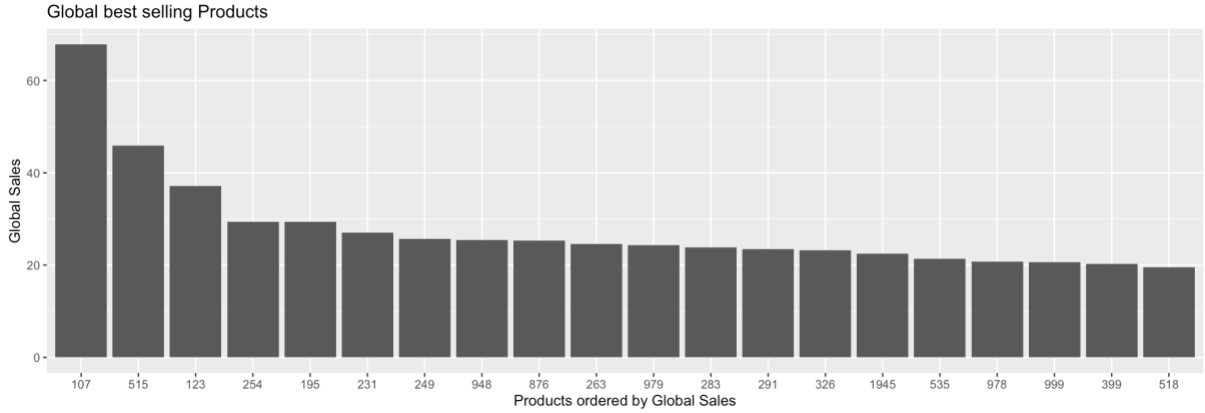

Figure 8.6: Top 20 best-selling products globally.

A similar plot was created to identify the best-selling platforms (figure 8.7):

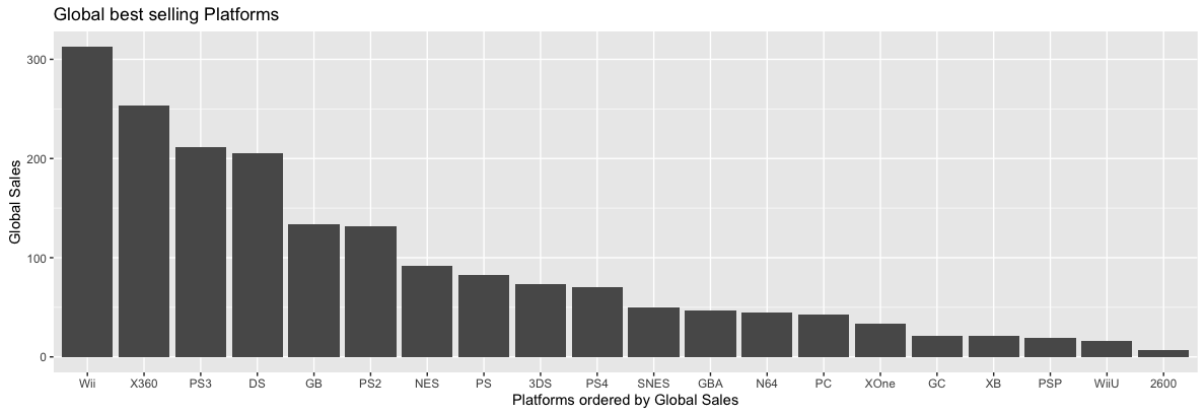

Figure 8.7: Best-selling platforms globally.

