



How to Understand and Manage Load and Capacity

Value Chain Competitiveness (VCC)

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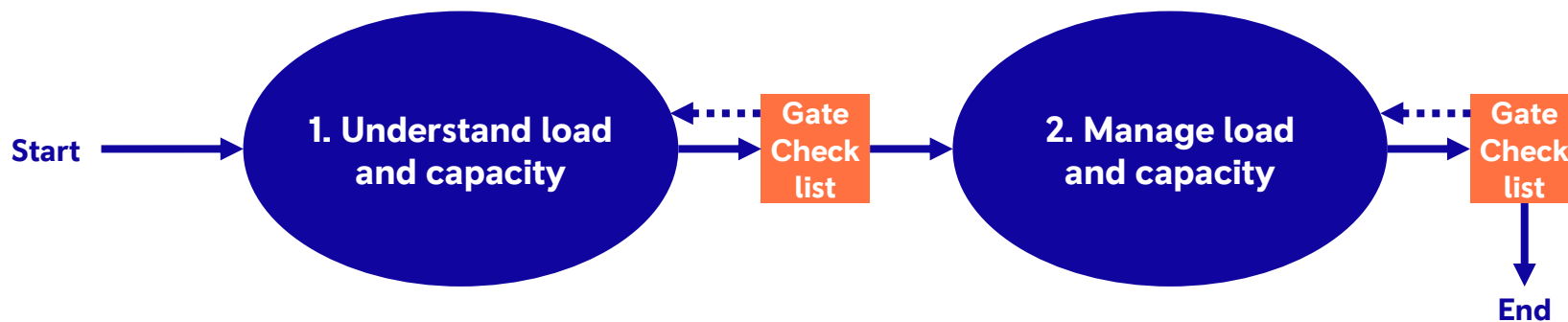
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How to Understand and Manage Load and Capacity



Scope

Objectives & Principles





Scope



This 'How To' will enable you to:

- Give a simple overview of load & capacity
- Identify key process steps
- Have a base level understanding to be able to determine load from a customer and to determine capacity in operations



Objective and Principles



- Give a simple overview of load & capacity
- Identify key process steps
- Have a base level understanding to be able to determine load from a customer and to determine capacity in operations

1. Understand load and capacity



What is Load?

- Load is the overall requirement of the customer on the business

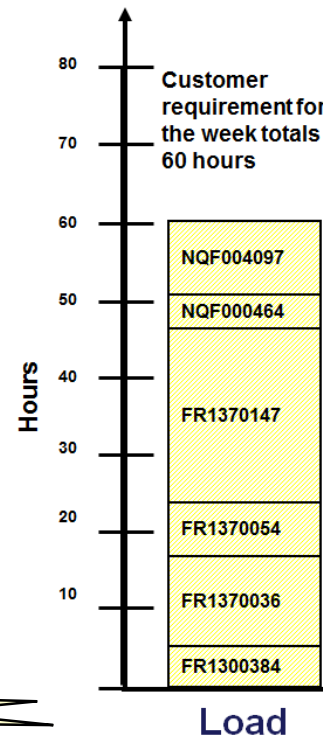
Load is also commonly referred to as

- Demand
- Customer Requirement

Week 20 Load Work Centre 1

Part Number	Load (Parts)	Cycle time/part (Minutes)	Totals
FR1300384	10	30	300
FR1370036	12	55	660
FR1370054	6	80	480
FR1370147	30	45	1350
NQF000464	5	50	250
NQF004097	28	20	560
Totals	87	n/a	3600

3600 mins or 60 hrs of load





1. Understand load and capacity



What is Capacity?

