

## **Project Part A**

### **Group A4 Members:**

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### **Background and Problems:**

Amazon, the world's largest online retailer, has posted the biggest profit in its 26-year history as online sales in July 2020 despite the covid-19 pandemic [1] . Most people will just easily make an assumption that the increasing sales of Amazon is due to the convenience of online shopping. It is true that online shopping is convenient. However, there are still many factors and criteria that play a bigger role in influencing online sales and total revenue of a year.

To understand more about different factors and criteria that might or might not correlate with increasing online sales, the team decided to make use of the available big data. Therefore, the team proposed to use the data science process to gain business insights from the Amazon beauty datasets, and determine the **factors that contribute to the high sales of a beauty product**.

### **Motivations:**

1. To provide a guideline on criteria of a profitable beauty product to future sellers.
2. To help sellers to shape their products' profile to increase credibility of their products and thus increasing sales.
3. To understand how different criteria affect the sale of beauty products.

### **Questions:**

The team will like to study the following questions using the data science process.

1. Does a high number of good ratings equal a higher sales rank? (Causal)
2. What is the average price for items that are ranked above 10000 ? (Descriptive)
3. Which item has the lowest rating and which item has the highest rating ? (Descriptive)
4. What are the most common words found in negative reviews. Also, what are the most common words found in positive reviews?(descriptive)
5. What is the relationship between price and rating of an item. (exploratory)
6. What are the common words found in the description of highly rated items(descriptive)
7. How does an increase or decrease of price affect the sales rank of a beauty product? (Mechanistic)
8. What is the peak time of the year for a customer to buy beauty products(predictive)

**Supplementary Datasets:**

1. Amazon Review Data (2018) [[source](#)]

**Potential benefit:**

1. Revitalize the overall sales of beauty products (amazon)
2. Increase customer overall online purchasing experience (customer)
3. Provide a better guideline for beauty products entrepreneurs to sell their products in amazon. (sellers)

**Reference:**

[1] Amazon posts biggest profit ever at height of coronavirus pandemic in US, Companies & Markets News & Top Stories - The Straits Times [[source](#)]