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Teacher view

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Notebook



Glossary



Reading assistance

# The big picture

In May 2022, as China continued to take strong measures to stop the spread of COVID-19, many factories in the country found it difficult or even impossible to continue operations. Given the major role that Chinese manufacturing plays in many global businesses, both for component parts and finished goods, this caused significant disruption to global supply chains.

Tesla, the US-based electric vehicle producer, faced this problem at its Shanghai giga factory. To meet production targets despite the lockdown, Tesla created a closed loop or ‘bubble’ of workers in their factories. Workers worked for 12 hours per day, and for six days per week. They were not allowed to leave the factory at the end of the working day; instead they slept on the factory floor to avoid contact with those outside. The CEO of Tesla, [Elon Musk, praised Chinese workers](https://www.theguardian.com/technology/2022/may/12/elon-musk-praises-chinese-workers) (<https://www.theguardian.com/technology/2022/may/12/elon-musk-praises-chinese-workers-for-extreme-work-culture?>

[CMP=twt\\_gu&utm\\_source=Twitter&utm\\_medium#Echobox=1652361539-1](#) for their dedication and hard work to keep operations going.



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### Figure 1. Tesla's giga factory in Shanghai.

Credit: Yaorusheng, Getty Images

Tesla's actions at its Shanghai factory provide an extreme example of the measures that operations managers may take to keep production going when faced with ambitious production and profit objectives. In many other countries, including Tesla's home country, forcing workers to remain in factories would be against the law. Even in China, there is a legal 40-hour work week with limited overtime, but the law is not enforced. This makes the country an attractive place for manufacturers who want to push the limits of production.

The experience gained from the COVID-19 pandemic has highlighted the need for businesses to reconsider their operations. Some, like Tesla, have reacted to changes in the external environment by extracting even more from their human and material resources. Others are experimenting with operations methods that are more sustainable and resilient, mindful of their ethical obligations and sharing value with a wider range of stakeholders. The increasing use of remote work to provide employees flexibility is an example of this.

## Concept

### Ethics

Ethics refers to moral principles that govern the behaviour of a person or groups. Every business decision has moral implications, and businesses are often engaged in the question of 'what is the right thing to do?' Ethical responsibilities in business come from the relationships and networks that are formed when business organisations are established.

Operations management involves transforming inputs into outputs. This transformation requires businesses to engage with human and natural resources in a responsible and ethical way. A business needs to create value for customers by transforming resources into products. But it needs to remember to create and distribute value to other stakeholders in the business as well. As you learned in Subtopic 1.3, (/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-36515/) businesses have a duty to engage positively in reciprocal relationships with their stakeholders and their natural environment.

As businesses transition into the new normal, the role of operations management continues to be a key part of business planning. This subtopic will explain the basic role of operations management in the context of the other business functions.



Student view

## Learning objective from the IBDP Business Management guide with assessment objective level:

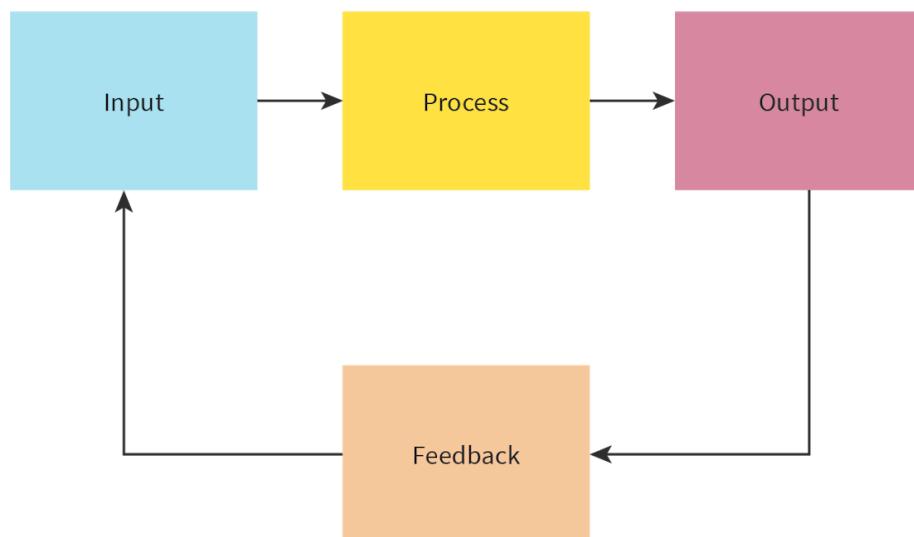
- Explain the role of operation management (AO2)