Lastly, a stacked barchart was created to highlight the platforms for the best-selling products (figure 8.8):

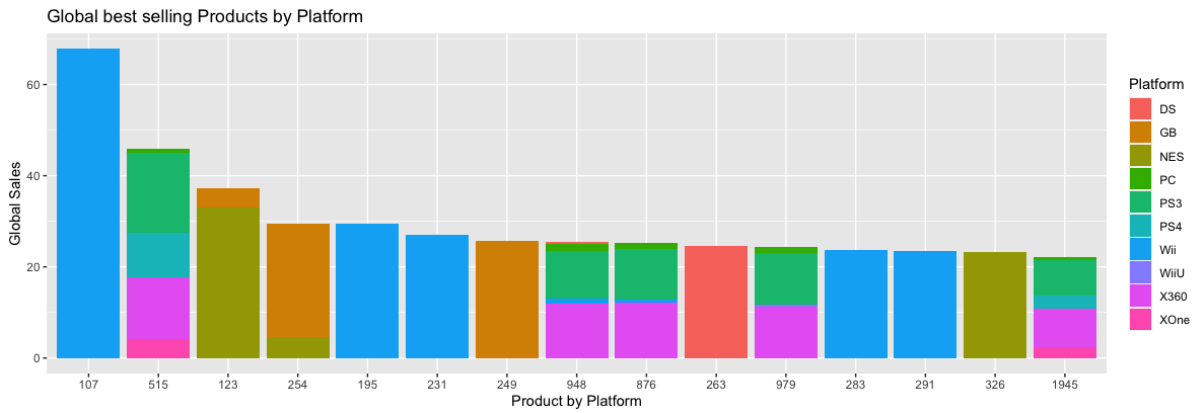

Figure 8.8: Best-selling products by platform globally.

Conclusions: product impact on sales

Based on above analysis, it can be seen that there are big differences between the top sellers and the rest of the offered products. The mean sales globally of all products were around m5.3£, while the top 20 products clearly sold a multitude of that. Furthermore, the Wii Platform seems to be a strong contributor to overall sales (5 out of 15 top sellers are Wii exclusive), which is in line with findings from the sentiment analysis, as this platform is generally more aimed at younger audiences.

9. Analyse product sales data reliability

The fifth business ask was to understand the reliability of the data through their normal distribution, skew and kurtosis. This is in preparation for further regression analysis.

Global sales

The following was found:

- Shapiro-Wilk: 0.00 ($p<0.05$) – data cannot be assumed normally distributed.
- Skew: 3.07 (>1) – data is skewed right, as seen in histograms.
- Kurtosis: 17.79 (>3) – data shows heavy tails.

The below Q-Q plot (figure 9.1) confirms the suspicion the data is not normally distributed:

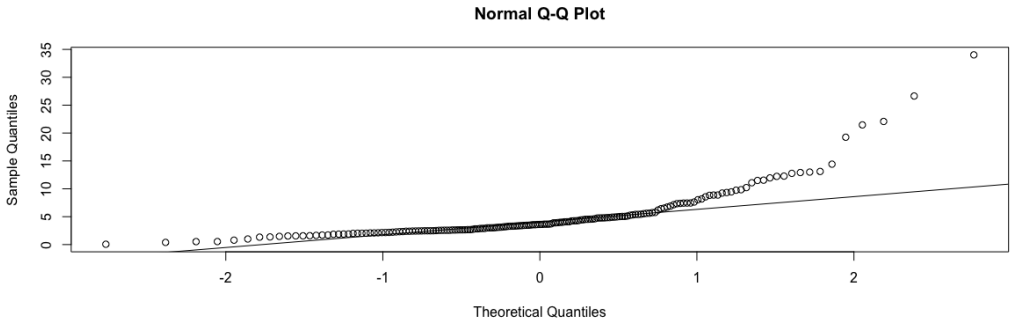

Figure 9.1: Q-Q plot Global sales.

EU sales

The following was found:

- Shapiro-Wilk: 0.00 ($p<0.05$) – data cannot be assumed normally distributed.
- Skew: 2.89 (>1) – data is skewed right, as seen in histograms.
- Kurtosis: 16.23 (>3) – data shows heavy tails.

