UNIT-4 Supply Chain Best Practices

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Identify ways to develop your supply chain, such as using third-party logistics providers, insourcing processes, developing sustainable and eco-friendly strategies, leveraging process improvement strategies, and adopting new techniques

Unit 4

Supply Chain Best Practices

The Top Ten Supply Chains

According to consulting firm Gartner, here are the top 10 supply chains for 2013:

1. Apple
2. McDonald's
3. Amazon.com
4. Unilever
5. Intel
6. Procter and Gamble
7. Cisco Systems
8. Samsung Electronics
9. Coca-Cola
10. Colgate-Palmolive

(Source: http://www.gartner.com/technology/supply-chain/top25.jsp)

Best Practices from Industry Leaders

Here are some strategies that these organizations have used to overcome supply chain issues and ensure that the supply chain helps drive the organization's success.

Focus on Customers

The supply chain should aim to deliver what customers want. For McDonald's, that means consistent product availability and selection. For Amazon, that means fast, cheap delivery of a wide range of products. What do your customers want?

Build Long-Term Relationships

Successful organizations build partnerships with everyone who is involved in the supply chain. This improves decision making, widens visibility, and offers the opportunity for more creative solutions.

Leverage Information Management

Organizations have more information at their disposal than ever, and more ways to manage and share that data. Making information management a key part of your supply chain strategy will improve accuracy and efficiency throughout the chain.

Consider the Big Picture

Cross-functional teams and practices that serve the best interests of multiple areas of the business are crucial for supply chain success. Remember, supply chain management is about building long-term solutions that create positive results for everyone involved.

Develop Cross-Functional Teams

The importance of cross-functional teams to the supply chain cannot be overstated. Having perspectives from different areas of the business (such as sales, marketing, distribution, and information technology) can help build holistic solutions and avoid gaps in the supply chain.

Use Pull Rather than Push

Build what the supply chain is demanding rather than trying to push out products that aren't needed. Close attention to key metrics, supply chain benchmarks, and what's happening in the industry can help the supply chain adapt and evolve with changing requirements.

Lead and Inspire

In order for the supply chain to be successful, strong leadership from the executive level is required. The leaders of top supply chains show their employees how the supply chain affects the world that they work, live, and play in, and what their role is in making that supply chain a success.

Test Your Knowledge

What other ideas do you have for making your supply chain more successful?

Sharing Supply Chain Activities

Outsourcing, Insourcing, Offshoring, and Reshoring

Outsourcing and Insourcing

Increasingly, "manufacturing" companies are in fact becoming supply chain management companies. Companies like Dell and Nike no longer make their own products. Many of their manufacturing and distribution activities are **outsourced**, meaning provided by third-party companies.

In order to outsource the right activities, the organization must identify its core competencies. To do this, supply chain expert Jim Tompkins suggests defining the organization's tasks using four categories.

Primary Core Tasks
These are activities that provide the business with a competitive advantage, such as scheduling, product design, etc. Typically the organization's core competencies lie in one or more of these areas and will not be outsourced.

Secondary Core Tasks
These activities are crucial for business operation but not customer-facing, such as human resources and facility maintenance. These activities may be outsourced but are tightly controlled.

Primary Non-Core Tasks
This category represents activities that are not crucial for business operation but can have a negative impact on business partnerships, such as financial services and information technology. These activities may be outsourced but are tightly controlled.

Secondary Non-Core Tasks
These activities are not crucial for business operation and are not customer-facing, such as janitorial or landscaping services at the head office. These activities are almost always outsourced.

Insourcing

In recent years, some organizations have found that they took outsourcing too far, resulting in an excessively lengthy, complex supply chain. This has led to **insourcing**, where parts of the supply chain are moved back in-house to be performed by internal employees or by contractors who are working inside the facility. This gives the organization better control over key tasks that impact their supply chain.

Offshoring

Offshoring is a specific type of outsourcing that refers to moving parts of a business' operations outside its native country. For example, in the early 2000's Dell moved most of its customer support operations

from the United States to call centers in India. Similarly, after the Pringles debacle in 2003, Procter and Gamble constructed additional manufacturing facilities in China and Thailand.

