**Option #1: Planning for Data Analysis in SAS Studio for Retail Company**

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**GameStop Project**

The company that I will analyze is GameStop. I had the experience of working there a few years ago when the company was the industry’s leading retailer of gaming products in the United States, and it also has stores outside of the United States. The company had a lot of promise because the new generations are increasingly technologically-savvy, so the expectation was and is still that the gaming business will continue to boom. GameStop’s market is strictly focused on products related with gaming and technology (cellphones, tablets and accessories). This company with such potential completely missed their opportunity to take advantage of the current market trends. Other retail companies like Walmart and Amazon recognized GameStop’s failure and seized the chance to each increase their market shares in the industry by attracting customers with their ability to quickly adapt their platforms to reflect the modern gaming consumer preferences. As a consequence, to GameStop’s lack of foresight, this previous top retailors headed straight toward bankruptcy and this was before the COVID-19 pandemic. However, it is important to note that the recent increase in the company’s stock price is not related with the performance of the company due to speculative trading. The company has tried several times to change their management team and the CEO with the hopes of getting the company back on track again, but they continue to be unsuccessful.

**Questions**

1) Is GameStop analyzing the metrics related with sales of the company?

2) Are GameStop’s strategies focused on understanding the new trends in the market?

3) Is the business model efficient in every area of the company?

4) Are the employees and the company in the same page in the focus of the company?

**1) Hypotheses**

Null hypotheses

The company is able to analyze the relevant metrics related with sales the company.

Alternative Hypothesis

The company is failing at understanding the relevant metrics related with sales of the company.

**2)Hypotheses**

Null hypotheses

The strategies are focus on understanding the trends of the market.

Alternative Hypothesis

The strategies are not taking into consideration the new trends in the market.

**3)Hypotheses**

Null hypotheses

The business model is efficient and sustainable for the company.

Alternative Hypothesis

The business model is hurting the company and is not sustainable.

**4)Hypotheses**

Null hypotheses

The employees are on the same page with the company and understand the focus and goals that GameStop wants to achieve.

Alternative Hypothesis

The employees do not have a clear idea of the company’s goals and strategies and are not able to be on the same page as management.

**Statistical Tests and Visualizations**

In this project I will run a correlation analysis to understand the relationship that the variables have with each other and this will give the insight that I need for the next step which is to run a logistic regression. This process will create a model that can be used to predict the future scenarios for the company and provide insight into how the variables are related in the model. This insight is crucial for the company to understand the trends and the areas that are affecting the performance of the company. Also, by reviewing the summary statistics we will gain an understanding of the different variables and their performance including the average for each one of them and this will help for gaining a deeper understanding of the company. The graphs we will use are a histogram and boxplots. These visualizations show the distributions of the variables so it is easier to understand where the max, min and quartiles are located. These graphs allow us to gain a better understanding of the summary statistics that was run previously. The other graphs for the project will be the ones related with the logistic regression (residuals, qqplot, plot distribution) and these will allow us to understand if the model is a good fit for the project and if it’s not a good fit, we can use the information to detect the necessary changes that need to be made to create a model that is a better fit with the requirements of the project.

It will be interesting to see the performance of the company, and understand if the increase in the stock was related with the performance of the company. The only concern or challenge that I see in this project is to be able to find enough data to build a model that can be meaningful for the development of the project. Without the right variables it will be difficult to be able to have a clear answer to the responses to the questions in the project.

**Reference**

Alan. C, Wayne. W (2015). SAS Essentials Mastering SAS for Data Analytics. Source Wiley.

Gert H. N. Laursen; Jesper Thorlund. Business Analytics for Managers. Source Wiley.