The below Q-Q plot (figure 9.2) confirms the suspicion the EU sales data is not normally distributed:

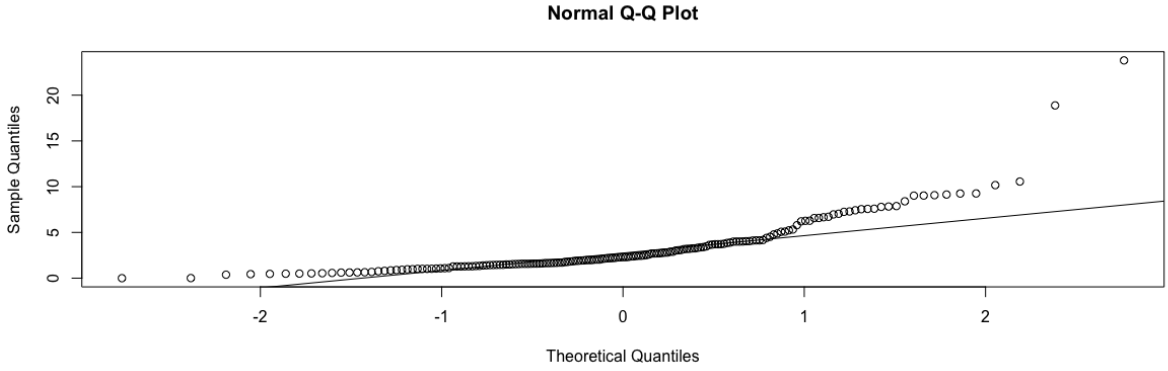

Figure 9.2: Q-Q plot EU sales.

NA sales

The following was found:

- Shapiro-Wilk: 0.00 ($p<0.05$) – data cannot be assumed normally distributed.
- Skew: 3.05 (>1) – data is skewed right, as seen in histograms.
- Kurtosis: 15.60 (>3) – data shows heavy tails.

The below Q-Q plot (figure 9.3) confirms the suspicion the NA sales data is not normally distributed:

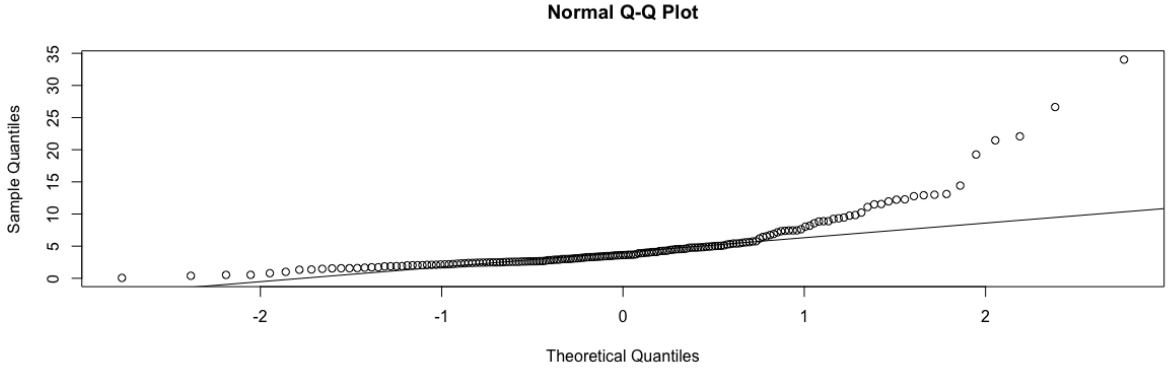

Figure 9.3: Q-Q plot NA sales.

In addition to the above checks, correlation was plotted using the cor and corPlot functions. Below chart (figure 9.4) shows strong correlation between the different sales regions, with NA vs. Global sales being the largest at 0.92. Therefore, it seems as both EU and NA sales might be good predictors for Global sales, to be confirmed in the following section.