Reshoring

However, some companies have found that the disadvantages of outsourcing outweigh the financial benefits, leading to a trend of **reshoring** (bringing operations back to the business' home country). Continuing with the Dell example, customer satisfaction dropped significantly after call centers were moved offshore. Executives realized that customer service was, in fact, a key activity for their technology sales business and chose to move most of the support operations back to the United States by 2004.

Third- and Fourth-Party Logistic Providers

Third-Party Logistic Providers (3PL's)

A third-party logistics provider is a company that manages the logistical or operational aspects of a supply chain for another organization. According to the 2014 3PL study (http://www.3plstudy.com/), the most commonly outsourced 3PL activities are:

- Domestic and international transportation
- Warehousing
- Freight forwarding (organizing shipments and carriers)
- Customs brokering
- Reverse logistics (handling return processes)
- Cross-docking

Fourth-Party Logistic Providers (4PL's)

Also known as Lead Logistic Providers (LLP's), fourth-party logistic providers oversee the activities of 3PL's and the entire supply chain. If you look at 3PL's like the various contractors that might work on a construction project, 4PL's are like the general contractor.

Advantages of 3PL's and 4PL's

In today's highly complex world, outsourcing distribution and logistics functions can provide companies with significant advantages. Specialized 3PL's can help optimize warehousing processes, inventory management, and transportation methods to reduce costs. They may also be more in touch with regulations, trends, and new ideas, making your supply chain more efficient, adaptable, and in tune with current best practices. As well, 3PL's may have a better understanding of what data to track, what the numbers mean, and what processes to change as a result.

4PL's can take these advantages a step further, extending their expertise to the entire supply chain and providing a more comprehensive approach. Instead of dealing with just a small part of the supply chain, they can oversee and coordinate all partners to ensure the best flow possible.

Disadvantages of 3PL's and 4PL's

Of course, there is always some risk of outsourcing any activity, particularly crucial activities that the supply chain relies on. It can be difficult for different companies to get on the same page, and for your organization to effectively monitor what is happening in the supply chain. However, as the number of 3PL's and 4PL's grows, so does their understanding of what it takes to make the process work. The 2014 3PL study cited earlier found that 70% of shippers and 69% of 3PL's are satisfied with their relationships with each other.

Be aware that outsourcing can be an expensive activity, and 3PL's and 4PL's often require a lengthy contract. Your organization may find itself stuck with a partner who isn't contributing to the supply chain as expected. To avoid this, it's important to do extensive research and be clear about expectations and results. Your job is to understand the needs of your supply chain, choose the right partners, and stay involved in the process to ensure that results continue to be delivered.

Building Partnerships within Your Supply Chain

As supply chains grow to include more partners and elements, companies have realized that a new approach is needed in order to be successful. Here are some of the strategies that top supply chains have used to build long-term relationships with their network.

Understand that your failure or success is intertwined.

The success of each member of the supply chain depends on the other members. For example, let's say that you know that the way Supplier A is manufacturing their product results in re-work and waste when Supplier B packages and pallets it. You decide that it's their problem, not yours… until revenues are 20% less due to the extra costs.

Build win-win solutions and strategies.

It therefore makes sense to develop top-level strategies and solutions that benefit all members in the supply chain, as well as the consumer. This might include partnerships between organizations, rewards based on performance for all partners, and developing an overarching mission statement for the supply chain.

Create end-to-end visibility.

All partners in the supply chain should be able to see all activities, especially those that are directly related to their own processes. Information sharing is a major support to supply chain visibility. Ensure that all partners have access to appropriate, up-to-date information. Communication processes and information sharing policies can help ensure everyone is kept in the loop.

Develop cross-functional teams.

Where possible, create teams with involvement from different supply chain partners. These teams can be used to manage day-to-day issues, drive operational strategy, develop ideas for improvement, and ensure continued collaboration.

