

## 5.3 Lean production and quality management (HL)

# Quality control and quality assurance

Quality is about customer satisfaction. If a company's product meets or exceeds its customers' needs, it has produced a quality good or service. This could be a taxi company that provides a safe, punctual journey or a restaurant that prepares a salad just the way the customer likes it. If a business is unable to meet the needs of its target market, it will go out of business very quickly.

It is important to stress that quality is defined by the target market of a product. Decisions about quality therefore need to reflect a business's customers. It is unlikely, for example, that your parents shop in the same clothes shops or stream the same music as you. This is because different generations have different tastes and different needs. The clothes that meet the needs of a 50-year-old can be said to be of good quality for that target market. The fact that you would not be seen wearing the same clothes is mostly irrelevant. Decisions about quality therefore reflect the market segment at which products are aimed and a business's position within that segment.

## Quality control and quality assurance

Quality control refers to the inspection of a product in order to find defects and remove them before they are delivered to retailers or customers. This quality management strategy only catches problems after they happen; it does not directly improve production to prevent defects in the first place. It may even contribute to increasing defects, if employees are careless because they know that faulty products will be removed.



**Figure 1.** Quality control requires inspections of the final product to find defects before they reach the retailer or customer.

Credit: alvarez, Getty Images

Quality assurance, on the other hand, includes strategies to prevent defects and improve products. Generally speaking, quality assurance requires employees to check their own work, take responsibility for their own mistakes and identify defects that are not their own fault. Every employee – not just a final inspector – has a responsibility to ensure the quality of the product.

Quality assurance is a form of empowerment, which you learned about in Section 2.4.6 ([/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/rewards-id-39419](https://app.kognity.com/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/rewards-id-39419)). Empowerment can lead to higher employee motivation and engagement. For quality assurance to work well, it is important that all employees receive training in how to spot and deal with defects and other production problems. They also need to have the authority to remove faulty products.

## Methods of quality management

Businesses use a number of strategies to improve quality management, including quality circles, benchmarking and total quality management (TQM).



Figure 2. A quality circle.

Credit: vm, Getty Images

A quality circle is a group of employees who meet regularly to discuss potential improvements to product quality. Employees usually come from diverse areas of the company to provide a range of different perspectives. For example, an employee from the marketing department might offer feedback related to decisions based on market research, while operations employees could provide insights into decisions about how waste can be reduced. **Table 1** outlines some benefits and limitations of quality circles.

Table 1. Benefits and limitations of quality circles.

Benefits of quality circles	Limitations of quality circles
<b>Motivation.</b> Empowering employees to make changes to product quality increases their engagement with the business, improving employee satisfaction.	<b>Reduced productivity.</b> Participating in quality circles takes time away from production and can lower output per worker.
<b>Improved quality.</b> Making everyone responsible for product quality is likely to reduce mistakes.	<b>Training costs.</b> Employees may need training to participate in quality circles, which costs money.

Benefits of quality circles	Limitations of quality circles
<b>Reduced costs.</b> Quality inspectors may not be needed; better quality and reduced waste can also reduce costs.	<b>Not suited to every organisation.</b> Quality circles work best when the organisational culture already has democratic or laissez-faire leadership in place, or where the organisational structure is flatter.

### Making connections

You studied democratic leadership styles in [Section 2.3.2 \(/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/leadership-styles-id-39394\)](/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/leadership-styles-id-39394). A business with a democratic leadership style is more likely to use quality circles to improve operations.

You studied motivation in [Subtopic 2.4 \(/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39054\)](/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39054). Businesses that use quality circles are likely to see higher employee motivation because employees appreciate having their voices heard in the direction of their organisations.

## Benchmarking

Benchmarking is the process by which a business compares itself – on certain criteria – with the industry leaders to see what it can learn from others' techniques.

Benchmarking is not copying. It is the process of exploring areas in which performance can be improved. For example, you might benchmark your performance in Business Management tests against your classmates. Through this benchmarking, you might identify that you need to do more work on finance-related topics. You would then examine how you could improve in this area, perhaps by researching how your classmates revise the finance topic and adapting that to suit your learning style.

The same principles apply to businesses. Benchmarking is about learning from the competition or businesses in other industries in order to gain useful insights into possible performance improvements. This process is a part of quality improvement.

There are two steps involved in benchmarking:

1. Identifying which companies have the best processes or results in a certain area.
2. Finding out how those companies do things and learning from those processes.

Any part of a business can be improved by benchmarking. Companies are constantly looking at other businesses to work out what lessons can be learned from their success. Remember that these other businesses do not need to be in the same industry. A cinema, for example, might benchmark its ticketing systems against the systems used by the Tokyo Metro. Learning how the Tokyo Metro deals with millions of customers per day might offer the cinema useful insights into improvements in its own, much smaller, ticketing systems. **Table 2** outlines some ways that businesses can use benchmarking to improve operations and **Table 3** outlines some benefits and limitations of benchmarking.

**Table 2.** Opportunities for benchmarking in the main business functions.

Business function	Potential improvement	Benchmarking indicator
Human resources	Lower labour turnover	Wages and benefits
Finance and accounts	Improved cash flow	Credit control
Marketing	Higher customer loyalty	After-sales service
Operations	Improved product quality	Quality control systems

**Table 3.** Benefits and limitations of benchmarking.

Benefits of benchmarking	Limitations of benchmarking
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Benefits of benchmarking	Limitations of benchmarking
<b>Improved quality.</b> The business is able to improve itself by looking at examples and using the experiences of others to improve.	<b>Lack of transferability.</b> There is no guarantee that a process that works in another business will be successful when transferred to a new context.
<b>Understand competitors and consumers.</b> Looking outside the organisation for examples of good practice informs the business of both the competition it faces and customers' needs.	<b>Lack of information.</b> It may be difficult, or even impossible, to get the information needed about other businesses in order to benchmark effectively.
<b>Customer satisfaction/increased revenues.</b> Improved quality should lead to higher sales if customers are happy with the product.	<b>Selecting the right benchmark.</b> Businesses must be careful to select the right benchmark for what they are trying to achieve.

