

CONCLUSION

After defining operations management and presenting the core idea of viewing operations as transformation systems, this chapter briefly outlined the main functions of operations management. It introduced a group of operations systems that can be applied to characterize the operations in most businesses and highlighted the core idea that the operations system employed by a business is constrained by the availability of technology. After providing brief overviews of supply chain management, demand forecasting, and ERP systems, this chapter gave an introduction of Lean as the dominant philosophy shaping operations in the present. The chapter pointed out the core idea that in Lean, the delivery of value to the customer is the most important goal of operations processes, rather than profit maximization.

The chapter on operations management in *Management – An Introduction* by David Boddy (2017) usefully presents operations management in the context of other management topics. Dedicated and authoritative introductions to operations management are provided in *Operations Management* by Nigel Slack and colleagues (2013) and in *Introduction to Operations Management* by John Naylor (2002). The textbook *Process theory: The principles of operations management* by Matthias Holweg and colleagues (2018) provides an up-to-date overview of operations management with an emphasis on processes. The book *The Fourth Industrial Revolution* by Klaus Schwab (2017) accessibly characterizes currently emerging operational methods around digital manufacturing and their likely effects. A very useful introduction to practical Lean methods is provided in *The Lean Toolbox* by John Bicheno and Matthias Holweg (2016).

REVIEW QUESTIONS

1. Complete the below characterization of operations.

(Question type: Fill in the blanks)

“The transformation system operated by a business is one that takes in _____, such as _____, processes these into _____, such as products and services for customers. Note, however, that any such transformation system will also generate _____.”

2. Which of the following are general functions of operations management?

(Question type: Multiple response)

- Marketing strategy
- Procurement logistics
- Scheduling software implementation
- Controlling operations
- Strategic focus
- Inventory management

3. To be truly efficient, businesses should not hold inventory under any circumstances.

(Question type: True/false)

Is this statement true or false?

- True False

4. Match the provided scheduling activities to the relevant time horizons.

(Question type: Matrix)

	Dispatching	Aggregate scheduling	Master scheduling	ERP forecasting
A few months into the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immediate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Up to five years into the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is not an accepted scheduling activity and has no time horizon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Order the provided production operations systems according to their ability to process products in high volumes in descending order, with the first being the highest, etc.

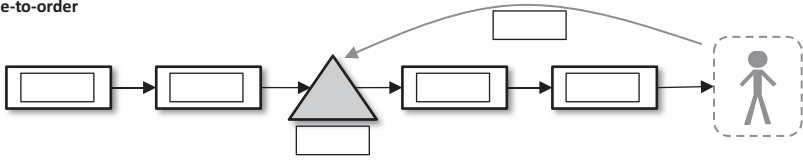
(Question type: Ranking)

- Line and continuous operations systems
- Job-shop operations systems
- Project operations systems
- Batch operations systems

6. Complete the following figure showing two supply chain structures by inserting the correct labels.

(Question type: Labeling)

a) Assemble-to-order



b) Make-to-order

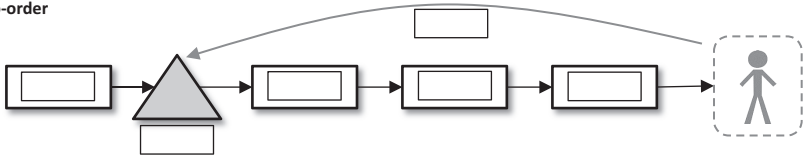


FIGURE 9.9 Insert the appropriate labels

7. Which of the following describes the shown pattern of demand appropriately?

(Question type: Multiple choice)

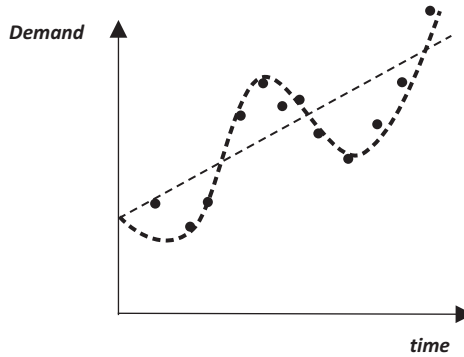


FIGURE 9.10 Observed demand level over time

- Random variation around a trend
- Nonlinear trend
- Declining trend
- Seasonality and trend
- Only seasonality

8. Which of the following is not a waste in Lean?

(Question type: Multiple choice)

- Waste of overproduction
- Waste of inventory

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- Waste of opportunity
- Waste of waiting
- Waste of underutilized people

9. Which of the following statements about Kanbans are true and which are false?

(Question type: Dichotomous)

True False

- A Kanban is a push signal
- Kanbans are always machine-readable
- A Kanban travels through operations against the flow of the work
- Kanbans facilitate demand planning
- Kanbans are an essential part of pull systems
- A Kanban can be a physical object
- A Kanban is purely a signal and never contains additional information

10. As part of a Lean analysis, you are tasked with the investigation of the effectiveness of a CNC-machining process. Data collection has yielded the following information:

- The available time during a shift in the factory is 480 minutes.
- During each shift, the machine has been inactive for 25 minutes due to breakdown or changeover on average.
- The mean cycle time for the machine is one minute.
- Due to loading and unloading, only 320 parts have been processed on average.
- Of the parts processed during a shift, 14 parts are rejected due to manufacturing faults on average.

(Question type: Calculation)

Calculate the OEE for the CNC machine.

REFERENCES AND FURTHER READING

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