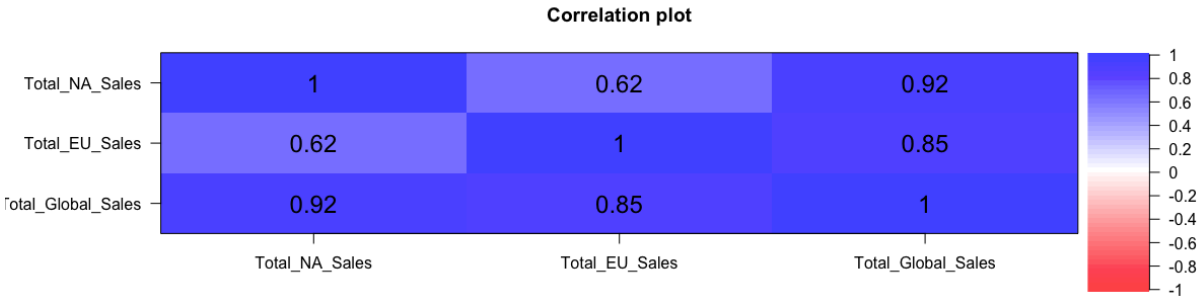

Figure 9.4: Correlation between sales regions.

10. Relationship between NA, EU and Global Sales

The sixth and final business question aims to answer what the relationships are between NA, EU and Global Sales for Turtle Games. After the exploratory analysis in section 8 and 9, it was determined that a linear regression model, with EU and NA sales as independent, and Global Sales as the dependent variable would address the objective.

First, two simple linear models were created to assess EU and NA sales as the independent variables respectively. Results can be seen in Figure 10.1, for both EU Sales (top) and NA sales (bottom).

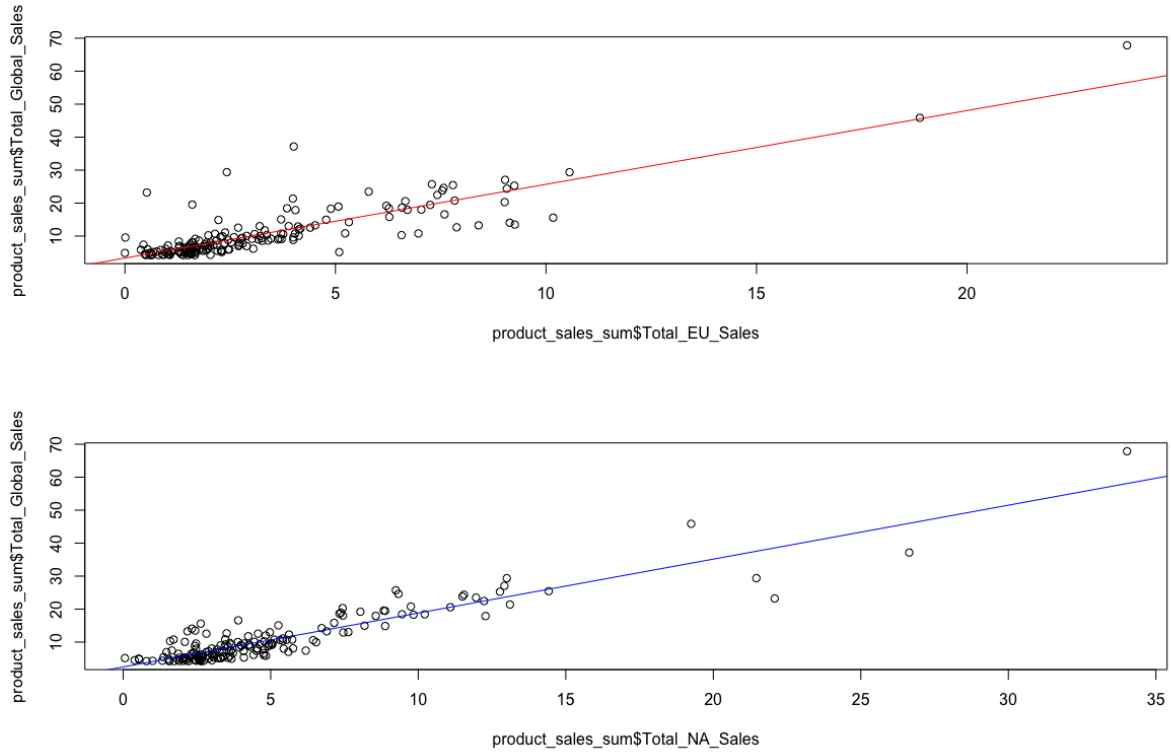

Figure 10.1: Linear model for EU and NA sales predicting Global sales.