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# The role of operations management

The role of operations management      The role of operations management

In [Section 1.1.1 \(/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-36497/\)](#), you learned that businesses are systems with inputs, processes, outputs and feedback. Inputs are all the resources needed for the product: physical, financial and human resources. Output is the product itself, whether a good or a service. Feedback occurs when the output of a business becomes an input to the same business. Feedback often involves information from production and output that can inform the business about needed changes.



**Figure 1.** Businesses, like all systems, have inputs, processes, outputs and feedback.

[More information for figure 1](#)

The image is a flowchart illustrating the stages of a business system. It consists of four rectangular blocks labeled 'Input,' 'Process,' 'Output,' and 'Feedback.'

- The 'Input' block is located at the top left, connected by an arrow pointing right to the 'Process' block in the center.
- From the 'Process' block, another arrow moves right towards the 'Output' block.



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- The 'Output' block is located at the top right and is connected by an arrow descending to the 'Feedback' block at the bottom.
- The 'Feedback' block is linked by an arrow pointing leftwards reconnecting to 'Input.'

This flow shows a complete business cycle, where inputs are transformed into outputs through processing. Feedback from output, depicted with arrows, cycles back as an input to optimize the process.

[Generated by AI]

The 'process' part of the system for businesses includes all the business functions you have already learned about in this course: human resource management, finance and accounts, and marketing. Operations management is the final function. It involves the specific process of transforming inputs into outputs to achieve business objectives.

Transforming inputs into outputs most often involves combining or changing the characteristics or qualities of materials and work to create something new. This could be creating a physical product by transforming steel, rubber, and human labour into a bicycle. Or it could be creating a service by transforming the skills of multiple people into education for students in your school. Operations management could also involve the transfer of products from one place to another – as with delivery services, for example – or it could involve breaking bulk – as wholesalers do.

### Section

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Feedback



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Assign



## Activity

**Learner profile:** Thinkers

**Approaches to learning:** Thinking skills (transfer)

Operations management is often easier to imagine in a manufacturing facility than it is in a business that provides services. In a small group, or as a class, see if you can:

- Identify the specific processes related to operations management in your school. Make sure to identify both the obvious and less obvious processes.
  - What might happen to the operations of the school if some of these less visible operations functions do not work well?
- Identify who is involved in carrying out the processes you have identified.
  - Which of these employees are visible to you as a student?
  - Which of these employees are not visible?



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**Figure 2.** Operations management involves transforming inputs into outputs, such as transforming steel, rubber and human labour into a bicycle.

Credit: Mint Images, Getty Images

[\(https://www.gettyimages.co.uk/detail/photo/employee-performance-evaluation-royalty-free-image/168262233\)](https://www.gettyimages.co.uk/detail/photo/employee-performance-evaluation-royalty-free-image/168262233)

