Major Project

Assessment Task: The report is to be based on the following case study scenario about the use of Artificial Intelligence.

Artificial Intelligence (AI) includes groups of technologies that cover different fields such as machine and deep learning, predictive analytics, process automation, speech recognition, biometrics, and natural language processing. AI is seen by many businesses as the answer to increasing costs of human employment and used in a large number of industries in different ways. It has allowed the implementation of smart cities, developments in the medical sciences, special effects in movies and even the management of back-office type work. However, major concerns have been raised by many critics, some who are from the ICT fields themselves, that the use of AI must be controlled to prevent an unethical takeover by machines over humans.

You are the Head of ICT in a large logistics organisation with over 200 staff, established around 20 years ago. Your organisation's head office is based in Sydney but it operates in various states of Australia and some countries in the Oceania region as well. Your organisation provides end to end logistics solutions to a large number of companies including warehousing, manufacturing and mining. Some of your client companies are expanding and they would like you to provide logistical solutions based on AI.

As a result, your organisation is now exploring options to expand the business in the next five years to include services based on AI. As a part of their expansion plans, the CEO of your organisation has asked you to investigate the technology and types of applications that can be used to provide services to your clients in the warehousing, manufacturing and mining industries. On the other hand, he wants to ensure that ethical limits of using AI are also observed with the use of AI. You have to complete this investigation in the next three weeks and draft a report with some recommendations for the next Executive Management meeting.

Your research and the subsequent report should cover the following tasks:

1. Definition of AI and the most up to date developments in the field that relate to logistics based solutions. This investigation must consider at least five different types of applications using AI. You should investigate examples from various industries within Australia and other parts of the world. Especially investigate the current uses of AI in logistics operations that service the transport, warehousing, manufacturing and mining industries. You could also include examples from other industries. Your report must identify actual examples of uses in the current market.
2. Based on the findings from the previous section, propose three AI based applications your organisation could use to expand its logistics business in the next five years. As a part of this analysis, consider the potential advantages and disadvantages of the

applications you have investigated in the previous section, and the various risks (positive and negative) with respect to the solution/s you propose. When considering the potential advantages and disadvantages of the applications you have proposed, specifically explore them from an ethical, social and legal point of view. Ethics of AI in general and the specific applications you propose must be considered as a priority in this discussion. Relate this discussion to the proposed directions for your organisation.

3. Your analysis and proposed solutions in task 2 should provide three to five recommendations at the end of your report. Make sure that the specific recommendations have been evaluated as a part of your report discussion. The three AI applications and the ethical aspects of using AI must be considered in your recommendations. The recommendation section should directly focus on addressing the organisation's current problem.

The report should be at a strategic level. It must not consist of highly technical or operational details as some of your Executive Managers are not from an information technology background.