Summary statistics for both models showed strong results, with p-values <0.05 and R-squared values of 0.84 (NA) and 0.72 (EU). Therefore, both variables were chosen to perform a multiple linear regression model.

This resulting model again showed both predictor attributes (EU and NA sales) are strongly significant (p = 0.000) and the adjusted R-squared is a very high 0.966. The model was also tested for multicollinearity and heteroskedasticity (Breusch-Pagan test):

VIF: no multicollinearity issues expected as VIF far below threshold of 10.

- EU Sales: 1.63
- NA Sales 1.63

Breusch-Pagan: model assumed homoscedastic as p>0.05.

- P=0.1718

Conclusions

Above analysis means, that while it was concluded the sales data did not fulfill the assumption of normality, the resulting model still looks strong and sales in North America and Europe can be used to reasonably accurately predict Global Sales. The formula that the Sales team would need to use is:

Global Sales = 1.042 + 1.20 * EU Sales + 1.13 * NA Sales

11. Conclusions and recommendations

Throughout both this report and the accompanying Jupyter Notebook and R script, findings have been presented based on the key business objectives for this study. Below these will be briefly summarized, after which opportunities for further research as presented to address Turtle Game's ultimate objective of increasing sales performance by using customer trends.

Recap of findings from analysis

Below a recap per business question:

1. ***How customers accumulate loyalty points.*** Remuneration and spending score were deemed good predictors for loyal customers, whereas age was not. Turtle Games marketing can use this to target more affluent potential customers as they are likely to be more loyal and have higher lifetime spend.
2. ***How groups within the customer base can be used to target specific market segments***. Based on remuneration and spending score, five clearly distinct customer segments were identified, that Turtle Games marketing can finetune their sales strategy to. E.g., low income, low spend customers are unlikely to yield as much return on marketing investment compared to high income, high spend. Especially as it had been found that these customers tend to be more loyal too.
3. ***How social data (e.g. customer reviews) can be used to inform marketing campaigns***. Overall Marketing can be satisfied with the sentiment on reviews. However, an interesting takeaway from NLP analysis is that consumers and end users of games might be different: customers seem to be buying games for their (grand)kids. This information can be used to tailor marketing material. In addition, negative reviews showed that some of the games were deemed too complex for kids, which management can use to alter games or improve information on suitability.
4. ***The impact that each product has on sales.*** There are heavy outliers in contributors to overall sales, as shown by the large sales in top 20 products. In addition, the Nintendo Wii seems to be a large contributor to overall sales. This is in line with the finding that customers seem to be buying games for their (grand)kids in many cases.
5. ***How reliable the sales data is (e.g. normal distribution, skewness, or kurtosis).*** While EU and NA sales seem to be strongly correlated to global sales, as can be expected from the metadata, their data is not normally distributed. However, as seen in this document, still clear insights can be retrieved through analysis.
6. ***What the relationship(s) is/are (if any) between North American, European, and global sales?*** There is a clear and very strong positive impact from NA and EU sales on global sales. This means global sales predictions can be made if NA and EU sales are known.

Overall, the analysis shows several actions Turtle Games could use to reach its objective for higher global sales. One example is to focus on high income customers across NA and EU with kids or grandkids. Especially if the product offerings would focus on popular platforms such as the Wii, this could lead to strong sales performance. However, below more recommendations for research are provided.