## ⌚ Making connections

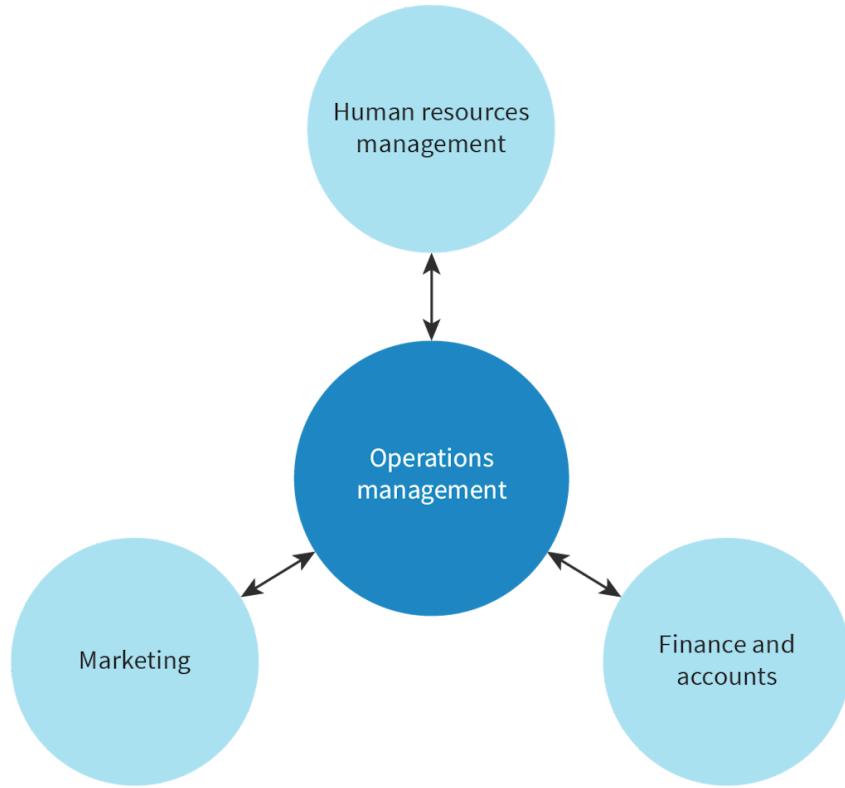
In Subtopic 1.1, (/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-36497/) you learned about businesses as systems. As you move into this last subtopic of the course, you may want to revisit that subtopic, because it provides the big picture overview of inputs, processes, outputs and feedback. This could support your understanding of the role of operations in a business.

Whatever is being produced, operations management involves careful planning and coordinating between the different departments of a business, controlling the processes, quality and costs involved. Operations management is deeply interconnected with the other business functions.



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**Figure 3.** Operations management is affected by, and affects, the other business functions.

More information for figure 3

The diagram consists of four circles, each representing a different business function. In the center is the largest circle labeled "Operations Management." From this central circle, three arrows point outward towards three smaller circles, which represent other business functions: "Human Resources Management," "Marketing," and "Finance and Accounts." Each of these three smaller circles also has an arrow pointing back to the central circle, indicating a reciprocal relationship. The arrows signify the interconnectedness and mutual influence between operations management and these key business functions.

[Generated by AI]

The other business functions support and impact the work of the operations department as follows:

- The marketing department discovers consumers' needs and attracts customers.
- The human resource department recruits, trains and motivates the employees that make the products.
- The finance and accounts department ensures that funds are in place to meet the needs of production.



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But operations management, in turn, affects the other business functions too. For example, when operations managers make decisions on production methods ([Subtopic 5.2 \(/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-39052/\)](#)), this may result in a need for either more or less people (human resources). If the production processes are capital intensive, it means that production is using more physical capital (machines) relative to labour. If production processes are more labour intensive, it means that production is using more labour relative to physical capital. The human resource and finance and accounting departments will need to deal with the employee and cost implications of those production choices. All functions of the business are interdependent.

The operations team could improve cost control through lean production methods ([HL Subtopic 5.3 \(/study/app/business-hl/sid-351-cid-762729/book/the-big-picture-id-39339/\)](#)). This would have a positive impact on the finance and accounts department, which may be able to record higher profits as a result. However, if cost reductions and efficiency are poorly executed, the quality of the product could be impacted, which would then affect the marketing team's ability to meet the needs and expectations of their target markets.

The other areas of operations management – including location decisions, research and development (HL), crisis management/contingency planning (HL) and management information systems (HL) – will impact all the other business functions.



**Figure 4. Labour-intensive production.**

Credit: Roberto Westbrook, Getty Images





## Figure 5. Capital-intensive production.

Credit: alvarez, Getty Images

### ① Exam tip

When you are discussing operations management in the exam, it is important to remember that this function of the business is interdependent with the other functions. When you make these connections, you show that you understand business as a system.

### ② Case study

#### The Hershey Company

The Hershey Company (commonly known as Hershey's) is one of the largest chocolate manufacturers globally. It produces food products such as Reese's, Twizzlers, Kit Kat, Almond Joy, Mauna Loa, Ice Breakers, and Hershey's Cookies. The success of Hershey's lies partly in its effective and efficient operations management. According to Hershey's, its manufacturing process includes high levels of quality management, which includes:

- Selecting quality vendors that provide the best quality cocoa; followed by sampling, testing and certification. Carefully selecting and planning the amount of raw material required.
- Following quality assurance and safety protocols. The company believes in high production standards to ensure that it meets global standards of quality and safety; developing new production methods.
- Installing and maintaining capital equipment.
- Using high-quality packaging and labelling to satisfy customer demands; planning the entire process and ensuring that accurate supplies of packaging materials are in place.
- Providing the best customer service in order to create its brand image and maintain long-term customer relationships.