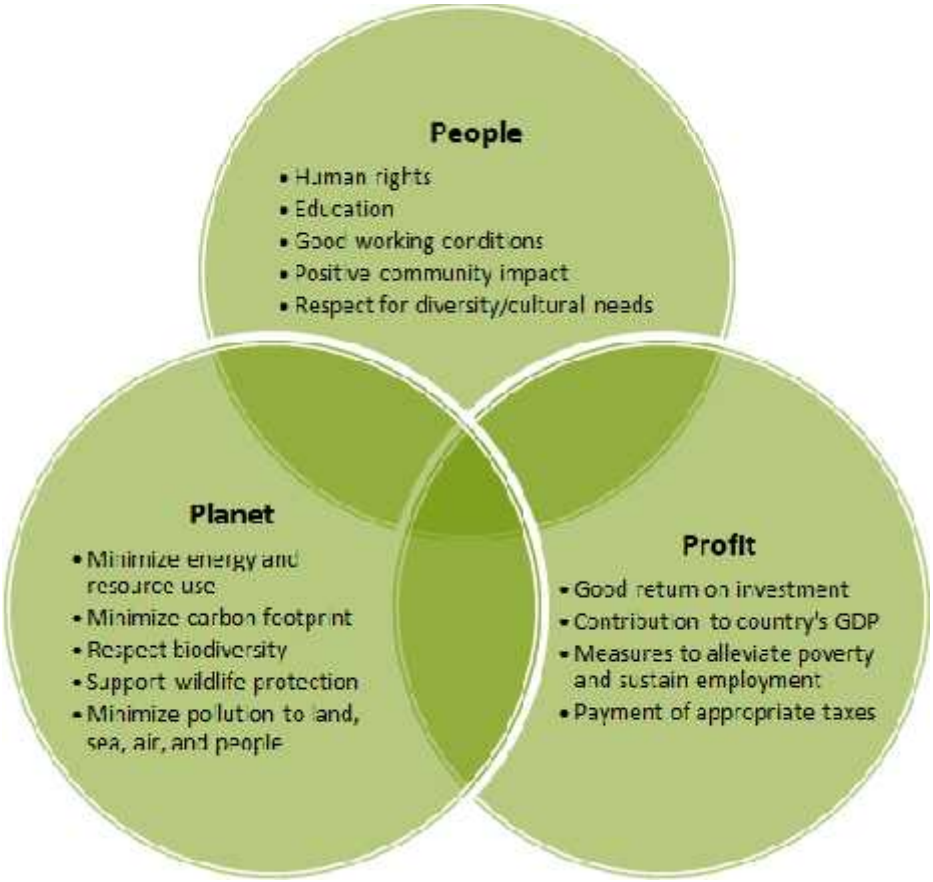
Sustainable Supply Chain Strategies

What is Sustainability?

Defining Sustainability

The United Nations defines sustainability as, "A decent standard of living for everyone today without compromising the needs of future generations." *(Source: http://www.un.org/en/sustainablefuture/sustainability.shtml)*

In business, we can help promote and support sustainability by looking at profit as having three different elements. This is referred to as the **triple bottom line**.



What Does Sustainability Mean in the Supply Chain?

For supply chain management, that means ensuring the long-term success of the business as well as the communities that it serves. This often includes strategies like:

- Reducing the carbon footprint (greenhouse gas emissions)
- Paying a fair price for products
- Ensuring that workers at home and abroad are treated fairly, with good working conditions and compensation
- Reducing the amount of natural resources consumed where possible
- Optimizing transportation of goods (for example, consolidating truckloads or switching to low-emission vehicles)

Currently, many sustainability measures are voluntary and considered best practice. However, many areas of the world are beginning to implement regulatory measures and fees, such as carbon taxes (a charge that a business would pay based on its greenhouse gas emissions). It is certainly beneficial for companies to be ahead of the changes and to establish their best practices before regulations are implemented.