Areas for further exploration

While this study provides insights into several avenues Turtle Games management can use to increase overall global sales performance, more research is recommended to identify further opportunities.

Several key suggestions are made below:

- More research can be done to make use of customer data to understand the different customer profiles based on available demographics such as age, education level, country, gender and more. Some of this is already available, other data could be retrieved through surveys or customer research. This would allow Turtle games to tailor marketing even further to different segments and thus lead to higher sales. Turtle Games could also explore the relationship between reviews and certain customer segments, to understand if certain groups are generally more positive than others.
- In addition to general aggregated sales data, as both a manufacturer of proprietary games and a retailer for other manufacturers, it is recommended that costs are taken into the equation to inform educated decisions about whether it makes more sense to procure versus produce games for Turtle Games. Also, not each game manufacturer might have the same margin, so while for example sales for the Wii are high, this does not mean profits are as well.
- As Turtle Games is a global retailer, more research should be done into other languages and regions. It could be seen from the data that EU and NA sales contribute to the majority of global sales, which potentially signals opportunity in for example Asia and South America. NLP on other languages than English could then be applied to see if the same considerations count globally.
- Future research should aim to cover both customer and sales data holistically to get the full benefits from both sets of available data. Currently the (customer) reviews data set explored the entire product catalogue, including toys, board games, books, and more. The sales data, however, only covers video games. Procuring a data set that covers Turtle Games entire sales performance across the globe and combining this with their customer/reviews data could link better the different customer segments, their overall sentiment and impact on sales. This could uncover new opportunities for growth.

In short, the performed analysis has provided several steps Turtle Games management could explore to improve global sales while also highlighting several avenues for further research to achieve business objectives.

In case of questions on this analysis, please reach out to GavinvdBunt@Gmail.com.

Appendix A: Turtle Games metadata

Metadata file name: metadata_turtle_games.txt – metadata of the two CSV files combined

The two CSV files are:

- turtle_reviews.csv
- turtle_sales.csv

turtle_reviews.csv

Column	Sample value	Interpretation of column
gender	male or female	The gender of the customer.
age	number	Age of the customer in years.
Remuneration (k£)	number	Total income per customer per year (k£) in pounds, where k=1000.
spending_score (1-100)	number	A score is assigned to the customer by Turtle Games based on the customer's spending nature and behaviour. The value ranges between 1 and 100.
loyalty_points	number	A score based on the point value of the purchase, converting the monetary value to point value, and the point value of an action (purchase).
education	graduate	Level of qualification that the customer obtained. For example: • Diploma: completed school • Graduate: undergraduate degree Postgraduate: postgraduate degree • PhD degree.
language	EN	All the reviews were in English.
platform	Web	All the reviews were obtained from the website of Turtle Games.
product	number	Unique code allocated to product based on the item description.
review	When it comes to a DM's screen, ...	Online reviews submitted by customers who purchased and used the products.
summary	The fact that 50% of this ...	Summary of the customer's review.

turtle_sales.csv

Column	Sample value	Interpretation of columns.
Ranking	1	World ranking of the game.
Product	number	Unique code allocated to the product based on the item description.
Platform	Wii	The video game console on which the game was launched.
Year	number	The year the game was first released.
Genre	sports	The genre of the video game.

Publisher	Nintendo	The company that published the game.
NA_Sales	number	The number of games sold in North America using pounds and displayed in millions.
EU_Sales	number	The number of games sold in Europe using pounds and displayed in millions.
Global_Sales	number	Total sales in the world (which is a sum of EU_sales, NA_sales and other sales) using pounds and displayed in millions.