Hershey's ensures all the above are in place to provide high-quality chocolates and achieve long-term profitability. Different departments along with the operations department ensure the improvement of the overall production process.





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1. Define operations management. [2 marks]
2. Using the example of Hershey's, explain how operations management can impact other business functions. [4 marks]

### Question 1

Operations management is the process of transforming inputs into outputs to achieve business objectives. This involves close coordination with the other business functions to ensure that the human, physical and financial resources are available for production.

**Define** is an AO1 level command term, requiring the precise meaning of a term.

- One mark is given for a vague definition.
- Two marks are given for a complete definition.
- Definitions do not require application to the stimulus material.

### Question 2

Operations management affects the finance and accounts function of a business. This is because production decisions can affect efficiency and costs of production. If production becomes more efficient, costs can be reduced and this can increase profits. The text says that Hershey's carefully selects and plans the 'amount of raw material required', which might, for example, include cocoa and sugar. Careful production planning like this should keep costs to a minimum for Hershey's, and this would positively impact financial results.

Operations management affects the marketing function of a business. The quality of the product is largely dependent on how it is produced, so operations decisions will impact whether the product meets customer needs and expectations. The text says that Hershey's uses 'quality assurance and safety protocols [to ensure that the food] meets global standards of quality and safety'. This attention to quality would make it easier for Hershey's marketing team to promote the foods to their target markets.

**Explain** is an AO2 level command term, requiring a detailed account including reasons or causes. Explain *why*, explain *how*.

- Other responses may be possible and, if appropriately explained and applied in context, may receive full marks.
- To achieve full marks, you must always include theory and application to the case study in your responses to the **explain** command term.



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## 2 section questions ^

### Question 1

- 1 Operations ✓ management involves the transformation of inputs into outputs to achieve business objectives.

#### Accepted answers and explanation

##### #1 Operations

###### General explanation

Operations management is a business process that involves the transformation of all inputs into outputs by careful planning, by coordinating between different departments, and by organising and controlling the process and costs involved. This process works to achieve business objectives.

### Question 2

- 1 Capital ✓ -intensive production means that a business is using more physical capital (machines) relative to labour. In contrast, 2 labour ✓ -intensive production means that the business is using more labour relative to physical capital.

#### Accepted answers and explanation

##### #1 Capital

##### #2 labour

###### General explanation

A key operations management decision involves choosing production methods. Businesses need to decide whether to use human or capital resources to produce products, or some combination of both. When production processes are more capital-intensive, it means that the balance is in favour of machinery. When production processes are more labour-intensive, it means the balance is in favour of human resources.



## What you should know

By the end of this subtopic, you should be able to:

- define the following terms: (AO1)
  - operations management
  - labour intensive
  - capital intensive
- explain the role of operations management (AO2)

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# Reflection

## Teacher instructions

The goal of this section is to encourage students to pause at the end of the subtopic and to reflect on their learning. Students can use the questions provided below to guide their reflection. The questions encourage students to look at the bigger picture and to consider how the subtopic's contents might have impacted the way they view the subject.

The following table shows you how each prompt aligns to the DP *Business management guide*:

Prompt #	Syllabus alignment
1	<b>Concept:</b> Change
2	<b>Learner profile:</b> Reflective



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Students can submit their reflections to you by clicking on 'Submit'. You will then see their answers in the 'Insights' part of the Kognity platform.



## Reflection

In this subtopic you learned about the role of operations management.

Take a moment to reflect on your learning so far. You can use the following questions to guide your reflection. If you click 'Submit', your answers will be shared with your teacher.

1. Make a prediction about the future: which types of production will stay labour intensive and which ones will be robotised and become capital intensive?
2. Now that you have learned about all business functions: operations, marketing, human resource management, and finance and accounts, which one do you consider to be the most important and why? Has your thinking about these functions changed?

Once you submit your response, you won't be able to edit it.

0/2000

Submit

### Rate subtopic 5.1 Introduction to operations management

Help us improve the content and user experience.



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