The Benefits of Sustainability

Switching to more sustainable options can save the supply chain money in several different ways. Clearly, using fewer resources (such as packaging, water, or power) will reduce costs. Optimizing transportation methods can also save significant amounts of money. Organizations like the U.S. Voluntary Inter-Industry Commerce Solutions Association (VICS) and the U.K.'s Institute of Grocery Distribution (IGD) have enabled and facilitated cross-company transport sharing, saving companies billions of dollars, reducing the amount of fuel consumed, and decreasing vehicle pollution.

Sustainability measures also have an impact on the reputation of a business and their public image, particularly with the rise of the Internet and social media. Many consumers are becoming more conscious of their purchasing decisions and prefer companies that clearly indicate how they support sustainability. This can include carbon footprint information on product packaging, information about sustainable farming practices, fair-trade certification, and more.

Reducing the Impact on the Environment

Test Your Knowledge

What other ideas do you have for improving sustainability in each process area?

Plan

_____

_____

_____

_____

Source

_____

Make

Deliver

Return

Applying Lean Techniques to the Supply Chain

Lean 101

What is Lean Process Improvement?

Lean process improvement is **a culture of ideas, tools, and processes that are designed to eliminate waste and improve workflow to provide maximum value for minimum cost.** The Lean philosophy was primarily developed by Toyota manufacturing experts Taiichi Ohno, Shigeo Shingo, and Eiji Toyoda. Although it has only emerged as a popular business idea in the past few decades, its basic concepts have existed for over 300 years.

It is important to note that Lean should not be viewed as a quick fix or something that just a particular department does. The companies that have success with Lean efforts are those that incorporate it as part of their culture. Ideally, all employees should have some form of Lean training, whether it is a quick seminar or a complete certification.

