Section 2. Business Needs

1. Problem Statement

PROBLEM

In Britain, unequal compensation for comparable labor has been prohibited since the 1970s and is presently codified in the Equality Act 2010. Since 1997, the full-time pay difference has been shrinking over the years, and the total pay gap has also shrunk. Specifically, according to the most recent numbers disclosed under the government's gender pay gap reporting process in 2021, women in the UK were paid just 90p for every £1 earned by males (Duncan, 2022). However, there have also been recent reversals in this issue's development. The gender wage gap in the United Kingdom increased from 14.9% to 15.4% in 2021 (White, 2021). The pay gap continues because of deeply ingrained inequities in society and the economy.

IMPACT

- 1. The increase in the gender pay gap can have a negative impact on companies' competitiveness. Take women's pay as an example, since women represent half of the global labor supply and around 70% of global consumer demand, a decrease in women's pay results in poor loyalty and belief in the company's value, lower their productivity, diversity, and gender balance of a company, which ultimately affects a company's performance and position (Mollerop, 2019). This problem not only affects the company itself, but also affects recruiters when hiring high-skilled workers and prospective employees when choosing to join;
- 2. Besides, the gender pay gap can lead to a risk that all the recent corporate gains may be jeopardized if employees continue to be disproportionately employed by gender and obeyed the investor and stakeholder attention on the environment, social, and governance (ESG) strategy. ESG requires organizations to describe their position in society and how they are fair to their employees, suppliers, and communities. So, while the gender pay gap in the United Kingdom remains a relatively specific measure, companies are increasingly grappling with the challenge of contextualizing it in a broader conversation about social contribution.

TIMEFRAME, LOCATION & TREND

The gender pay gap has always been an issue since women workers have taken up the battle for pay equity since the late nineteenth century. The dataset shows the data on the gender pay gap from different sizes of companies in the UK. In 2017, the UK government enacted legislation requiring organizations with 250 or more employees to report on their gender pay disparity on an annual basis. From 2017 to 2022, there is a slightly decreasing trend of the gender pay gap. Yet, the overall gender pay gap rose a bit in 2021 which might be affected due to COVID-19.

GOAL

Improve the position and brand reputation of listed companies in the UK for the next 5 years by offering professional suggestions to reduce the gender pay gaps and attract more talent for greater social accountability.

IMPORTANCE

A. For companies

Recruiters like Chief Human Resource Officers (CHO) can utilize expanded analysis and
reporting to dive into their pay to discover the root causes of pay gaps and understand
companies' current position in the industry by evaluating past figures and trends. Also, CHO
can develop more specific and effective strategies in the next financial years by evaluating the
effectiveness and efficiencies of the past strategies relating to reducing gender pay gaps
through changes in the industry position;

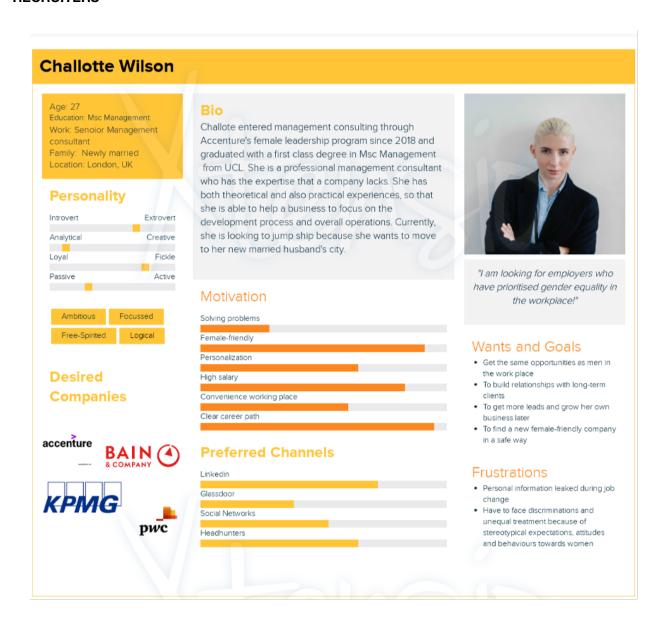
 Bespoke suggestions are offered as an indication for CHO to develop HR-related strategies to improve the company's position and align with the ESG criteria (satisfying shareholders), (also achieving their KPI) based on data and analysis by comparing firms with similar sizes and gender pay gap trends. For example, providing voluntary supplementary pay gap reporting for ethnicity, disability, and socioeconomic mobility.