Appendix B: Most positive and most negative reviews

20 most positive reviews

	review	summary	review_polarity	summary_polarity	total_polarity
1550	my daughter loves her stickers awesome seller thank you	awesome seller thank you	1.000000	1.000000	2.000000
1245	the best part i see is the box what a wonderfully diverse and rounded set for the cost i am so happy and as the dm you know that if i am happy my players are happy	excellent tile set	0.880000	1.000000	1.880000
418	great resource for bhis care coordinators works well with kids and teens on what it says it does	perfect	0.800000	1.000000	1.800000
32	awesome my 8 year olds favorite xmas gift its 915 am xmas morning and hes already colored three of these	perfect	0.750000	1.000000	1.750000
1543	grand daughter loves stickers and she loves peppa so this was perfect	loves stickers and she loves peppa so this was perfect	0.750000	1.000000	1.750000
6	i have bought many gm screens over the years but this one is the best i have ever seen it has all the relevant information i need and no crap filler on it very happy with this screen	best gm screen ever	0.660000	1.000000	1.660000
703	great quality very cute and perfect for my toddler	great quality very cute and perfect for my toddler	0.816667	0.816667	1.633333
36	the pictures are great ive done one and gave it to a friend of mine who likes dragons	the pictures are great ive done one and gave it to a	0.800000	0.800000	1.600000
474	great seller happy with my purchase 5 starrrr	great for kids	0.800000	0.800000	1.600000

620	great easter gift for kids	great easter gift for kids	0.800000	0.800000	1.600000
804	great	great	0.800000	0.800000	1.600000
961	bought this because i wanted it all these dd games are great	all these dd games are great	0.800000	0.800000	1.600000
1005	great thank you	great	0.800000	0.800000	1.600000
1536	my granddaughter loves these so happy to find peppa pig items for her	so happy to find peppa pig items for her	0.800000	0.800000	1.600000
1602	great doll to go with the book animals cant wait to read book with the doll to the grandkids	great doll to go with the book animals	0.800000	0.800000	1.600000
1854	prompt service and a great product	and a great product	0.800000	0.800000	1.600000
1966	this is a great tool to have at hand when playing quiddler	great helper	0.800000	0.800000	1.600000
457	this is a great product i use it as a therapeutic tool and it has been very effective	this is a great product i use it as a therapeutic tool	0.790000	0.800000	1.590000
724	i was impressed with the quality of this puzzle it was easy and fun to put together	excellent puzzle	0.577778	1.000000	1.577778
1417	yes quick wonderful and accurate	wonderful and	0.577778	1.000000	1.577778

20 most negative reviews

	review	summary	review_polarity	summary_polarity	total_polarity
208	booo unles you are patient know how to measure i didnt have the patience neither did my daughter boring unless you are a craft person which i am not	boring unless you are a craft person which i am	-1.000000	-1.000000	-2.000000
1804	im sorry i just find this product to be boring and to be frank juvenile	disappointing	-0.583333	-0.600000	-1.183333
364	one of my staff will be using this game soon so i dont know how well it works as	anger control game	-0.550000	-0.550000	-1.100000

	yet but after looking at the cards i believe it will be helpful in getting a conversation started regarding anger and what to do to control it				
1166	before this i hated running any rpg campaign dealing with towns because it kills the momentum and just becomes 2 hours of haggling for magic items this helps open up story ideas and plot hooks	before this i hated running any rpg campaign dealing with towns because it	-0.133333	-0.900000	-1.033333
1003	if you play dungeons and dragons then you will find this board game to be dumb and boring stick with the real thing	then you will find this board game to be dumb and boring	-0.393750	-0.591667	-0.985417
1620	i was thinking it was a puppet but it is not it is a doll still worked for what i needed but the only way to get the animals in and out is through the mouth which is a little difficult for a little child	disappointed	-0.218750	-0.750000	-0.968750
21	these are cute tatoos for those who love pirates however the retail price is 150 and amazons price is more than double i have never paid over the retail price for an item at amazon i was shocked there are only a handful of tatoos and for 150 i wouldnt mind but to charge 350 for an item that sells anywhere else for 150 is criminal find it at a local drugstore and save your	the worst value ive ever seen	0.050000	-1.000000	-0.950000
178	at age 31 i found these very difficult to make i cant imagine how an 8 year old would do it by themselves	at age 31 i found these very difficult to make	-0.275000	-0.650000	-0.925000
890	the game tiles board and tile stands are all made of paper after using few times it will not sustain paper board tiles will move on the board making the game messy and inconvenient to manage its a shame what they have done to such a brilliant game	bad qualityall made of paper	-0.162500	-0.700000	-0.862500

