

when an activity should start and end  
 GANTT charts  
 Schedule work patterns

A planning and control system should be able to detect deviation from plans within a time scale that allows an appropriate response

Periodic intervention  
 Work pushed (scheduled by a central system) to system or pulled by workstation  
**Push and pull control**  
 Pull (works best when environment is stable) reduces build-up of inventories

Bottleneck should be controlled (according to Theory of constraint) which is the **DRUM**.  
 There has to be a **BUFFER** before the DRUM to make sure that the bottleneck is always working.  
**Drum, buffer, rope control**

It doesn't make any sense if the activities before the bottleneck work to their full capacity --> **ROPE**, there has to be communication so that there is no overproduction

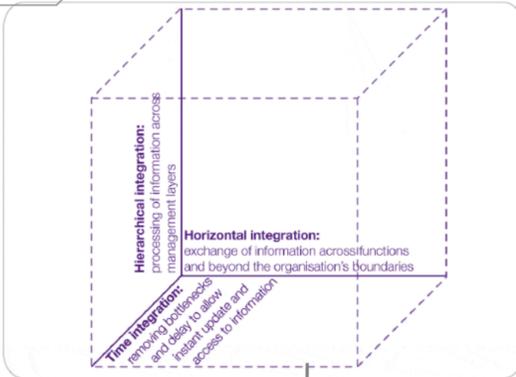
- 2 Sequencing**
- Customer priority
  - Due date
  - Last in first out (LIFO) Unload an elevator
  - First in first out (FIFO) Queues
  - Longest operation time first (LOT)
  - Shortest operation time first (SOT)

- 1 Loading**
- Finite loading** = set a limit in loading
    - company where it is possible to limit the load (reservation system)
    - necessary to limit load (aircraft)
    - cost of limiting is not prohibitive (sports car)
  - Infinite loading** = no limits in loading
    - company where it is not possible to limit load (hospital)
    - not necessary to limit load (outlets)
    - cost of limiting is prohibitive (retail bank)

Ongoing allocation of resource and activities to ensure that the operation's processes are both efficient and reflect customer demand for products and services.

Customer and Supplier interface determines "experience" - Expectation and Delivery gap

**Core mechanics of planning & control**



**Resource planning**  
 Slack et al (2009)

**ERP**  
 Electronic Resource planning

Derives from MRP - Material resources planning  
 Only effective if the way business organizes its processes is aligned with the underlying assumption of its ERP system  
 Integrates planning & control information from all parts of organization



- Advantages**
- Visibility of whats happening
  - Improved control of operations for continuous improvement
  - More sophisticated communication with the customer, supplier and other business partner giving better information
  - Integrating whole supply chains
  - maximises throughput of information
  - minimizing response time to customer & supplier
  - delivers information for decision makers



- Disadvantages**
- Complexity
  - Expensive (especially ecosystem)
  - Processes must be aligned beforehand



streamline flow  
 low inventories  
 efficient supply chain management  
 Exchange information  
**horizontal integration**

important for managers  
 Anthony's Triangle  
 exchange information across hierachies  
**hierarchical integration**

filter information = only KEY information  
 remove bottlenecks in horizontal and vertical information flow  
**time integration**  
 "Business process fusion"

**Enterprise software**