

LEAN THINKING (EBUS507)

Assignment No. 1 – Lean Application Exercise

Issue date: 7th July 2022

Due date: Monday, 7th August before 12 noon (an electronic copy via Canvas)

Brief

The following matrix represents a section of the application of the quality function deployment (QFD) technique to a vehicle rear-view mirror. The customer requirements are 'easy to adjust', 'clear vision', 'easy to tell distance' and 'easy to clean'. These requirements are rated in terms of customer-perceived importance on a scale of 1 to 5. A scale of 1 to 5 is also used to create the customer competitive assessment. In this case '1' corresponds to very bad performance and '5' corresponds to a very good performance.

Technical characteristics and their relationships to customer requirements are also shown. Each technical characteristic is measurable and is an actionable translation of customer requirements. The target values for the identified technical characteristics are also provided. The design competitive assessment is similar to the customer competitive assessment. Again, a scale of 1 to 5 is used.

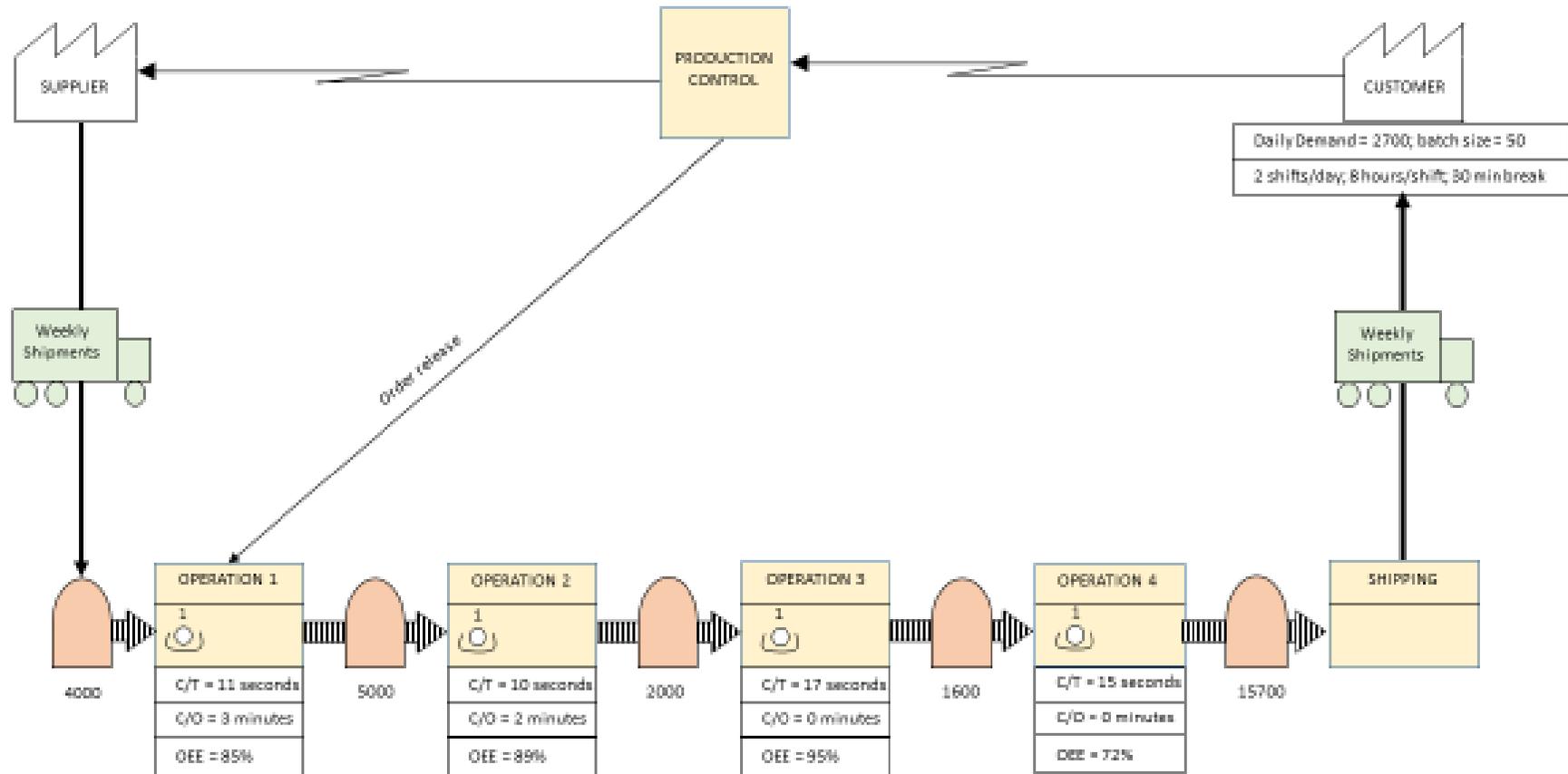
customer requirements	substitute technical characteristics							customer competitive survey						
		rate of importance	adjustment force	vibration test	magnification	area of display	our company	competitor A	competitor B	1	2	3	4	5
easy to adjust		4	●						○	⊠				
clear vision		5		●	●	●			○	⊠	△			
easy to tell distance		4			●	●				△	⊠			
easy to clean		2				●			○	⊠	△			
target value				<10N	>0-1kHz	1x	0.02m ²	5 – high, 1 - low						
design competitive assessment	our company	5	○	○	○	○								
	competitor A	4	△	△	△	△								
	competitor B	3	⊠	⊠	⊠	⊠								
		2												
		1												

● strong relationship

● medium relationship

● weak relationship

The following is a partial value stream map for the assembly of rear-view mirrors.



Questions

1. Identify and comment on six separate and significant outcomes or conclusions that can be derived from the rear-view mirror QFD example.
(20 marks)
2. Complete the value stream map for the rear view mirror by calculating the takt time and the timeline. Make three separate recommendations for kaizen activities.
(18 marks)
3. Propose a layout design for the rear-view mirror assembly and briefly discuss how teamwork and employee involvement relate to a company's efforts to becoming lean.
(12 marks)

Report guidelines

- Length – up to 1500 words + any illustrations
- Contribution – 50%.
- Please upload one copy via CANVAS on or before 12.00 noon, 7th August 2023.
- Please use “English” rather than “American English”: for example, “organize” should be “organise”, “color” should be “colour”.