Project management systems

Critical path analysis:

The **mathematical network** analysis technique of planning complex working procedures with reference to the critical path of each **alternative system**. Used for **time sensitive manufacturing/products**

- Calculates longest path to complete project
- Shortest duration possible if everything runs on time
- Least float (wriggle room) calculated

The process of a critical path analysis:

- Compile a list of all activities
- Work out the length of time for each activity
- Determine the relationship between the activities
- Determine the specific points of time in the deliverable items

Scrum:

A design approach that revolves around teamwork. An emphasis on daily communication and the flexible reassessment of plans that are carried out in short, iterative phases of work

- Used in project management
- Everyone has clearly defined goals
- Multiple department team (designers, engineers, marketing etc)
- Needs of user/product is at forefront of all decisions
- Agile/flexible/fast moving based on constant feedback

Burn down charts:

Show what still needs completing and helps calculate completion dates

Sprint meeting:

Daily team meeting about what's been completed/what will be done today

Six sigma:

A business management system to:

- Reduce defects
- Increase customer satisfaction
- Increase quality

The five stages of six sigma:

Define: What does the customer need
Measure: Measure the processes to determine current performance
Analyse: Where are the defects/variations
Improve: What changes need to be introduced to make the system more efficient
Control: Monitor/record improvements

Reduce process cycle time:

Reduce non-value added activities (inefficient layout, reducing errors, not completing paperwork that isn't needed)

Reduce pollution:

Reduce distance materials need to travel, more efficient work that goes to waste, more efficient processes

Reduce costs:

Reduce process cycle time/pollution, simplifying the steps needed (redesign components), use a common manufacturing process, using standardisation to reduce costs

Increase customer satisfaction-increased profits:

More satisfied customers lead to increased profit, long service life/high quality leads to customers recommending products which increases profits