## Theory of Knowledge

Benchmarking can help a business improve quality and operations. However, there are significant differences between businesses in different industries and countries. There are even significant differences between businesses operating in the same industry and country.

- To what extent is knowledge transferable from one organisation to another? What internal and external factors might hinder the successful adoption of strategies and tactics?

In total quality management (TQM) systems, every employee is jointly responsible for maintaining the overall quality of the final product. There are two fundamental principles behind TQM: empowerment – which gives employees the authority to change or improve part of their role – and internal customers.

In TQM systems, employees are always encouraged to consider the needs of their internal customers. Internal customers are those employees inside the business that rely on the quality of your output. If done correctly, this should encourage teamwork and

greater levels of communication. TQM can also be considered a lean production strategy because, in addition to quality, employees are also empowered to reduce waste.

**Table 4** outlines some benefits and limitations of TQM.

**Table 4.** Benefits and limitations of total quality management (TQM).

Benefits of TQM	Limitations of TQM
<b>Motivation.</b> Empowering employees to make changes to product quality raises their engagement with the business, increasing employee satisfaction.	<b>Reduced productivity.</b> Having everyone responsible for product quality takes time away from production and can lower output per worker.
<b>Improved quality.</b> Making everyone responsible for product quality is likely to reduce mistakes.	<b>Training costs.</b> Employees need to be properly trained to implement TQM, which costs money.
<b>Reduced costs.</b> Quality inspectors may not be needed; better quality and reduced waste can also reduce costs.	<b>Not suited to every organisation.</b> Quality circles work best when the organisational culture already has democratic or laissez-faire leadership in place, or where the organisational structure is flatter.

## Activity

**Learner profile:** Thinkers

**Approaches to learning:** Thinking skills (critical thinking)

Consider the tensions that exist between lean production and quality management with the help of following questions. You may wish to discuss these with a partner or as a class.

- For a business, does pursuing lean production always lead to improved quality?
  - Consider continuous improvement and JIT. Which one would be more likely to positively affect quality as well as efficiency?
  - If a business judges its efficiency only by looking at costs of production (in other words, whether costs decrease), to what extent might lean production methods worsen quality?



- For a business, to what extent might pursuing improved quality increase costs of production? To what extent might this decrease costs of production?
- How might a for-profit social enterprise and a non-profit social enterprise approach lean production and quality management, and the tensions between them, differently from a for-profit commercial enterprise?

## National and international quality standards

Businesses can apply for an inspection and evaluation of their products' quality and quality assurance processes by independent quality standards organisations. After an inspection, the company will receive recommendations for improving its quality assurance procedures. If the business does well enough, it will be given a stamp of approval that it can display on its promotional materials and elsewhere.



**Figure 3.** ISO certification is an indication of quality for external stakeholders.

Source: "[ISO 9001 in Tsukiji](https://commons.wikimedia.org/wiki/File:ISO_9001_in_Tsukiji.jpg)"

([https://commons.wikimedia.org/wiki/File:ISO\\_9001\\_in\\_Tsukiji.jpg](https://commons.wikimedia.org/wiki/File:ISO_9001_in_Tsukiji.jpg))" by Chris 73 is

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Such certification organisations can exist on a local, national or international level. One prominent organisation is the International Organization for Standardization (ISO) (<https://www.iso.org/home.html>). Founded in 1947, the ISO is an independent global body that promotes universal commercial standards. ISO 9000 is an international accreditation, which is awarded to businesses for their quality assurance systems. Businesses can apply to be awarded ISO 9000 status. This can be a long and expensive process as businesses must produce comprehensive evidence of their quality processes. There are, however, significant internal operations and marketing benefits of this accreditation, such as:

- **Improved brand image.** Once accredited, companies can display the ISO 9000 logo on their promotional materials. This reassures potential customers that they are purchasing a high-quality product, potentially allowing a higher price to be charged.
- **Widening the target market.** Some companies will only use suppliers that have been awarded ISO 9000; by achieving the ISO 9000 standard, a business can then access this exclusive market.

## Activity

**Learner profile:** Inquirers

**Approaches to learning:** Research skills (information literacy)

All schools offering the International Baccalaureate must receive authorisation from the International Baccalaureate Organization (IBO). The IBO authorises schools when they start their Primary Years Programme (PYP), Middle Years Programme (MYP), Diploma Programme (DP) or Career-related Programme (CP) offerings and requires that schools be reauthorised every five years. This ensures that schools are following the mission and vision of the IBO, executing the programmes correctly and providing the required training for their teachers. In order to gain first-hand verification of what is happening in schools, IBO representatives conduct school visits, during which they look carefully at the curriculum materials and documentation. They also interview all groups of stakeholders in the school community and carry out classroom visits to see the teaching and learning in action.

Most schools with IBO programmes will also be accredited by other national or international organisations.

- Look at your school's website to find evidence of IBO authorisation and other accreditation. What do you see and where is the evidence located?

- Invite your head of school or another member of the leadership team to the business management class to talk about how authorisation by the IBO or accreditation by other organisations has improved quality in the school.