Executive Summary for Case Study Analysis

As I come to the point at which I will complete my Google Data Analytics Professional Certification, I wanted to share my experience completing a case study from Kaggle. The case study serves as my capstone project in order to complete the certification.

<u>**Case Study Analysis**</u>

Date: May 20, 2021

Subject: Google Professional Certification for Data Analytics - Capstone Project: A Case Study Analysis

Analysis:

As I come to the point at which I will complete my Google Data Analytics Professional Certification, I wanted to share my experience completing a case study from Kaggle. The case study serves as my capstone project in order to complete the certification.

In order to complete the Google Data Analytics Professional Certification, I decided to complete option 2 for the capstone project - which was to choose a dataset from a public website (such as Kaggle) to earn the certificate. So, I chose a dataset from a [Kaggle](#) user (this user put the dataset onto the public domain). This dataset was concerned with Human Resources, more specifically, the HR department wanted to know what caused an employee to receive a promotion in the company.

In order to figure out the potential root causes of an employee being more likely to be chosen to receive a promotion, I asked myself this question: *Is this company's method of giving promotions biased? If there is*

*bias, do any of these factors (*education, gender, age, years of service, or previous year's rating*) influence the company's decision to give a particular employee a promotion compared to other employees?* The five factors I listed (education, gender, age, years of service, or previous year's rating) were the key aspects I wanted to analyze for the purpose of finding the root causes since these five factors usually are common among the workplace in businesses.

Now, I will go into detail about each of the visualizations that I created for the purpose of the case study. Furthermore, the visualizations that I created can be accessed via the following link - the link will take you to the Tableau Public webpage that I published. The focus of the first visualization is answering this question: Does education play a role in an employee's
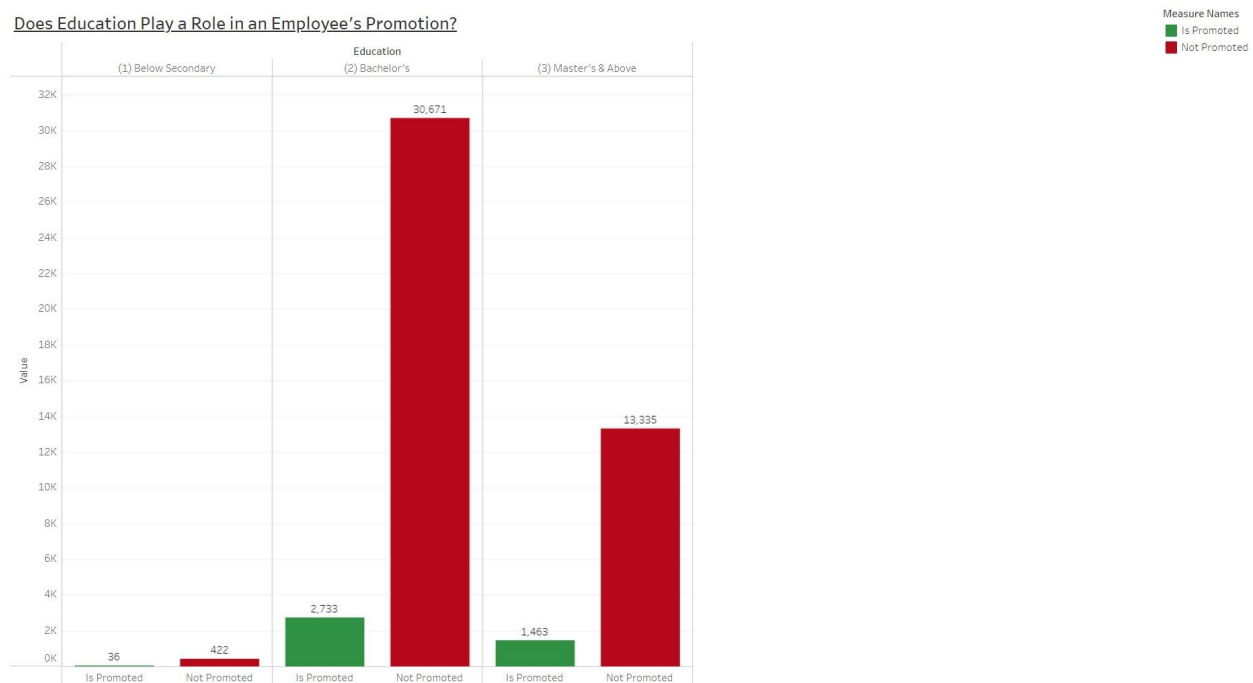
promotion? Based on this visualization, I can safely say that an employee's education **has little or no impact on whether that employee will receive a promotion**. This is because of the fact that very few employees ever get promoted solely based on the factor of their education.
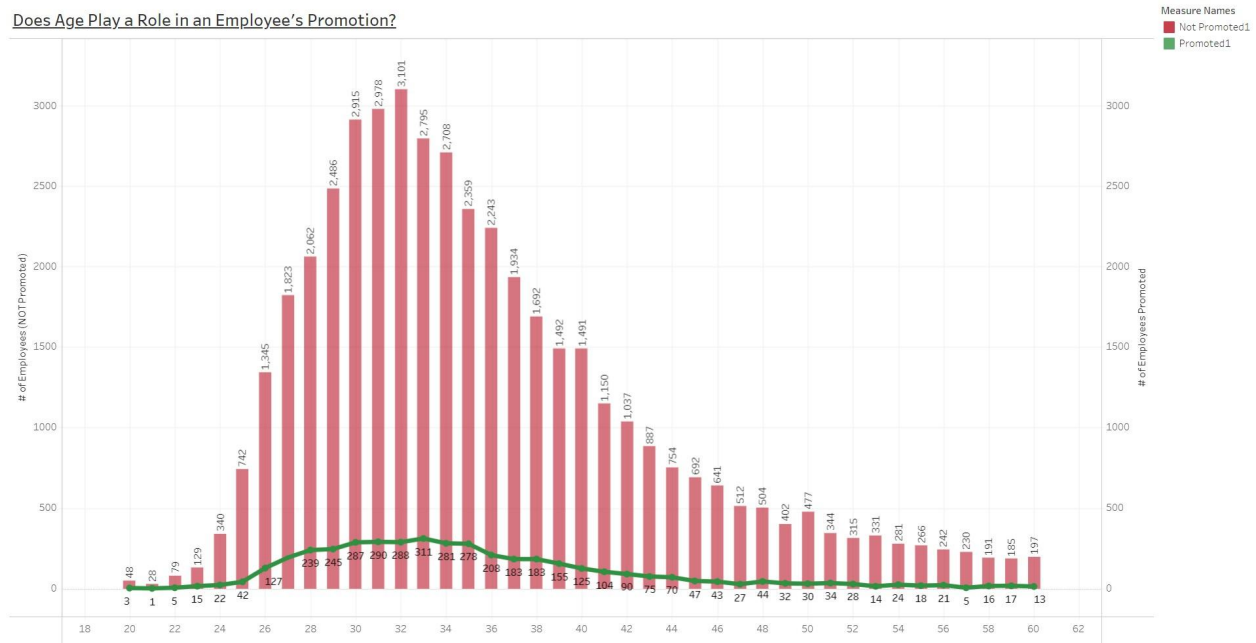
       Moving onto the next visualization, which focused on this question: Does gender play a role in an employee's promotion? Based on this

