**Assignment 3 – Modification Summary & Analytical Rationale**

**Student Name:** Preyota Ahsan  
**Student ID:** 48799092

1. Overview of Modifications

Closeness centrality is an additional centrality metric that was added to the original analysis framework. This was included to assess a director's ability to interact with others in the network, providing an alternative viewpoint to the eigenvector and degree centrality metrics already in use.  
  
Additionally, null and empty values were eliminated from the role data by cleaning and processing it from the director-details.csv file. To improve interpretability, a bar chart was subsequently used to display the frequency distribution of the top ten director roles.

1. Analytical Exploration

Gender was found to be an underutilised but significant column in the dataset. In order to comprehend the gender distribution of corporate directors, this field was investigated. The percentage of male and female directors was displayed in a pie chart, which shed light on gender representation and any disparities in corporate leadership. This insight is helpful in drawing attention to issues with diversity in directorship structures.

1. Complementary Dataset Rationale

ASIC Financial Reports, a fictitious supplemental dataset that contains statistics on firm income and profit, was suggested. ASIC and commercial sources like IBISWorld make this dataset openly available. By including such financial data, it is possible to assess each director's affiliation with profitable or unsuccessful businesses.

1. Implementation Using Financial Data

The directorship data was combined with a generated financial dataset. The computation of average revenue and profit per director was made possible by the combined data. The financial performance of their companies was then used to rate the directors. This analysis shows how network structure and economic measures can be used to find high-performing or important people.

1. Ethical Considerations

A number of moral ramifications were recognised:  
  
-When public data is combined to determine performance or impact, privacy problems occur.  
  
-Data biases (such as gender or location) may be exacerbated without intentional correction.  
  
-Misuse of centrality indicators as stand-ins for quality may result in interpretation mistakes.  
  
-If such models are applied in decision-making situations, transparency is crucial.  
  
-This analysis is best suited for advancing diversity, supervision, and improved governance, not just for evaluations motivated by profit.