

Operations and SCM

Revision Lecture 2

- Group Presentation
- All groups Submit by Thursday 9.00 before the first presentation. Only one person submits for each group.

During the exam

- ⦿ Time management
- ⦿ Read the questions carefully
- ⦿ Answer the question
- ⦿ DEC (define explain critique)
- ⦿ Avoid laundry list answers



- ⦿ Follow carefully the instructions on the test paper

Section B – Q1

You are the newly recruited senior operations manager at a University Hospital. You report directly to the Chief Executive (CE). On Thursday morning at the end of your first week in the new job, the CE asks you to deliver a short briefing on operations improvement. In your brief you must focus on how lean operations can reduce operational costs.

Answer 1: How would you mark this answer?

Waste activities consume time, resources and space, thus reduces operational efficiency and do not contribute to satisfying customer needs. Within lean operations there are seven types of waste that can be identified; over-production, waiting time, transport, process, inventory, motion and defects.

For example, unnecessary waiting times between processes, transport of work such as multiple approvals required across different wards, processing waste in terms of capturing unnecessary information e.g. asking patients details several times, excess in-process inventory, motion waste in terms of needless movement of people between different departments or facilities such as MRIs and file storage. [... Gives further examples in a similar manner]

There are a number of ways to eliminate risk. Eliminate waste through streamlined flow using value stream mapping, eliminate waste through minimizing variability [.... Proceeds to describe all other types of waste elimination]

Answer 2: How would you mark this answer?

Lean synchronisation involves elimination of all types of waste in order to improve operations. The first step to implement lean is to identify causes and types of waste. Waste activities consume time, resources and space, thus reduces operational efficiency and do not contribute to satisfying customer needs. The first step to implement lean is to identify causes and types of waste. There are seven types of waste that can be identified within lean operations; over-production, waiting time, transport, process, inventory, motion and defects.

These wastes in turn translate into increased costs for the operations. For example, transport of work such as multiple approvals required across different wards result in wasted time in terms of transport and wasted time for ward managers and nurses. A way to eliminate such waste in hospitals is through establishing streamlined flow. Using process mapping the paths travelled by the staff could be investigated to reduce motion waste thus reduce costs. In addition value stream mapping can be used in the hospital to map out the value adding activities and distinguish them from non-adding activities. [... Proceeds to apply another elimination method and finally concludes with...] Application of lean tools/techniques without understanding the philosophy and without involving the key stakeholders could raise issues in terms of resistance from staff.

Basic Lean Principles

Move away from batching, backlog and queues.

1 PIECE FLOW

STANDARD WORK

Reduce variation & complexity.

Sort
Straighten
Shine
Standardise
Sustain

5 S

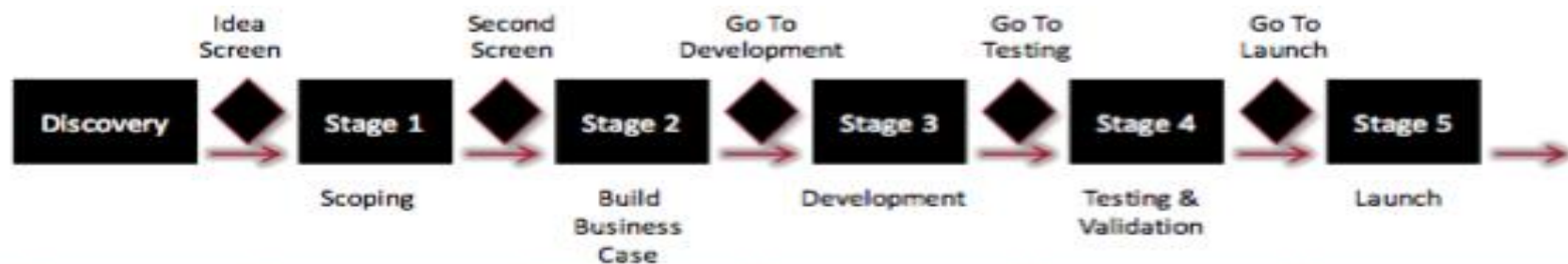
PULL SYSTEMS

Create signals to pull products/services. Obvious when something empty.

VISUAL MANAGEMENT:
“ability to see the process”

Section B – Q2

- ◎ Discuss how you would improve the new product development process of an organisation which uses the stage-gate model. By giving examples, your answer must use five different principles of lean to identify potential improvements within the five stages of this model.



- Explore concepts, opportunities
- Ideation and imagination
- Identify users' high level wants and needs
- Inspiration from other products

- Narrow down ideas whilst keeping creative flair alive
- Rating of concepts and selection
- Specification and definition of needs
- Talk with other functions, establish barriers

- Plausibility of design
- Justify product idea and costing
- Design specification
- Discussing ideas and research made

- Develop concepts and work on aesthetics
- Create prototype of final concept – Model, CAD
- Working with shop floor, resolve issues
- Take into account all discussions made from previous meetings

- Create test plans
- Resolve issues
- Possible revise and refine design
- Prototyping
- Present to an audience to see if it meets the needs

- Get brand right
- Presentation and exhibition
- Final check of layout, materials and lighting
- Communicate design effectively through illustration

- Students are expected to identify the 5 stages and make recommendations using lean principles. Good answers should be able to use lean principles in each of the five stages in a meaningful manner.
- Lean principles discussed in the classroom were: waste elimination, 5S, customer focus, continuous improvement, pull systems, involve everyone, synchronization, standardization, 1 piece flow, stockless production, continuous flow, and visual management

10 marks for identifying five stages

10 marks for identifying meaningful and relevant lean principles

30 marks for critical application of lean principles to Stage gate model. Here are the details for Five Stages (+ discovery stage):

Answers can talk about how involving key stakeholders early on in the design process is key to successful products/services, also when scoping for a new product/service at the scoping and business case stage consideration of standardized production means such as level scheduling or stockless production can really help to influence the decision makers. Lean also includes 1 piece flow that also can have implications on NPD/NSD in terms of creating a project team dedicated to the whole process rather than multiple departments intervening. Also can map 5S onto Stage Gate.

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(continued)

Very good answers will indicate that use of lean principles in terms of standardization might not be applicable to earlier stages as these stages require flexibility for employees, designers and/or suppliers to achieve innovation and creativity.

For instance waste elimination is a key part of concept screening however it is not feasible or realistic to expect creating the right design in the first instance.

This was as much about new product development as it was about lean. The main mistake was to discuss these two topics in a disconnected manner without any reference to each other.

Good Luck in test!