Does Gender Play a Role in an Employee's Promotion?
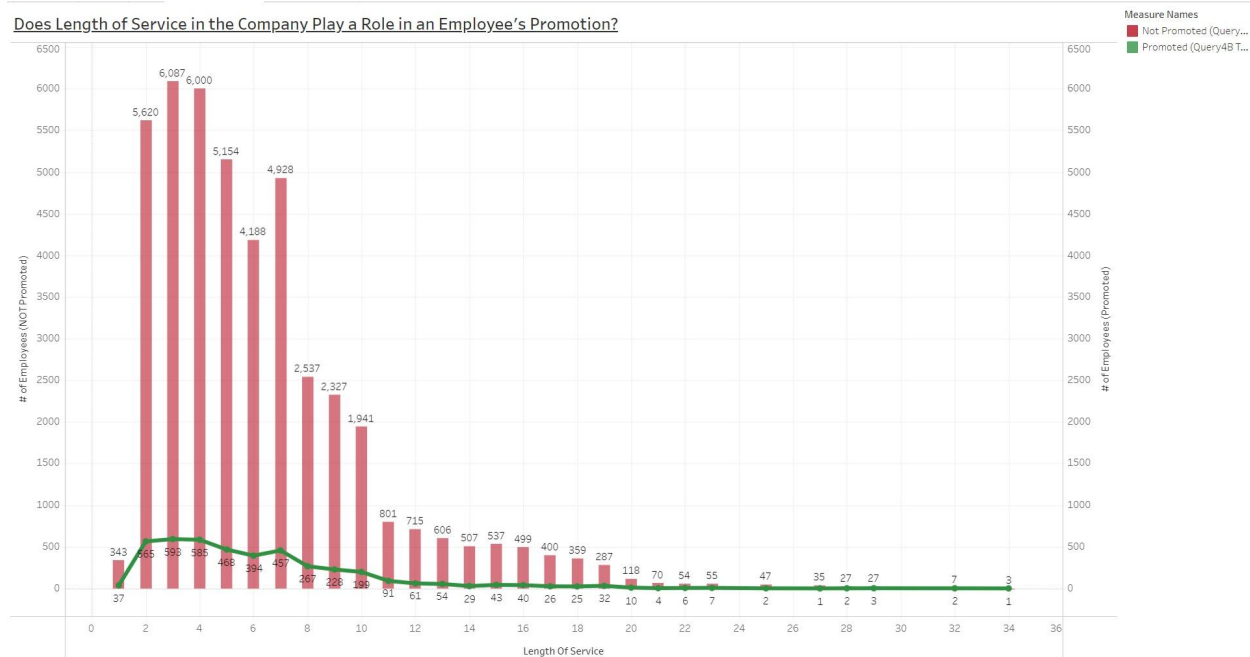
Measure Names
Is Promoted (1)
Not Promoted (1)
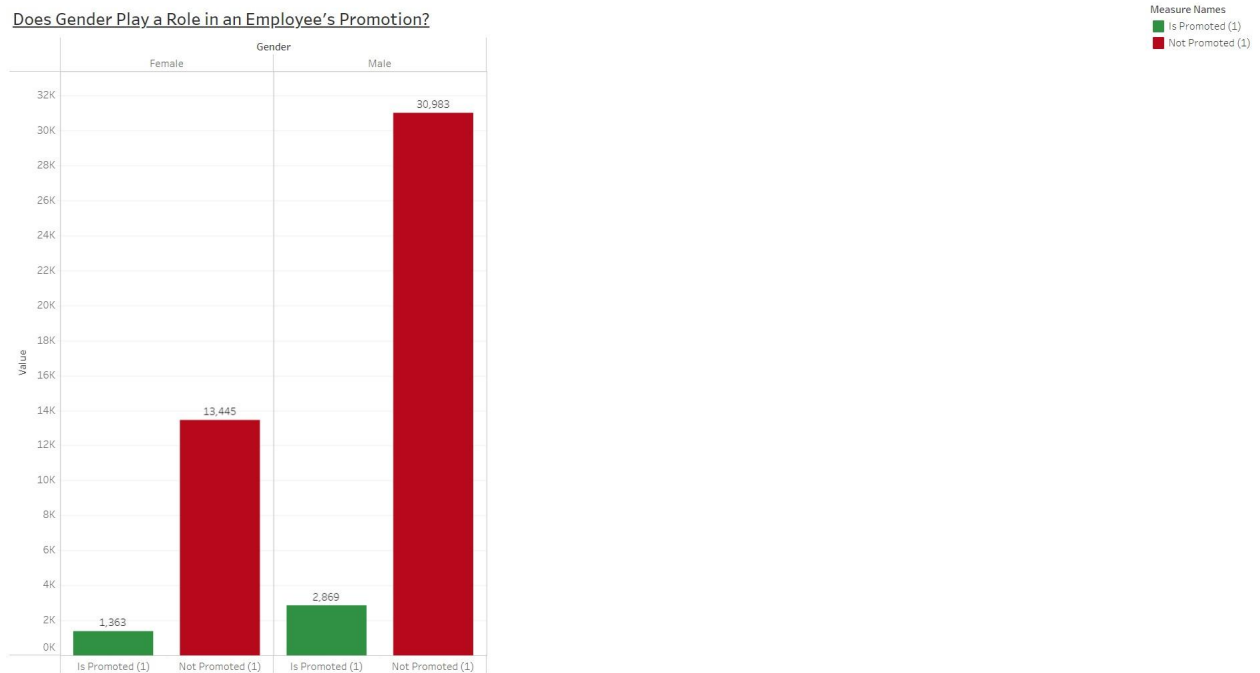
visualization, I can say that there is not an exact correlation between an employee's gender and their opportunity for a promotion. However, I also noticed that there are **way more men in the company** and that the number of **men getting promotions is proportionally less than that for women**. So, I have to come to the conclusion that this company gives more opportunities for women in terms of promotions.