- Capacity is the availability of the resource

People

Working days / shifts

less

Holidays

less

Absence

less

Other losses (training etc.)

equals

Available Capacity

Machines

Working days / availability

less

Planned stoppages (not working)

less

Planned maintenance

less

OEE losses (unplanned stoppages)

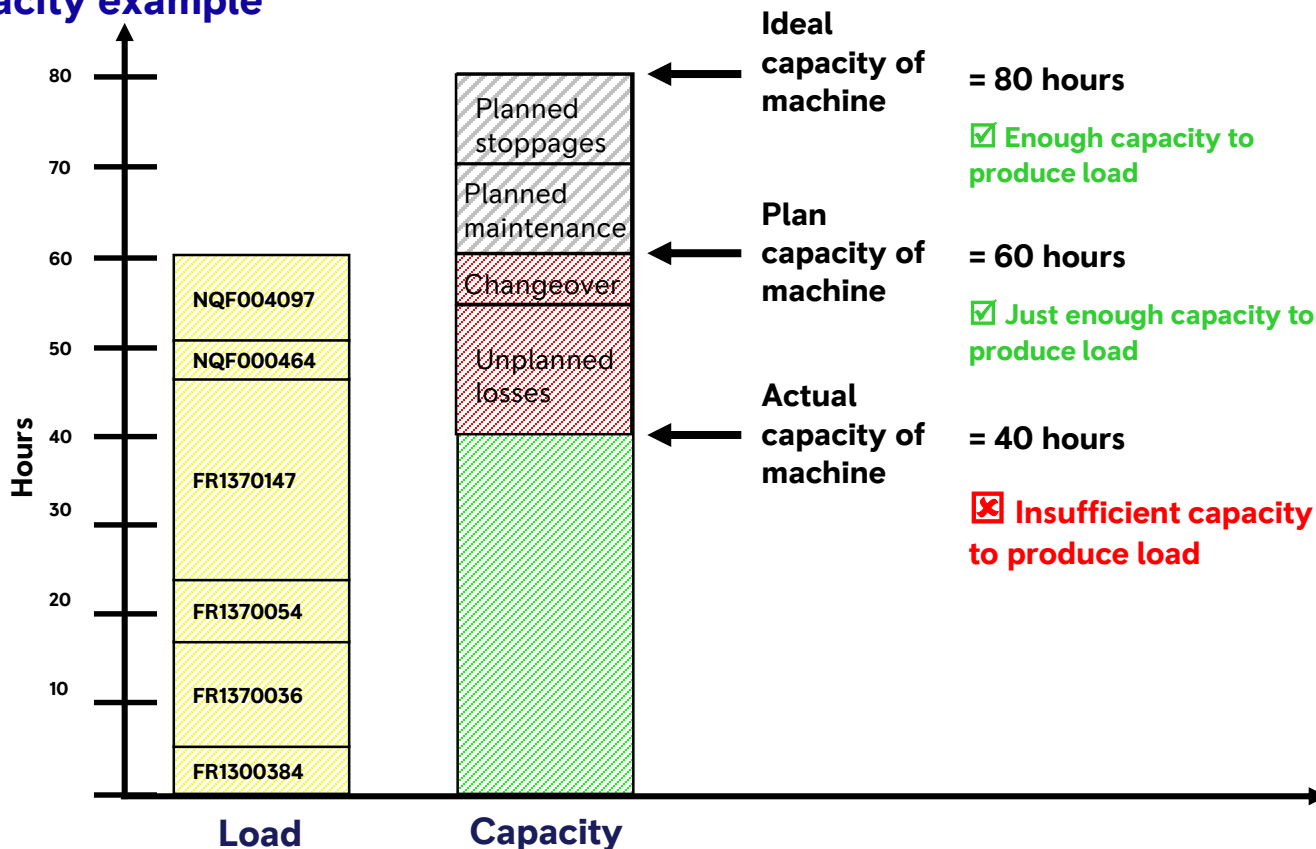
equals

Available Capacity

1. Understand load and capacity



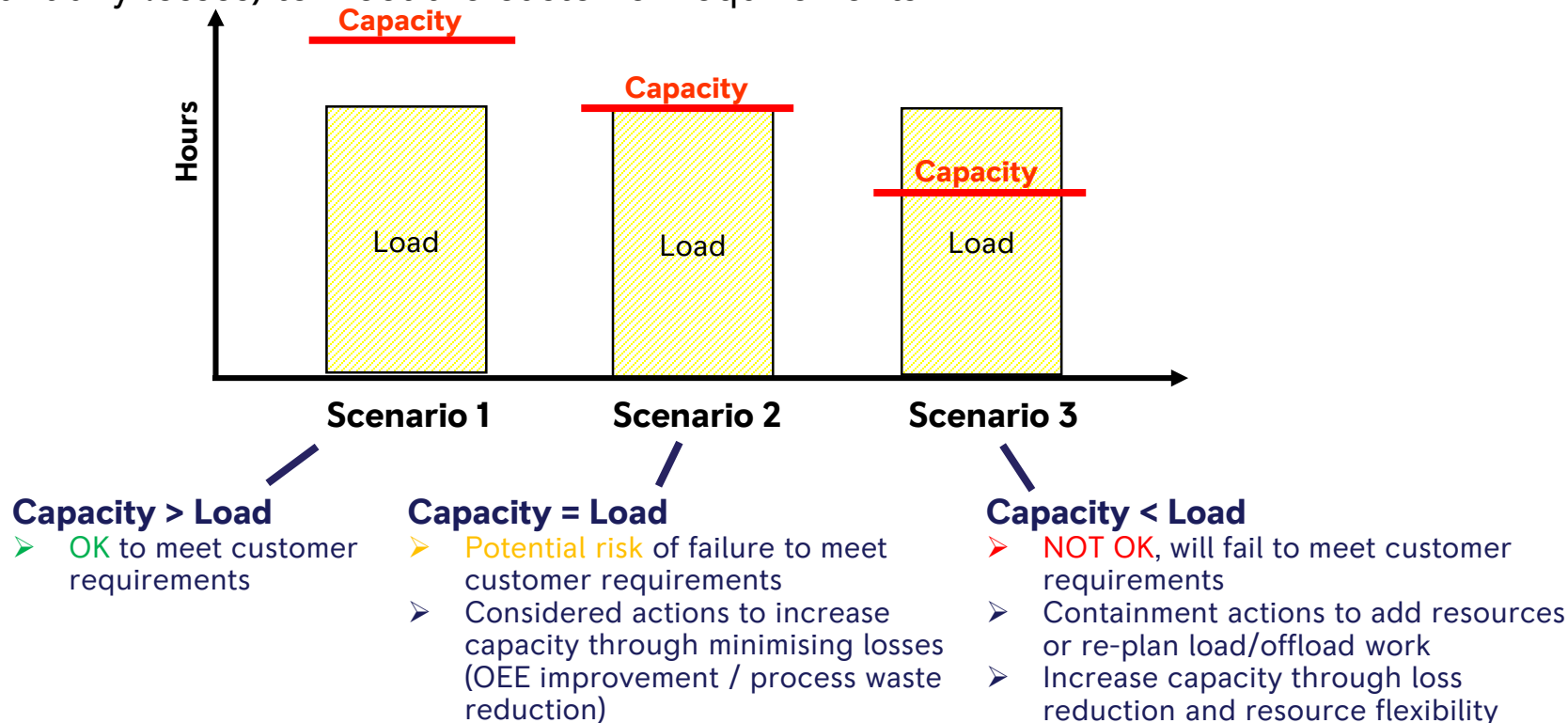
Load verses capacity example



1. Understand load and capacity



The capacity of the resource must equal or exceed the load on the resource (taking into account any losses) to meet the customer requirements





Gate checklist 1: Understand load and capacity



- ☒ Understand the definition of load and how it is calculated
- ☒ Understand the definition of capacity and how it is calculated
- ☒ Understand load vs capacity under different scenarios



2. Manage load and capacity



What is Capacity Planning?

- Capacity planning is the process of matching the resource availability to the customer demand, with the aim of meeting the customer requirements.

Why do Capacity Planning?

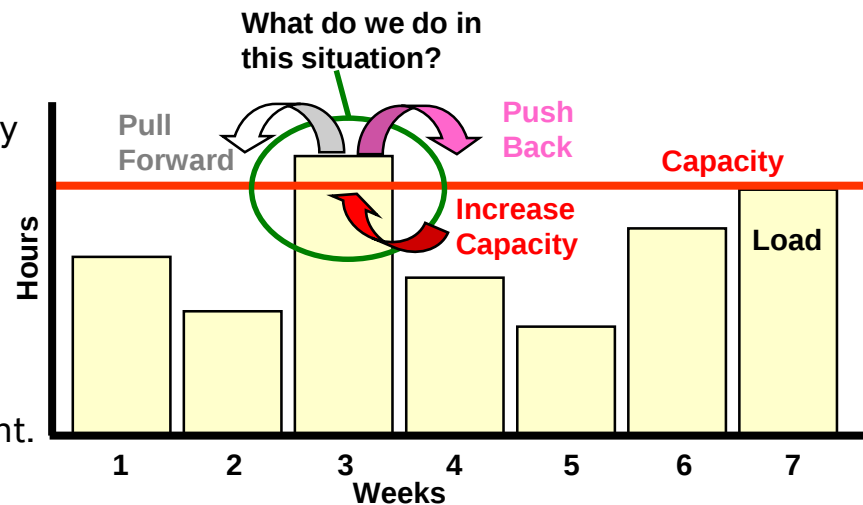
- Capacity planning allows a business to forward plan their resources in order to gain an understanding of future utilisation, and highlight any possible availability clashes.

Implications

- If load & capacity are out of balance then delivery, quality and/or cost will be jeopardised.

Requirements

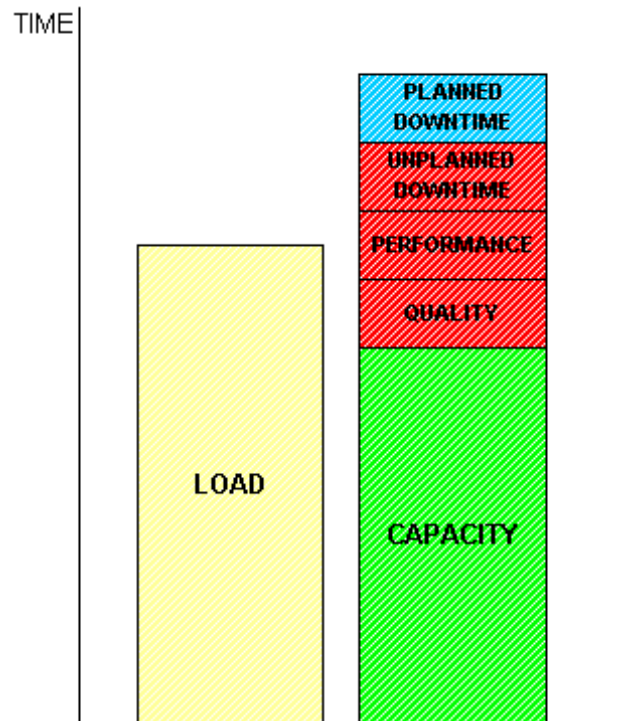
- Load must represent the current customer requirement.
- Any other scenarios must be “What ifs” in a planning model.
- Capacity must be realistic with acceptable level of risk.
- Resources can only be grouped if they have a common capability.



2. Manage load and capacity



Typical load and capacity questions



Load

- What work is planned for a given week, on a particular resource?
- What are the standard cycle times for the parts through a defined resource?
- What are the batch sizes of the parts at the resource?

Planned downtime

- What are the planned holidays for each operator?
- What is the planned maintenance downtime?

Unplanned downtime

- What is the OEE (target and actual)?
- What is the average annual absence?

Capacity

- What is the standard working week?
- What are the shift patterns?
- How many operators are there?
- What is the average weekly overtime?



Gate checklist 2: Manage load and capacity



- ☒ Principles of load and capacity planning understood
- ☒ Load and capacity management in place to meet customer requirements