Part 1

1. -Sensors provide information on environmental conditions such as temperature, light levels, soil moisture and humidity

* Maintaining optimal levels of nutrients, light and water is important for plants to grow well and prevent fungal growth

1. Descriptive analytics: Techniques that summarise existing data to understand problems opportunities, patterns and trends

Farm yield: track growth pattern of different vegetables from seedlings to maturity

Understand current growth condition of vegetables

Predictive analytics: Techniques that predict the future by extrapolating relationships in historical data

Predict amount of vegetables that can be harvested

Prescriptive analytics: Techniques to identify the best alternatives to minimise or maximise an objective

Identify optimal environmental conditions (e.g. soil moisture, nutrient levels) that maximise yield for each type of vegetable

1. Descriptive analytics | vegetable production and distribution

Understand customer purchase and demand patterns for different types of vegetables

Predict customer demand for different types of vegetables

1. Improved freshness and quality

Access to locally produced vegetables

Increase sustainability of agricultural operations

Food security

Optimise land use

1. Capital: large upfront costs required to purchase equipment, precision farming technologies

e.g. soil sensors that track soil moisture and temperature, dendrometers that measure plant growth, environmental sensors to monitor light levels and humidity

cloud services to store and process incoming data

Training: technical and analytics skills required to use maintain and upgrade technologies

* + Talend pool may be limited

Data security and privacy issues

e.g. cybersecurity – smart technologies can be exploited to disrupt farms