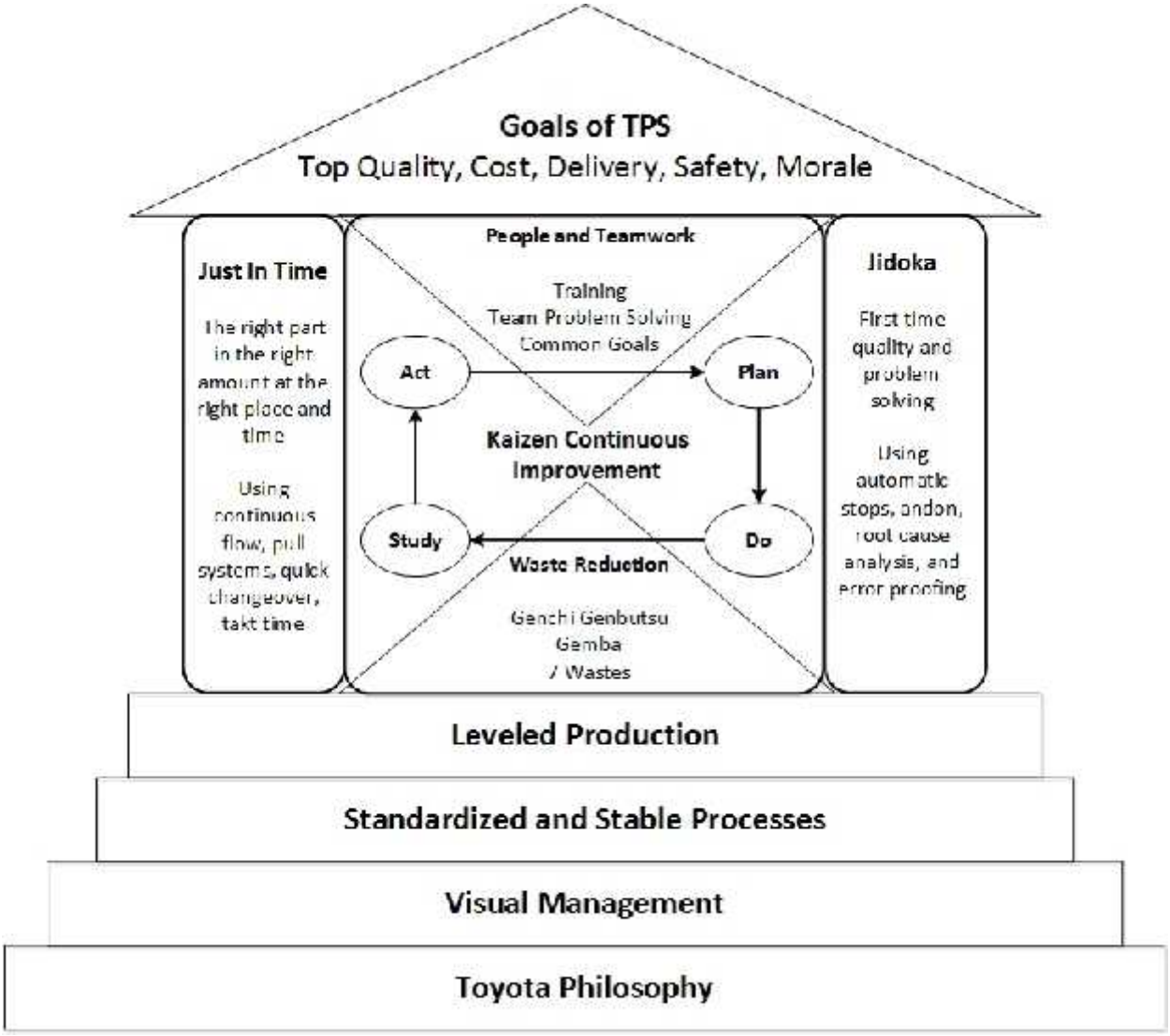
The Toyoda Precepts

Toyota's way of doing business is known as the Toyoda Precepts. These concepts are a key part of Lean methodology:

(Source: http://www.toyota.co.jp/en/environmental_rep/03/rinen.html)

The Toyota Production System House

The concepts of Lean and the Toyoda precepts are often drawn as a house to help us understand how all the elements come together:



The Roof

The goals and objectives of the Toyota Production System make up the roof of the house. The system aims to achieve:

- Top quality
- Minimal cost
- Proper delivery time
- Good safety and morale

The Pillars

Just-In-Time and Jidoka are the two pillars of the system.

- Just-In-Time means that you have what you need when and where you need it. It means no shortages, no waste, no bottlenecks, and no waiting. This can be accomplished with continuous flow, pull systems, quick changeovers, and attention paid to takt time (the rate at which customers are demanding product).
- Jidoka means error-free production. This means getting it right the first time, every time. This means stopping production if a defect is found, performing root-cause analysis to fix the true nature of problems, error-proofing processes, assigning appropriate work to people and machines, and using visual signals (andon) to signal progress or issues.

The Core

The core of the system relates back to the basic Lean principles: people, problem solving, and the process of waste reduction. We can look at these three things as the core of the TPS philosophy.

The Foundation

A strong system must have four basic elements:

- Leveled production, so that resources are not overworked or idle (heijunka)
- Standardized, stable, non-varying, documented processes
- Visual management tools (signs, lights, etc.)
- Commitment to the Toyota philosophy of long-term learning, problem solving, and the involvement of people

The seven wastes that the Lean practitioners identified are:

- Overproduction of product
- Wasted time (workers waiting for parts, machines to be fixed, and other forms of being idle)
- Unnecessary transportation of product between manufacturing operations
- Process inefficiency
- Unnecessary materials on hand
- Unnecessary motion of workers or product
- Defective goods

By eliminating unnecessary waste and striving to work intelligently, Toyota reinvented their manufacturing process. Their focus on maximizing results at every stage of manufacturing resulted in drastic reductions in cycle times. Additionally, their no-waste philosophy helped to engineer a better product. These combined factors have had an enormous impact on Toyota's bottom line.

Applying Lean to the Supply Chain

Over the past several decades, Lean processes have been customized and merged with supply chain ideas to create a new discipline: Lean supply chain management. Here are some of the fundamental concepts in this merged discipline.

