Student Self-administered case study

Lean LG

Case duration (Min): 45-60

Operations Management (OPs)

Lean enterprise

Process design and analysis

Worldwide

Case summary:

Investigates South Korean-based LG Electronics - who build flat-panel televisions. The case (film) considers LG's hi-tech production plant and processes, focussing on lean operating systems in response to the demands of the external environment.

Learning objectives:

Case problem:

What do you do as a manufacturer when consumers stop buying your products or demand reduces?

Company

Electronics Wholesale

LG Electronics

www.lg.com

LG Electronics, Inc.(LG) is a global leader and technology innovator in consumer electronics, mobile communications and home appliances, employing more than 84,000 people, working in 112 operations including 81 subsidiaries around the world. With 2008 global sales of 44.7 billion, LG comprises of five business units - Home Entertainment, Mobile Communications, Home Appliance, Air Conditioning and Business Solutions. LG is one of the world's leading producers of flat panel TVs, audio and video products, mobile handsets, air conditioners and washing machines.

First, if you are taking a taught management course then consult with your tutor and ensure that the case has not been scheduled into a teaching class or tutorial. If it has not:
1. Play/ read the media associated with the case. You may need to access the Internet and enter a URL to locate any video clips.
2. Attempt the Case study questions.
Consider attempting the case study as a group exercise; you could form a study group with fellow students.
3. Check the suggested answers - remember these are suggestions only and there are often many possible answers.
Discuss questions and answers with other students.
4. If you feel your answer(s) were weak then consider reading the relevant suggested readings again (also see the case study suggested references).

Title/ Media type	URL/ Media description
LG thinks small to fight downturn.	http://news.bbc.co.uk/1/hi/business/7843402.stm
Film	John Sudworth was given rare access to LG's hi-tech production plant for a look at some of their techniques for surviving the crisis.

NOTES:

Case study questions...

	Action	Pre/During/After class
1	**PROCESS CHOICE :** One PROCESS CHOICE decision is whether the product is made-to-order (customer led) or to stock (supply led). Describe what is meant by Make-to-stock and Make-to-order – what are the advantages and disadvantages of each?	During
2	**MASS PRODUCTION LINES :** John Sudworth discusses the 'old' MASS PRODUCTION LINES. Briefly discuss what these are/ were. What advantages/ limitations do they offer?	During
3	**LEAN :** Critically evaluate whether, and if so, why LG (in relation to the case film) has become a LEAN manufacturer.	During

Answers...

LEAN

an approach to operations management that emphasizes the continual elimination of waste of all types, often used interchangeably with just-in-time (JIT); it is more an overall philosophy whereas JIT is usually used to indicate an approach to planning and control that adopts lean principles.

LEAN PRODUCTION

A term commonly used to refer to just-in-time production.

LEAN PRODUCTION

Systems and techniques of production enabling companies to reduce waste, leading to greater flexibility in production processes and products.

MASS PROCESSES

processes that produce goods in high volume and relatively low variety.

FLEXIBLE MANUFACTURING

Manufacturing processes based on machines, tasks and coordination systems which are adapted to achieve both volume and variety.

JUST-IN-TIME (JIT)

A philosophy of manufacturing based on planned elimination of all waste and on continuous improvement of productivity. In the broad sense, it applies to all forms of manufacturing and to many service indus-tries as well.

CONTINUOUS FLOW PROCESS

A type of manufacturing process that closely resembles a production line process. The main difference is the form of the product, which usu-ally cannot be broken into discrete units. Examples include yarns and fabric, food products, and chemical products such as oil or gas.

Question/ Answer

1 **PROCESS CHOICE :**

One PROCESS CHOICE decision is whether the product is made-to-order (customer led) or to stock (supply led). Describe what is meant by Make-to-stock and Make-to-order – what are the advantages and disadvantages of each?

Make-to-stock: operations that produce goods prior to them being demanded by specific customers. Make-to-stock (MTS) products require no customization. They are typically generic products and are produced in large enough volumes to justify keeping a finished goods inventory. Make-to-order: operations that produce goods only when they are demanded by specific customers. Make-to-order (MTO) products use standard components, but the final configuration of those components is customer-specific.
When customization occurs early in the supply chain, organizations have more flexibility to respond to customer needs but costs increase and lead times lengthen. When customization occurs late in the supply chain, flexibility is limited but lead times and cost may be less.

2 **MASS PRODUCTION LINES :**

John Sudworth discusses the 'old' MASS PRODUCTION LINES. Briefly discuss what these are/ were. What advantages/ limitations do they offer?

The way businesses create products and services is known as the production process. Ultimately, the objective of the production process is to create goods and services that meet customer requirements. The needs of customers will be met if a business can produce the correct number of products, in the shortest possible time, to the best quality and at low cost. The process architecture may be an important component in the organization's strategy for building competitive advantage. The production process is concerned with transforming a range of inputs into those outputs required by the market. Two sets of resources are needed - the transforming resources (the facilities, machinery, technology, and people to carry out the transforming processes and the raw material inputs (transformed resources). At each stage, value is added in the course of production. Mass processes - produce goods in high volume and relatively low variety - See Continuous flow process - a type of manufacturing process that closely resembles a production line process. Mass production (a push system) focuses more on reducing costs associated with production and economies of scale for efficiency.

3 **LEAN :**

Critically evaluate whether, and if so, why LG (in relation to the case film) has become a LEAN manufacturer.

Lean operating systems have four basic principles: (1) elimination of waste and (2) reduced cost– see LG and Inventory Management – now more JIT and demand led, avoid stock piling costs from supply led strategies (opportunity costs, waste, dated), the ideas board (cost reduction improvements – savings $700K USD/month) and staff cost cutting (stop overtime); (3) Improved quality - the ideas board (quality improvements) and (4) increased speed and response.
LG reverted to small volume (flexible) production - Why ? Problems with forecasting and uncertainty in/falling demand. The advantage of Flexible Manufacturing - a flexible factory enjoys more variety with lower total costs than traditional factories, which are still forced to make the trade-off between scale and variety. In a flexible factory system, variety-driven costs start lower and increase more slowly as variety grows. Scale costs remain unchanged. Thus the optimum cost point for a flexible factory occurs at a higher volume and with greater variety than for a traditional factory. The advent of just-in-time production brought with it a move to flexible factories.

PRODUCTION LINE

A type of manufacturing process used to produce a narrow range of standard items with identical or highly similar designs.

MAKE-TO-STOCK

operations that produce products prior to their being demanded by specific customers.

MAKE-TO-ORDER

operations that produce products only when they are demanded by specific customers.

Case study references

Cole, G A. and Kelly, P P. (2011) 'Management Theory and Practice', Ed. 7. Cengage EMEA.

Collier, D. and Evans, J. (2009) 'OM', Ed. 1. Cengage Learning.

Kelly, P P. (2009) 'International Business and Management', Cengage Learning EMEA.