The next visualization - the third visualization- focuses on this question: Does age play a role in an employee's promotion?

Does Age Play a Role in an Employee's Promotion?

Based on this visualization, there is a correlation between an employee's age and whether they get promoted in this particular company. When looking at the **age group of 28 to 35 year-olds, I see that they comprise a lot of the company's working population, but also account for a large amount of the promotions in the company**. I also think that this is the case since **most 28 to 35 year-olds will be in an entry-level to 3rd level job in the company** and they are eager to get a lifelong job within the company they currently work in.

Moving onto the fourth visualization, which focuses on this question: Does length of service in the company play a role in an employee's

Does Length of Service in the Company Play a Role in an Employee's Promotion?

Chart — X-axis: Length Of Service; Left Y-axis: # of Employees (NOT Promoted); Right Y-axis: # of Employees (Promoted)

Not Promoted (bars): 343, 5,620, 6,087, 6,000, 5,154, 4,188, 4,928, 2,537, 2,327, 1,941, 801, 715, 606, 507, 537, 499, 400, 359, 287, 118, 70, 54, 55, 47, 35, 27, 27, 7, 3

Promoted (line): 37, 565, 593, 585, 468, 394, 457, 267, 228, 199, 91, 61, 54, 29, 43, 40, 26, 25, 32, 10, 4, 6, 7, 2, 1, 2, 3, 2, 1

promotion? Based on the data presented, there is a correlation between an employee's time in the company and their opportunity for a promotion. This is because **employees who have shorter tenures at the company usually are new to the type of job because that usually means that they are on the young side** (when comparing this visualization with the previous one). **Employees with shorter tenures currently will try to elongate their time at the company by seeking for promotions** within the company.

The final visualization (can be found on the next page) that I created focused on this question: Does previous year rating play a role in an employee's promotion? Based on the data presented, I see that there is little

or no correlation between an employee's previous year rating and their

Does Previous Year Rating Play a Role in an Employee's Promotion?
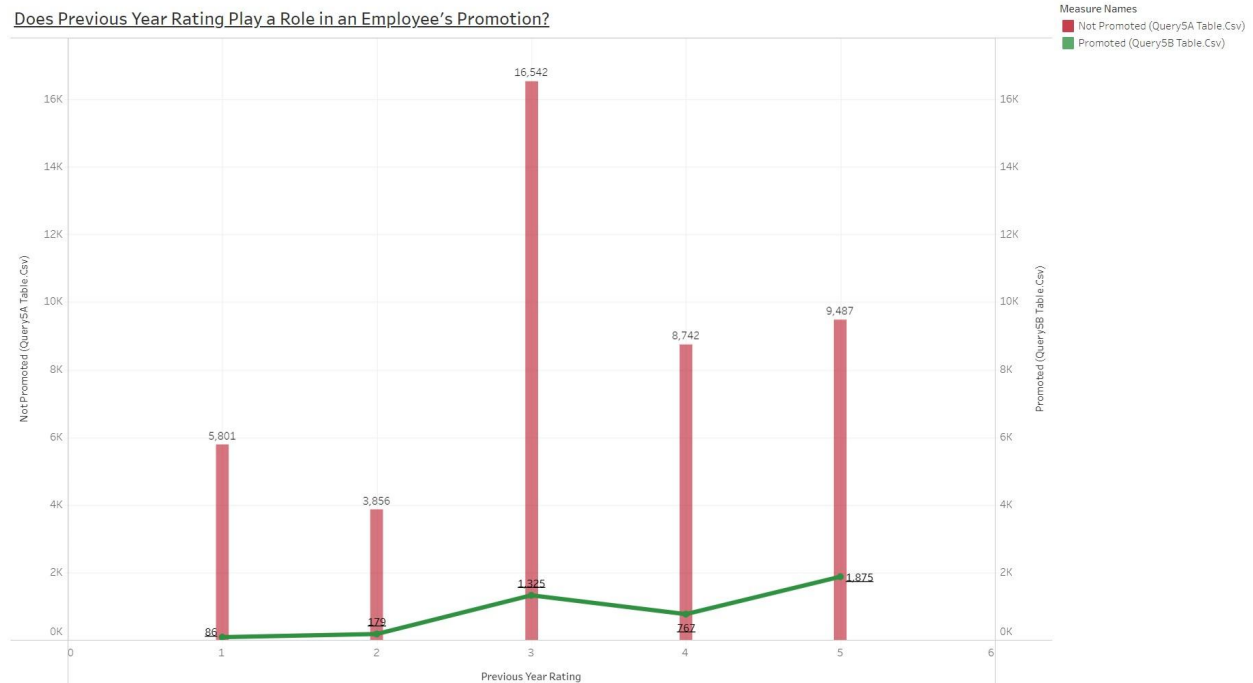
potential opportunity for a promotion. This is because the data seems to indicate that **solely based on the previous year rating, the company would be inconclusive about a particular employee**.

Let's looks at my case study question one more time: *Is this company's method of giving promotions biased? If there is bias, do any of these factors (*education, gender, age, years of service, or previous year's rating*) influence the company's decision to give a particular employee a promotion compared to other employees?* Based on the data I analyzed, I have come to the conclusion that there is **some bias** when it comes to giving out promotions in this company. Seemingly, women are more likely (just on the basis of the proportion of the data) to receive a promotion in

this particular company. Also, people who are in their mid-20s and early-to-mid-30s are more likely to get promoted as well. This indicates that this company needs to make it possible for men to have the same proportional opportunity for promotions in the company. This company can continue giving out promotions to the same age groups, since these age groups will bring new ideas and innovations to the company's success.