Step 6: Customer Demand Worksheet

Purpose: To make decisions necessary for drawing the customer demand portion of the future-state map.

Directions:
1. Discuss each item in sequence.
2. Make sure the team comes to a decision for each item.
3. Record the "minority" opinions; they may prove useful later.
4. Make sure the team records the decisions.

Takt Time

What is the demand (takt time)?

Definition of takt time: The time required between completion of successive units of end product. Takt determines how fast a process needs to run to meet customer demand.

Calculation of takt time: Total net available production time / total production requirements—usually in seconds per unit.

Your total net available production time, in minutes, is _____

Net available production time, in seconds, is _____ minutes × 60 seconds/minute = _____ seconds

Your total daily required quantity is _____

Your takt time is _____ (seconds per unit)

Demand Performance

Are you overproducing, underproducing, or meeting demand? By how much?

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Consequences

What are the consequences and implications of your answer to the previous question?

Can you meet the takt time with current production capability?

❑ Yes ❑ No

In most cases you will not be producing to takt time and will need to determine a pitch. Remember that pitch is a compromise between large-batch production and one-piece flow.

Pitch

What will your pitch be?

Definition of pitch: The amount of time—based on takt—required for an upstream operation to release a predetermined pack-out quantity of WIP to a downstream operation.

Calculation of pitch: Takt time × pack-out quantity

Your takt time, from above, is _____

Your pack-out quantity is _____

Your pitch time is _____ minutes

(If your takt time is in seconds, divide the product of the takt time and the pack-out quantity by 60 to get the pitch in minutes.)

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Supermarket System

Will you ship directly from the end of the line to the customer, use a supermarket system, or both? Explain your answer.

Definition of supermarket system: A system used to store a set level of inventory or WIP and replenish what is "pulled" to fulfill customer orders. Use a supermarket system when circumstances make it difficult to sustain continuous flow. At this point we are only focusing on supermarkets for finished goods; later we will consider using supermarkets throughout the value stream.

Your supermarket location is _____

Explain your decisions:

Buffer Inventory

Will you need buffer inventory? Why? Where will it be located? How much?

Definition of buffer inventory: Finished goods available to meet variations in customer demand due to fluctuations in ordering patterns or takt time.

Your buffer inventory amount is _____

Your buffer inventory location is _____

Safety Inventory

Will you need safety inventory? Why? Where will it be located? How much?

Definition of safety inventory: Finished goods available to meet takt time due to internal constraints or inefficiencies.

Your safety inventory amount is _____

Your safety inventory location is _____

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Other Improvement Methods

What are the Lean improvement tools that need to be implemented at this time, before a pull system is put in place? The tools normally implemented at this time are listed below. In addition, blank space has been provided for other ideas. (Remember that you will not draw the appropriate icons for each appropriate tool or technique until you have decided how the layout of the value stream will change to facilitate continuous flow).

Check the appropriate boxes.

Lean Tool/Technique	Locations (If Appropriate)
❑ 5S System	_____
❑ Problem-Solving Training	_____
❑ Quick Changeover	_____
❑ Autonomous Maintenance	_____
❑ Production Training	_____
❑ Other (list below)	_____
_____	_____
_____	_____
_____	_____