829	ive discovered that im really new school when it comes to my board games except for boggle and a couple chess boards and a novelty version of yahtzee this is the oldest game i own by more than 30 years its very watered down for my usual tastes gameplay consists of playing tiles on a board to start expand or merge hotel chains then you buy stocks trying to predict which ones will grow so you can buy as low as possible and sell them for huge profits by the end of the game the player with the most money at the end wins i think this game is certainly better with more people it can accommodate up to 6 and that may be too many ive never played with that number but with 3 or fewer it is too easy to run away with the game more players offers more competition and gaps between your turns and dilutes the available stock with three you can see what tiles you have available and buy up huge amounts of stock early before other players have time to react and attempt to thwart your plan or prevent you from a big payout ive enjoyed power grid and have intended on playing a deeper economic game for some time but this certainly isnt it this is much more shallow an experience although it does play reasonably quickly and may fill a shorter time slot if players are looking for a quick buy and sell stock game	boring	0.156399	-1.000000	-0.843601
363	i found that this card game does the opposite of what it was intended for it actually has the kids focusing on ways to get angry etc instead of teaching how to be calm and act better it	promotes anger instead of teaching calming methods	-0.126190	-0.700000	-0.826190

	really should have been tested before sale a better game would have been calm dragon i tried this game on kids that had absolutely no behavior or anger problems and they began behaving badly and getting angry after the second round i dont recommend this i am a therapist and i work with kids with anger issues all day long i thought this might be a good tool i was wrong				
437	this game although it appears to be like uno and have an easier play method it was still too time consuming and wordy for my children with learning disabilities	this game although it appears to be like uno and have an easier play method it was	-0.400000	-0.400000	-0.800000
793	my mom already owned an acquire game but she always commented on how poorly it was made so i thought i would get her a new one for christmas the quality of this one was not much better her old one had cards for each player to see how much each hotel cost to buy according to how many tiles it had this one did not even have that i expected better quality for the price i paid for it it didnt even come with a bag for the tiles i think she was disappointed	disappointed	-0.046364	-0.750000	-0.796364
182	incomplete kit very disappointing	incomplete kit	-0.780000	0.000000	-0.780000
1	an open letter to galeforce9 your unpainted miniatures are very not bad your spell cards are great your board games are meh your dm screens however are freaking terrible im still waiting for a single screen that isnt polluted with pointless artwork where useful referenceable tables should be once again youve created a single use screen that is only useful when running the storm kings thunder	another worthless dungeon masters screen from galeforce9	0.035952	-0.800000	-0.764048

	adventure even despite the fact that its geared to that adventure path its usefulness negligible at best i massive swath of the inner panel is wasted on artwork and a bloated overland map which could have been easily reduced to a single panel in size and the few table you have are nighuseless themselves in short stop making crap dm screens				
631	eggs split and were unusable	disappointed	0.000000	-0.750000	-0.750000
101	the book is only 4 pages and its about the size of a 3x5 note card not much fun at all	small and boring	-0.075000	-0.625000	-0.700000
247	its really annoying because when you click the pink things together it wont stay together so it broke our border collie also they dont give you enough yarn to make the chihuahua so all we could do is us the practice ball	its really annoying because when you click the pink things together it	-0.250000	-0.450000	-0.700000
476	confusing instructions and its not for 6 year olds its boring too its asking the same question but each question is worded differently	not really good	-0.325000	-0.350000	-0.675000
75	they were ok but not really considered it a book really small disappointed	really small disappointed	-0.150000	-0.500000	-0.650000