

Harley davidson case study a critical analysis management essay



This analysis has its focus on a brief history of H-D, which includes the manufacturing issues and the problems it had, the various strategic changes made by H-D in the manufacturing process to achieve its goals. The implementation of JIT and its effect on the plant and the product, the Supplier development, Supplier relationship and the efforts towards Supply Chain Management.

It also includes the Risks, costs and benefits of Supplier development, the Key learning which we take away from the case study and lastly it concludes with the future trends in SCM.

A brief History:

In 1970's heavy weight motorcycle market was in the hands of H-D. The Corporate parent AMF wanted to take advantage of this market dominance by production of more bikes at a faster rate. In the process they lost the focus on Quality and Supply Chain Management. In 1974 the quality of the product was at its bottom. Harley-Davidson needed a desperate change to overcome these issues, in 1981, a group of local management was put together to rebuilt the company.

Key theories, Strategic changes and Implementation at H-D:

1. Inventory, Inventory Turns and Cash Flow: A downfall in sales due to the quality problems increased their inventory level to \$24 million. H-D worked on Inventory Management.

Inventory Turns

“ The number of times a company rolls over its inventory per year is defined as its Inventory Turns”.

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Calculation: common method to calculate the inventory turns is to divide the sales of the company for a year with the average inventory maintained per year. For example, if the average sales is \$10, 000, 00 per year and the average inventory maintained for a year is say \$80, 000 than the inventory turns for that particular company is 12. 5.

(Ref. Supply chain metrics. com)

Inventory Turns is a crucial factor as an increase in it, gives more free cash to company. Free cash can be used for other benefits instead of blockage in “ Inventory Stock”. (Ref. Marie Leone CFO. com, Supply chain metrics. com)

At H-D an inventory turns of 4. 5/year was increased up to a level of 28. Consequently the inventory came down to \$4 million.

2. Shift of manufacturing strategy from Push to Pull and JIT:

PUSH and PULL

PUSH is manufacturing strategy to produce a product irrespective of the need or demand. It then PUSH's the next process it may be the sales of the product. PUSH results in unnecessary inventory and over stock as the production and demand are not concurrent.

PULL is the lean manufacturing in which a product is produced on demand. Demand Pull's production process. Unnecessary production is thus avoided which saves time and cost, and leads to lesser inventory as manufacturing is tuned with demand and market trends.

(Ref. leanmanufacturingconcepts. com)

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“ Lean Thinking is an articulation of the core principles behind the Toyota Production System (TPS), acknowledged to be the most efficient in the world today”. (Manufacturing Operations and Supply Chain Management the LEAN approach David Taylor and David Brunt)

Just in Time Manufacturing (JIT)

Just in Time Manufacturing

Just in Time (JIT) manufacturing is a Japanese management philosophy applied in manufacturing which involves having the right items of the right quality and quantity in the right place and at the right time.

The proper use of JIT manufacturing has resulted in increases in quality, productivity and efficiency, improved communication and decreases in costs and wastes.

Goals of JIT:

Finding customer needs and responding to it: Production is tuned according to the customer demands.

Cost effective quality standards: quality should and must be the topmost priority, but it should be cost effective.

Work for a minimum wastes: Elimination of wastes which are of no use for the production.

Trust development in relationships with the suppliers:

Supplier relationship is of utmost importance specially in the case of single sourcing, it is a strength of company to have strong supplier relations, both in terms of materials, inventory and deliveries on time.

Plant designing for utmost efficiency and easy manufacturing: Plant design must ease the production process with least labour involvement. It must ensure to use the full plant potential.

Striving hard for improvements on a continual basis:

This makes organization competitive and committed to the needs of the costumers, as customer demands are always volatile.

(Ref. Just in Time Manufacturing, T. C. E Cheng and S Podolsky; Curtin University of Technology, Australia; Institute for Manufacturing University of Cambridge)

Changes and Quality development at H-D:

H-D shifted from PUSH (anticipating demand) to PULL (responding to orders).

Set up times were reduced drastically, it made smaller life-size feasible. H-D moved towards ' Just in Time' manufacturing and ' Supply Chain Management'.

It invested in group problem solving program, like Quality Circle and made a policy to respond to any of the problem issues within two weeks.

Employee involvement at H-D made them even more committed. An Example: “ To me every transmission and engine bolted is going to my motorcycle”, Doug Tearney, Final Inspector Harley-Davidson.

Supplier Selection and Development:

Supplier Selection:

JIT emphasis on single sourcing. Single Sourcing is a sourcing strategy in which the company buying is dependant on a single company for almost all of the particular item or service.

Suggestive qualitative aspects used for supplier evaluation:

Design, development and process capacity.

How capable the management is?

Financial know-how's and structure of cost.

Environmental Regulation Compliance.

Longer-Term Relationship Potential.

(Ref. Introduction to Operations and Supply Chain Management, Cecil C. Bozarth and Robert B. Handfield)

Supplier development:

“ Supplier development can be defined as any activity that a buyer undertakes to improve supplier's performance and/or capabilities to meet the buyer's short-term, long-term supply needs”.

Or in other words, “ Supplier development can be loosely defined as the process of working collaboratively with suppliers to improve or expand their capabilities”.

(Ref. <http://www.nist.gov/mep/manufacturers/supplier-development.cfm>)

A supplier development program must aim for improving the performance of a supplier; and helping them to get what they need to be successful in supply chain.

Important functions of supplier development programs:

Providing information about products, expected sales growth, etc. Suppliers need to become extensions of their customers.

Training in the application of lean and quality tools.

If suppliers had more information about the entire supply chain and had a true lean transformation underway, they would become more profitable and provide a better quality and lower-cost product, on-time.

(Ref. <http://lean-supply-chain.blogspot.com/2006/10/what-is-supplier-development.html>)

(Ref. Avoid the Pitfalls in Supplier Development Robert B. Handfield, Daniel R Krause, Thomas V . Scannell and Robert M. Monczka)

Supplier Management at H-D:

Supplier Optimization:

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H-D cuts its supplier base from 320 to 120 and established performance requirements. Suppliers must have MAN, JIT, Statistical Operator Control and Employee Involvement.

Supplier problems and Solutions:

H-D required JIT at Supplier end, but suppliers had problems with it as they deal with different types of customers. They ended up with Just in Time warehouses, which leads to quality problems.

For JIT at supplier end, proper advance scheduling was given by H-D. Piston supplier KSG adapted to H-D requirements. It changed from producing to two months inventory, to producing as per the requirement.

KSG did the entire process from bowing to packaging in just a space of 35ft with two-three operators, with unbelievable throughput time. Previously the same work was done with fifteen operators scattered all over the plant.

Ultra Tool the metal stamping company, a supplier of H-D, had great success with MAN program. At Ultra tool for a number of operations on a part it required part movement. A cell was designed at Ultra Tool that reduces the part movement to just 10 feet. The parts were taken to a particular area in this cell and it included tooling as well. It made the process fairly quick.

Commonality of purpose:

Harley improved the processes at Ultra Tool; in return it had no price rise from this supplier for 3-4 years.(an example of mutual benefit to Customer and Supplier).

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Risks, cost and benefits of Supplier Development:

Supplier development involves the cost which is incurred by the Customer company and no immediate returns are visible for it. This depends upon the need and the value of the product that the funds are allocated for the trainings and development of suppliers