B. For employees / graduates / workers

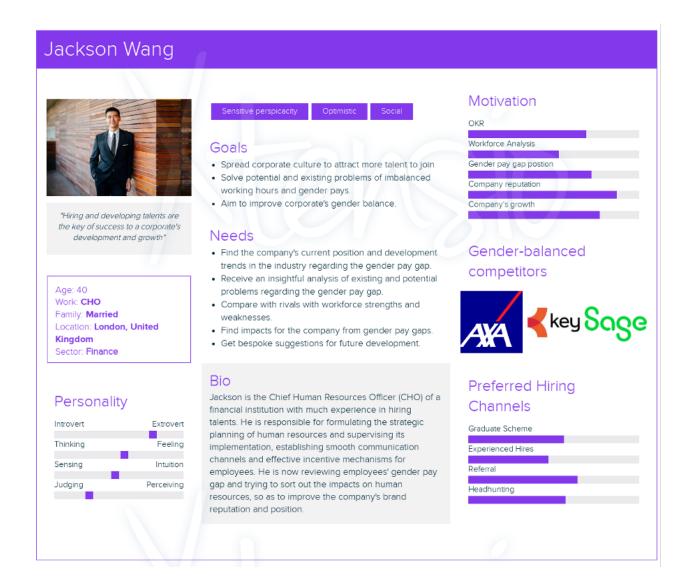
- 1. Pay transparency provides workers with the information and evidence they need to negotiate pay rates and gives them a way to challenge potential pay discrimination. Encourages current employees to have a clear indication that they want to demonstrate their commitment to eliminating the gender pay gap and bolstering companies' reputation as a fair and ethical workplace;
- Workers are able to choose their preferred employer based on their willingness of pays, for example, workers can find out a company that is more female-friendly and has fewer gender pay gaps than others.

2. Persona of Target Audiences

RECRUITERS



WORKERS



3. Questions to Answer

A. For employees/graduates/workers or people who are looking for a job or trying to know more about the company's information

INDUSTRY

- 1. How many and what industries can we define from our datasets?
- 2. Which industries have the largest and the least mean gender pay gap in both hourly pay and bonus pay?
- 3. What are the average gender pay quantiles (including lower, lower middle, upper middle, and top) in these industries?
- 4. Will the industry trend vary in terms of company size and region?
- 5. Is there any specific industry not following the overall trend?

COMPANY SIZE

1. How many classes can we define based on the dataset?

- 2. Based on different classes of companies' sizes, which classes have the largest and the least mean gender pay gap in both hourly pay and bonus pay?
- 3. What are the average gender pay quantiles (including lower, lower middle, upper middle, and top) in these classes?
- 4. Will the trend on company size vary in terms of industry and region?

REGION

- 1. Which regions can we determine from the dataset?
- 2. Which regions have the largest and the least mean gender pay gap in both hourly pay and bonus pay?
- 3. What are the average gender pay quantiles (including lower, lower middle, upper middle, and top) in these regions?
- 4. Will the regional trend vary in terms of industry and company size?
- 5. Is there a specific region not following the overall trend?
- B. For recruiters that want to learn about the current position of their firm

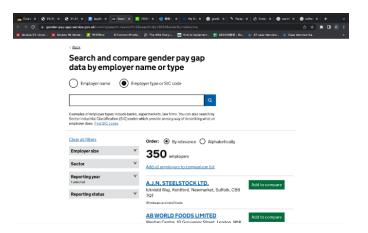
INDIVIDUAL COMPANIES

- 1. What is the rank in either the industry, company size or region by comparing the hourly pay gap and bonus pay gap?
- 2. Is the firm being absolutely paying biased salary or bonus?
- 3. Is the firm being relatively paying biased salary or bonus within an industry, a class of company size or a region?
- 4. How the firm can improve its competitiveness by benchmarking other companies with better gender pay gap within the same industry, same company size or same region?

4. Suggestion for Machine Learning Models

CLASSIFICATION

To classify companies into their corresponding industries. This utilization can be found on gov.uk.



REGRESSION

To predict whether a company tends to be biased on gender payment or not.

XGBOOST

To compare gender pay gaps or mean gender pays with other companies. This can help prospective employees to compare employers or help recruiters to understand their industrial or regional position on gender pay gap issue.

References:

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