Eliminate Wastes

One of the key principles of Lean is to reduce waste, thereby creating value. Earlier, we talked about the seven wastes of the core Lean philosophy. Here is a customized version of that list which focuses on critical supply chain management areas.

- System complexity
- Defective goods
- Too much inventory at any point in the supply chain
- Inefficient inventory management (e.g. inaccurate orders, damaged goods)
- Wasted space (e.g. empty warehouses or truckloads)
- Wasted time (workers waiting for parts, machines to be fixed, and other forms of being idle)
- Unnecessary transportation of product between supply chain points
- Process inefficiency
- Unnecessary motion of workers (e.g. people at different points in the supply chain performing counteractive activities)

Identify the Customer in Each Step

If each person in the supply chain knows how they impact the customer, it is easier for them to fulfill customer demands in terms of what they are producing and how they are producing it.

Consider Total Cost

Throughout the course, we've discussed the importance of a holistic supply chain that considers the costs and benefits to each aspect of the organization. Lean emphasizes this holistic approach in order to fulfill customer demands at the lowest possible total cost.

Reduce Time and Variation

Having consistent, reliable processes to minimize variation in the time that it takes for goods to move through the supply chain will maximize resources and minimize problems. The concept of creating a constant flow of goods is known as **leveling the flow**, and is a key part of Lean process improvement.

Use Process Improvement Techniques

Lean process improvement offers a wide variety of process mapping, analysis, and improvement techniques. Documenting and standardizing procedures can help achieve the supply chain management goals of flexibility, accuracy, and responsiveness that we have been discussing throughout this course. It

can also improve decision making by helping to identify where the biggest pain points are in the supply chain and where the greatest gains can be made.

Commit to Continuous Improvement

Lean process improvement is a culture of theories and ideas that is continuously evolving and growing. In order to make the most of Lean, users must also commit to continuous improvement and constantly working towards a better supply chain.

The Future of Supply Chain Management

Top Trends

Like all other areas of business, supply chain management is constantly changing and evolving. Here are some trends that have been developing in recent years and are continuing to grow.

Shift in Logistics Distribution Techniques

The world's demographics are changing, with more people moving to urban areas from rural areas. Wealth and population are also increasing in developing markets like Brazil and India. As a result, there is more demand for products and a greater need for the supply chain to extend into these markets.

As urban areas become more crowded, logistics providers are looking for ways to optimize the movement of goods within those areas. One solution that more logistics providers are using is building massive hubs on the edge of large cities. These hubs offer easy access to a variety of transport modes, as well as facilities where shipments can be consolidated onto trains or smaller trucks to be moved into congested cities.

There is also a trend of collaboration, where multiple partners will share these massive hubs to make better use of storage, distribution, and transportation facilities.

Increased Focus on Sustainability

As natural resources diminish, many companies are looking for ways to reduce their carbon footprint and use of natural resources, including water. Increasingly, companies and consumers are also looking at ways to reduce product and food mileage by using local sources.

Increased Use of RFID

Large retailers like Wal-Mart and Tesco, as well as many government agencies, are beginning to require the use of radio frequency identification (RFID) tags on materials and products used throughout the supply chain. RFID provides much more information than a typical bar code, such as product origin, manufacturer, and history of movement through the supply chain. This improves visibility throughout the chain, facilitates recalls, gives all supply chain partners access to an incredible amount of data, and improves inventory management by making product tracking and locating more precise.

Although some privacy watchdogs have expressed concern over the security of RFID technology, there is no doubt that its use is becoming more widespread within supply chain management.

Bigger and Better Data

Information is everywhere, and the supply chain is no different. Companies have more information than ever about the elements of their supply chain. Conversely, customers have more access to information about the products that they are purchasing and the organizations that they are purchasing from. Supply chain managers must be able to tap into this information in order to ensure that the supply chain remains responsive and flexible, and delivers what the customer is asking for with the results that the business demands.

Test Your Knowledge

Can you think of other supply chain management trends that are gaining popularity? Robotics and automated warehouses might be one example.

Test Your Knowledge

In what ways might your organization be able to leverage these trends?

Further Reading: