CAPACITY PLANNING

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Capacity planning

- Different measures of capacity and utilization
- Demonstrate demand management strategies
- short-term capacity modifying strategies
- Long term capacity planning options and evaluation tools

What is capacity?

- **Capacity levels** refers to the output achievable in production.
- **Design Capacity** is the theoretical maximum capacity, assuming continuous production without any stoppages due to factors such as machine downtime, supply shortages or labour shortages. Full capacity would be associated with ideal standards.
- **Effective capacity** acknowledges that some stoppages are unavoidable, such as maintenance time for machines, and resetting time between jobs, some machine breakdowns and so on. Effective capacity is below design capacity,
- **Budgeted capacity** is the capacity (labour hours, machine hours) needed to produce the budgeted output, and would be associated with current standards, which relate to current conditions but may not be representative of normal practical capacity over a longer period of time.

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Demand management strategies

- If capacity exceeds demand for a length of time then consideration should be given to ***encouraging people to switch their purchase*** offering such as a discount.
  - ***Advertising or other methods*** *of boosting demand are also possible or even a reduction in selling price (if demand is price elastic. Ie responds a lot to changes in price).*
- If demand exceeds capacity for a length of time then consideration should be given ***to switching production*** from other less popular products, an increase in selling price (if demand is price inelastic, i.e. doesn't respond a lot to changes in price) and less time and funds may be spent on promoting the product.
- In the case that demand for a product is seasonal (for example cooler clothing for the summer) the company could introduce increase the pricing at peak times. Additionally the company could increase the stock made available in the run up to the time of seasonal increase in demand.

Short term capacity modifying strategies

If there is likely to be a **shortfall in production then consideration should be given** to how this can be avoided. Possible **options include the following.**

- Overtime working - The limitation of this is that there may be a maximum level of overtime that staff will realistically be willing and able to work.
- Machine hire - If the capacity issue relates to the use of machinery hiring additional machinery during peak times ensures that the cost of the machines is only incurred during peak times. Ex. Hiring reefers for chill stock items
- Subcontracting - Capacity / Quality / Reliability / GMP should be considered.
- Changing inventory levels - If the capacity issues occur in a manufacturing or retail business the business could vary inventory levels, building up inventory during quiet times and reducing them during times of peak demand.

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BALANCED SCORECARD

The balanced scorecard

- The **balanced scorecard** approach to performance measurement focuses on four different perspectives and uses financial and non-financial indicators.
- While it is important for organizations to measure and monitor their financial performance, there may be disadvantages to focusing solely on financial performance.
- The **balanced scorecard approach emphasizes the need to provide management** with a set of information which covers all relevant areas of performance in an objective and unbiased fashion.
- The information provided may be both financial and non-financial and cover areas such as profitability, customer satisfaction, internal efficiency and innovation.

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Why not only financial measures?

- **Concentration only on too few variables** – Cut cost and raise productivity will increase the profitability in short run, but lead to employee demotivate and labour turnover.
- Lack of information on quality.
- Measuring success but not ensuring success. Ex. Quality, Flexibility
- Not linked to long term organizational strategies. Ex. How well organization meets customer requirement, Innovation and product development, gaining customer loyalty.

The balanced scorecard

- A popular approach in current management thinking is the use of a '**balanced scorecard' consisting of a variety of indicators both financial and non-financial.**
- The balanced scorecard seeks to translate **mission and strategy into objectives** and measures, and focuses on **four different perspectives.**
- **For each of the four** perspectives, the scorecard aims to articulate the **outcomes an organization** desires and the **drivers of those outcomes.**

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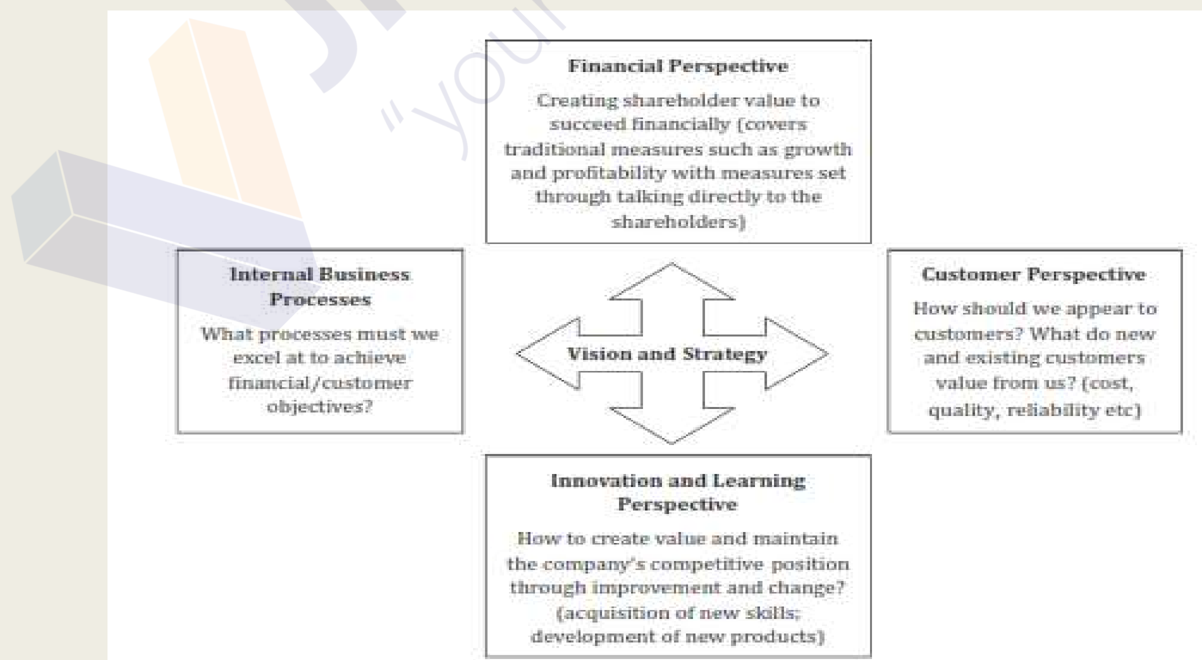
The balanced scorecard



The balanced scorecard and KPIs

	Goals (CSFs)	**Measure (KPIs)**
Customer perspective	Low cost	Bench mark cost Vs Competitor cost
	High quality	% of defects
Internal process perspective	Responsive service	% of on time deliveries
	Operational excellence	Production cycle time (days)
	Employee efficiency	Idle time
	Machine efficiency	Idle time
Innovation and learning perspective	Employee satisfaction	Staff turnover
	Innovation	% of research cost from sales
	Learning	No. of employee suggession
	Training	% of training cost from sales
Financial perspective	Profitability	ROCE
	Efficiency	Asset turnover
	Gearing	Gearing ratio
	Investment	EPS, DPS

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Problems with the balanced scorecard

Problem	**Explanation**
Conflicting measures	Some measures in the scorecard such as research funding and cost reduction may naturally conflict. It is often difficult to determine the balance which will achieve the best results.
Selecting measures	Not only do appropriate measures have to be devised but the number of measures used must be agreed. Care must be taken that the impact of the results is not lost in a sea of information.
Expertise	Measurement is only useful if it initiates appropriate action. Non-financial managers may have difficulty with the usual profit measures. With more measures to consider this problem will be compounded.
Interpretation	Even a financially trained manager may have difficulty in putting the many figures into an overall perspective.
Too many measures	The ultimate objective for commercial organizations is to maximize profits or shareholder wealth. Other targets should offer a guide to achieving this objective and not become an end in themselves.

Strategy maps

- As an extension to the balanced scorecard, Kaplan and Norton also developed the idea of strategy maps, which could be used to help implement the scorecard more successfully.

Strategy maps identify six stages.

(a) Identify **objective. Identify the key objectives of the organisation.**

(b) **Value creation. In the light of the key objectives, determine the main ways** the organization creates value.

(c) **Financial perspective. Identify financial strategies to support the overall** objective and strategy.

(d) **Customer perspective. Clarify customer-orientated strategies to support** the overall strategy.

(e) **Internal processes. Identify how internal processes support the strategy** and help to create value.

(f) **Innovation and learning. Identify the skills and competencies needed to** support the overall strategy and achieve the objectives.

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BENCHMARKING

Benchmarking

- Benchmarking is an attempt to identify best practices and to achieve improved performance by comparison of operations.
- Analyzing performance by a single comparison of data (eg current year vs prior year) can be difficult. Benchmarking is another type of comparison exercise through which an organization attempts to improve performance. The idea is to seek the best available performance against which the organization can monitor its own performance.
- Benchmarking is 'the establishment, through data gathering, of targets and comparators, through whose use relative levels of performance (and particularly underperformance) can be identified. By the adoption of identified best practices it is hoped that performance will improve'.

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Approaches to benchmarking

- **Metric benchmarking** - The practice of comparing appropriate metrics to identify possible areas for improvement. **For example**, *IT investment as a percentage of total assets may be compared across different departments within the same company to identify areas of the company where additional investment is required.*
- **Process benchmarking** - The practice of comparing processes with a partner as part of an improvement process. **For example**, *a distributor of personal computers may analyze a competitor's supply chain function in the hope of identifying successful elements of the process that it can use to its advantage.*
- **Diagnostic benchmarking** - The practice of reviewing the processes of a business to identify those which indicate a problem and offer a potential for improvement. **For example**, *a company may critically assess each element of the value chain and conclude that there is potential for improvement within the marketing and sales function.*

Types benchmarking

- Internal benchmarking – Internal benchmarking involves comparing one operating unit or function with similar ones within the same organization. Ex. Benchmarking sewing function of Brandix Nittambuwa with Brandix Matara.

- Industry benchmarking – In this approach, benchmarks are set by looking at what other organizations in the same industry as your organization achieve. Industry benchmarking can be divided into **competitor benchmarking and non-competitor benchmarking. Ex.** Benchmarking production function of Munchee with Maliban.

- Functional benchmarking - In functional (or 'best-in-class') benchmarking, internal functions or activities are compared with those of the *best external practitioners, regardless of their industry*. Ex. Call center of Telecom is benchmark with call center of Allianz Insurance.

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Benchmarking Process

- Step 1 Set objectives and determine the areas to benchmark
- Step 2 Establish a team to do the benchmarking. It is worth considering including operational team members as they will be able to understand the gaps and will then also own the process improvement projects that result
- Step 3 Determine the key performance measures (KPIs). It is important that benchmarking should focus on performance areas that are crucial to the organization's success
- Step 4 Select organizations to study
- Step 5 Measure own and others' performance
- Step 6 Compare performances
- Step 7 Design and implement improvement program
- Step 8 Monitor improvements

Advantages of benchmarking

- Benchmarking can be useful in helping an organization assess its current strategic position and It identifies the existing position of the entity (where do we stand?)
- It is flexible as to benchmark with any type of organization structure. Ex. Private or public.
- It identifies the processes to be improved.
- It shows the different ways of doing same thing.
- It helps with cost reduction.
- It improves the effectiveness of operations.
- It delivers services to a defined standard.
- It provides a focus on planning.
- It can provide early warning of competitive disadvantage.

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Disadvantages of benchmarking

- Businesses may experience difficulties in deciding which activities to benchmark.
- Businesses may find it difficult to identify the 'best in class' for each activity.
- It is often difficult to share information.
- Successful practices in one organisation may not transfer successfully to another.
- It is a catching-up exercise *rather than the development of anything.*
- After the benchmarking exercise, the competitor might improve performance in a different way or different competitors may emerge.
- There is a risk of drawing incorrect conclusions from inappropriate comparisons.