**History of Logistics**

[**Logistics**](https://www.cleverism.com/lexicon/logistics/) in the entire**process of managing the purchase, storage and movement of goods**. Resources including physical items such as equipment, materials, and food, and abstract items need to be moved between points of origin and points of utilization. Today [logistics and distribution](https://www.hdcusa.com/services/logistics-application-development/) is a rather complicated and advanced process but it began years ago in a less advanced form. We thought these quick facts and historical background would provide for an interesting read**:**

[Logistics](https://www.hdcusa.com/services/3pl-logistics/) refers the movement of products or services to a designated location at an agreed upon time, cost and condition. Ancient Roman and Greek wars are the basis for today’s [logistics systems](https://www.hdcusa.com/services/3pl-logistics/). Rome developed a highly efficient logistic system to supply its legions. Military officers called “logistikas” were responsible for ensuring the supply and allocation of resources, so that soldiers could move forward efficiently.

During the Middle Ages elaborate supply systems, roads and [warehouses](https://www.hdcusa.com/services/public-warehousing/) were used. Forts and castles became storage depots supported by the economy of the surrounding countryside. During the Industrial Revolution, logistics advanced greatly with the addition of railways and ships.

World War I further increased industrial capabilities. The internal-combustion engine gave rise to widespread use of motor transport. World War II was characterized by dramatic advances in [transportation and communication](https://www.hdcusa.com/services/3pl-logistics/). U.S. shipyards performed at an unprecedented pace to expand the merchant marine (a fleet of U.S. civilian-owned merchant vessels that engage in commerce or [transportation of goods](https://www.hdcusa.com/services/3pl-logistics/) and services in and out of the navigable waters of the United States).

After World War II, logistics moved from warfare to business. Physical distribution of products began with a focus on outbound activity. [Filling orders](https://www.hdcusa.com/services/), distribution of products, [storage and warehousing](https://www.hdcusa.com/services/public-warehousing/), production planning and customer service are presently important aspects of the logistics process.

An entire industry was born from what started as a way to get products from point A to point B. Many companies now rely on outsourcing for some or all of their [supply chain management](https://www.hdcusa.com/services/)activities, resulting in the development of third party logistics companies for efficient transport and tracking of goods.

Logistics is also often defined as the management of inventory both at rest and in motions.

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In this article we will look at 1) **defining logistics**, 2) **categories of logistics**, 3) **optimizing logistics**, and 4) **logistics best practices**.

**DEFINING LOGISTICS**

Originally a military term used to refer to the acquisition, transportation and storage of supplies, and equipment, it has been widely adopted in the business world and is applied to resources. Processes such as integration of the flow of information, handling of materials, production, packaging, inventory control, transportation, warehousing, and the security of these goods are all part of logistics.

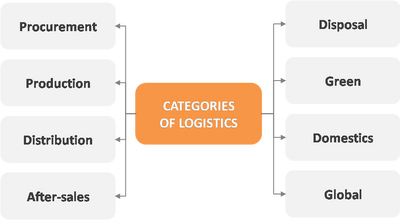
Necessary for nearly all types of business, an efficient supply chain and logistics process can help a company operate more efficiently and reduce costs.

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1. **Inbound Logistics:**This is the flow of relevant materials from a supplier to the business. This can include the purchase and delivery of materials, parts or finished items from the supplier to the manufacturing or storage location of the company.
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**CATEGORIES OF LOGISTICS**

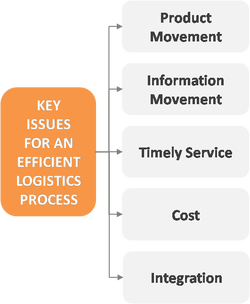
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**Procurement logistics:**[Procurement](https://www.cleverism.com/streamlining-procurement-process/)logistics include such things as market research, requirements gathering and planning, make or buy decisions, management of suppliers, order, and order management.

* **Production logistics:**This category of logistics is the connection between procurement and [distribution](https://www.cleverism.com/place-four-ps-marketing-mix/). Here production capacity is utilized to serve distribution logistics with activities such as layout and production planning.
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* **After-sales logistics:**Any required after sales movement of goods is included in after-sales logistics. This could involve taking an item from a consumer back to the producer for repairs within a warranty period.
* **Disposal logistics:**Often, there is a need to dispose of waste materials or items that have reached the end of their useful life. Disposal logistics deals with this aspect in the most cost effective way possible.
* **Reverse logistics:**The area of logistics that deals with the re-use of any products or materials is called reverse logistics. This can also include managing and selling surplus items and those items being returned by the consumer. This can be the flow of goods from point of consumption to the point of origin for capturing value or for proper disposal.
* **Green logistics:**This category of logistics handles the work that goes into measurement and minimization of the ecological impact of any logistics activities.
* **Global logistics:**Logistics processes for global movement of goods and services brings with it a host of issues and complications. These can include import and export rules, regulations and duties, delays, safety and security and modes of transportation.
* **Domestics logistics:**Domestic logistics handles issues related to the movement and storage of goods and services within the country. This also has important issues within it such as security, delays and infrastructure.

**OPTIMIZING LOGISTICS**

**Key Issues for an Efficient Logistics Process**

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The logistics process is relevant to the entire company and interacts with external stakeholder such as vendors, suppliers and customers. Given its importance to the company and to the consumers, it is imperative that the process work as smoothly and as efficiently as possible. To achieve this end, there are five key issues that need to be highlighted:

**Product Movement**

Often, this is seen as the only real job of a logistics function. While there are other aspects to the area, the movement of products itself is not as straightforward as it is made to appear. The way the material is moved from point A to point B needs to follow the direction and strategy of the organization. If the ultimate goal is to make sure that the product reaches the consumers as fast as possible, then cost reductions may not be a concern. On the other hand, if a company is focusing on cost efficiency, then the goods will need to be moved in the best possible way at the least possible cost.

In addition, there is a need for a balance between planning and flexibility in moving goods. The movement plan must be able to adjust according to any potential changes in the business plans. It must also be able to manage changing environments and possible obstacles and delays. In movements to geographically dispersed locations and their particular peculiarities.

**Information Movement**

Adding to the generic concept of logistics, there is a step beyond the traditional movement of materials and this is the movement of information. This includes current location information about the products, as well as the incoming orders and delivery timelines. This information is crucial for good decision making and needs to be both timely and accurate.

This information must flow openly between suppliers, warehouses, consumers and the company itself. There also needs to be a flow of information internal to the company between various departments and stakeholders. Ideally, an [IT](https://www.cleverism.com/lexicon/information-technology/) system should be in place to ensure this flow of information. This system needs to be dynamic and able to handle all ends of the process from production, material and requirement planning to financial and sales forecasts. These systems need to be present at both a macro level and a micro level, with both types of views available so that the right information is available for the right person.

**Timely Service**

The importance of time in the world of logistics cannot be stressed enough. In order to operate in the global market and its ever-changing forecasts, customer requirements, product launches and a multitude of other issues, there needs to be an ever present focus on time. Any raw materials need to be ordered accurately and need to arrive on time and as ordered. Any orders places must be filled quickly and correctly. Lead times are shrinking in all areas and in all fields and may make the difference between a successful company and one on the way out.

**Cost**

As with all matters of business in today’s world, cost is a key measure of logistic success and effectiveness. Containing costs in all areas such as freight charges, warehouse space and labor among other things is vital to corporate profit margins. There needs to be an understanding that high prices do not mean the best quality. Conversely, the lowest price may also not make good business sense. Instead, there need to be solutions that offer the best value for money and value to the business.

**Integration**

Bringing all stakeholders and elements of the logistics process together is an important elements of logistics optimization and is called integration. This is a vital point for the continued success of the process. For the process to work well over the long-term, all its relevant parts need to perform at an optimal level.

Traditionally, organizational chart driven organizations will find it difficult to integrate since different areas will be locked into pre-defined silos. Internal integration being vital to efficient logistics, this compartmentalized way of work needs to be re-imagined since it fragments a process and slows down development.

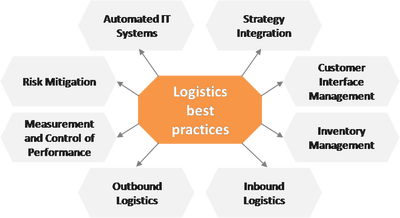
Both internal and external integration are vital to success. External integration with suppliers and vendors ensures that they become partners who understand how things work and why they work that way. When logistics vision is shared, there is a higher chance of success. Similarly, integrating with consumers offers its own benefits. These include a better understanding of their needs and a higher chance of satisfying them. Forming relationships with a customer makes them feel values and important and forms a competitive advantage for the company.

**Rules to Optimize Logistics**

Logistics and supply chains often offer the biggest opportunity to reduce costs and increase efficiency. For many companies, better decision making can lead to cost reductions by up to 40 percent. Over the years, through automation and process improvement, many organizations have managed to reduce human effort but in order to achieve true results, the [following rules](http://www.supplychain247.com/article/10_rules_for_supply_chain_logistics_optimization) must be observed.

* **Set Quantifiable and Measurable Objectives:**Objectives are the end results any optimization effort aims to achieve. These objectives need to be clear and precise. It is important for any effective goals to be easily quantifiable and hence east to measure. This is the only way a target return on investment can be set and then measured.
* **Explicitly Consider Variability:**It is a given that there will be variability in all possible logistics processes. This means that a trip along the same route may take different times according to external factors along that route such as traffic or construction. Also, there may be a different number of items delivered each day along the same route between the same entities. An assumption that no variability exists may lead to incorrect decisions and poor logistics management.
* **Ensure that data is Accurate, Timely and Comprehensive:**The right data is essential to any optimization decision or process. Any solutions based on incorrect data will lead to more damage than benefits. Regarding any parts of the process, there needs to be detailed and comprehensive data regarding all the different parts of an activity to ensure that no important elements are left out.
* **Ensure Integration of Automated Data:**The amount of detailed data required for optimized logistics needs to not only be automated but also to be unified and integrated. This will ensure that there are no difficulties and errors in manual data entry and that comprehensive data is available to those that need the information.
* **Ensure Efficient Execution of Optimization Plans:**Optimization is only as successful as the people who are tasked with executing the plan. Field teams, as well as relevant stakeholders need to be able to follow simple directions and execute them as directed. These actions then turn into measurable items that can be used to gauge the return on investment for any optimization endeavor.
* **Educate and Train People:**Any technical or complicated aspects of a logistics system or process can only be successful if the people running them have all the knowledge, skills and expertise required to execute the plans.
* **Ensure that Processes Exist to Support Optimization:**Logistics optimization needs to be an ongoing supportive effort that needs to continuously monitor both the current process and the current problems. There needs to be analysis on whether the system in place is still supporting the current problems of the marketplace. This will allow the company to keep a streamlined process in place, benefit from any potential opportunities and avoid any potential disasters.
* **Provide Proof of Return on Investments:**Management will always expect a substantial return on their investment into the optimization of a logistics process. This needs to offset the cost of technology, people and operations in a significant way. For this, there first needs to be a true depiction of the total cost of optimization activities as well as a benchmark comparison to best practices. The second step is to identify metrics before the implementation of an optimization programs and compare these to figures after the process optimization.

**LOGISTICS BEST PRACTICES**

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In the increasingly globalized world of today, logistics management offers a unique advantage to the company, both in terms of its function and its potential to act as cost management center. [Some of the best practices](http://www.supplychain247.com/article/best_practices_in_global_logistics)from industrial companies include:

**Strategy Integration**

All aspects of the logistics process including service level agreements, production locations, warehouses, and outsourcing decisions are integrated with overall [company strategy](https://www.cleverism.com/establishing-winning-corporate-strategy/). The entire logistics process is regularly evaluated to ensure that it remains aligned strategically with the direction of the company.  Any service levels are kept relevant to the customer and all relevant strategy is shared with the right external partners and stakeholders.

**Customer Interface Management**

In the best companies, the supply chain is customized for every segment of customers or different product categories. The highest revenue generating customers will receive the most customized service while others may receive the same service but with some variety of choices in pricing or timing. There may be relationship building activities with the customers such as scheduled regular meetings to understand their needs and optimize processes accordingly.

**Inventory Management**

Most effective companies will ensure that demand and order forecasts are based on real time data. This helps ensure strategic inventory management and prevents instances of over or under stocking.

**Inbound Logistics**

This end of logistics is usually the responsibility of the vendor or supplier. Suppliers are incentivized to keep costs low and efficiency high. There may be rewards for complying with service level agreements while there may be penalties for delays or poor quality of service or materials. Contracts often have flexibility to allow for quick responses to changes in demand or requirements.

**Outbound Logistics**

This part of logistics is usually controlled centrally by the company. Defined processes and established benchmarks are required to ensure optimal performance. Expertise is developed among teams to ensure that the right people are running processes.

**Measurement and Control of Performance**

Regular checks are performed on the supply chain performance to ensure compliance with established and metrics that are defined through the overall company strategy. There are plans defined to manage performance gaps both internally and externally.

**Risk Mitigation**

There are several stages in the logistics process and not all of them can be controlled one hundred percent. Instead, there is usually a plan of action for identifying and managing risks and this plan needs to be evaluated every month to ensure relevance. The probability of a risk occurring also need to be assessed. Contingency plans can then be developed for those events most likely to occur or those likely to cause the most loss or damage. Responsibility for risk management and authority for quick decision making also need to be defined and communicated across the company.

**Automated IT Systems**

It is now necessary to have a comprehensive supply chain management system in place. This system needs to fulfill all the company’s logistics requirements and needs to fully support the process in place. Once the system and process are cohesive, the IT sy stems can then be connected to both customers and suppliers ensuring a completely integrated supply chain environment. Any IT systems need to be regularly re-evaluated and updated to keep them relevant.

The importance of the logistics function for the global company of today cannot be emphasized enough. Though globalization has meant that many production functions are outsourced to other countries, it has also meant that the need for effective global logistics is even greater now. For this reason, it remains pertinent for a company to create and maintain a strategically focused logistics and supply chain network.

# Key 7 Advantages and Benefits of Supply Chain Management

When a business has an effective supply chain management, it has a competitive advantage in its industry that allows you to decrease the inherent risks when you're buying raw materials and selling products or services. There are many different benefits of supply chain management.

#### Here Are the 7 Most Important Supply Chain Management Benefits:

## 1. Higher Efficiency Rate:

When your business is able to incorporate supply chains, integrated logistics, and product innovation strategies, you'll be in a great position to not only predict demand as well as to act accordingly. And this is, without any doubt, one of the main supply chain management benefits. Why? When your business implements supply chain management systems, it will be able to adjust more dynamically to the fluctuating economies, emergency markets, and shorter product life-cycles.

## 2. Decrease Cost Effects:

One of the advantages of supply chain management is the costs decrease in different areas. The most important ones are:

* *Improves your inventory system;*
* *Adjusts the storage space for finished goods which eliminates damage resources;*
* *Improves your system's responsiveness to the actual customer's requirements;*
* *Improves your relationship with both distributors and vendors.*

## 3. Increases Output:

One of the main benefits of supply chain management is the communication improvement. This adds up to the coordination and collaboration with shipping and transport companies, vendors, and suppliers.

## 4. Increases Your Business Profit Level:

When you place your business open to the new technologies and an improved collaboration within the different areas, you can be sure that this will ultimately increase your business profit level.

## 5. Boost Cooperation Level:

When we're talking about the most successful businesses right now, one of the things they all have in common is the communication. In fact, when there is a lack of communication, your vendors and distributors have no idea about what's going on. So, this is definitely one of the main advantages of supply chain management. Plus, when you also open your doors and embrace technology, you can also take advantage of the fact that people don't even need to share the same space in order to be a true communication.

The communication among the different areas of your business will allow you to have faster access to forecasts, reporting, quotation, statuses, among many other plans in real time.

## 6. No More Delays In Processes:

One of the main benefits of supply chain management is the fact that through communication, you can actually lower any delays in processes. Since everyone is aware of what they're doing as well as what others are doing, this will mitigate any late shipments from vendors, logistical errors in distribution channels, and hold-ups on production lines.

## 7. Enhanced Supply Chain Network:

It's not easy to maintain a sustainable supply chain management system. According to some of its advocators, one of the best ways to do it is by using a combination of lean practices (like waste removal, for example) with agile. By combining all the information gathered on the different sectors of your business will allow you to have an enhanced supply chain network.

### To Conclude

As you can see, there are many benefits for your business to adopt a supply chain management system. However, it's a lot easier said than done. Nevertheless, when you want your business to grow, this is definitely something you should consider. AIMS' Institute of Supply Chain Management help professionals to build and enhance their supply chain management expertise. AIMS' well-known and career oriented programs includes [supply chain management courses](https://www.aims.education/supply-chain-management-certification-courses/) and [diploma in supply chain management](https://www.aims.education/supply-chain-management-diploma/).

# What are fundamental principles of logistics?

Our every day activity is with Logistics. Logistics plays a major role in every individuals’ life hence the importance of it being managed

Logistics is the process of tactically and strategically managing, controlling the procurement, movement and the storage of materials, parts and finished inventory, related information flow through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost effective fulfillment of orders.

Logistics and Management Council gives a broader definition of logistics as:***“Logistics management is that part of the supply chain process that plans, implements and control the efficient efficiency flow and storage of goods, services and related information from the point of origin to the point of consumption in order to meet customers’ requirements***.

There are some fundamental Principles of Logistics Management which any individual who is interested in achieving the best output in logistics must adhere to. The output of Logistics Management is customers satisfaction.

**Fundamental Principles of Logistics Management**.

1. The right product (always the product / service required at the time must be made available.

2. In the right amount (smaller amounts result in the halting of production, while larger amounts result in building up stocks

3. In the right quality (the product / service quality must be made available that the client requires)

4. At the right time (the product / service must be made available at the time required by the client)

5. To the right place (the product / service must be made available at the place where the client needs it)

6. At the right cost (the product / service must be made available at the cost accepted by the client)

### How Technology is Changing the Future of Logistics



The evolution of technology is pushing the boundaries and changing how the world does business. Today, we’re accustomed to everything being online and right at our fingertips for immediate access. Through Amazon, the pioneer of fast-paced delivery service, it’s possible to receive a package less than an hour after ordering, depending on where you live. Improved technology has also increased productivity in the supply chain, minimizing costs and errors. These advances benefit all areas of the logistics industry: trucking transportation, international transportation (ocean and air), supply chain management, and shipment tracking. Here are five major technology advances that are changing the future of the logistics industry.

**Shipment Tracking Systems**

Previously, customers booked shipments, received an estimated delivery date and then were left in the dark, unless they decided to make a phone call. Today, internet and software advances allow customers access to shipping and tracking systems 24/7. Not only does this enhance the user experience, but it saves time and money for the company as well. Shapiro offers Shapiro 360°, [a shipment tracking system](https://www.shapiro.com/commercial-cargo/shapiro-360/) tailored for our customers that allows to them to monitor and manage their shipments. It features shipment notifications and messages, customizable reporting, and customer accounts with information specific to the cargo destined to them. You can’t complain when technology is allowing us to do everything from the comfort of our couches.

**Internet of Things (IoT) and Radio Frequency Identification (RFID)**

Did you think years ago that you would be able to turn on your ceiling fan from your smartphone? Today, many devices are made with built-in Wi-Fi capabilities and sensors, from cell phones and ceiling fans to cars. The easy access to Wi-Fi and the internet connects everyone to everything, which is why it’s called Internet of Things. IoT is opening up many opportunities for the supply chain, such as reducing costs and delays by avoiding risks. Sensors are built into cabs, cargo ships, trains, etc., and connect to an alarm system or dispatcher that is monitoring and tracking. These sensors process and transmit the information to the crew who then gains insight into hidden risks and knowledge. Although IoT isn’t an entirely new technology, it continues to impact the future of logistics, allowing for a more accurate in-transit visibility and delivery of goods.

RFID technology, which has also been in use for a few years, is a popular labor-saving way companies can track their inventory. A tag or sensor is placed on the product and radio waves are sent out. The data is then received and processed by the company. Similar to RFID tags are barcodes, but the superior speed of information delivery and data processing of RFIDs is more appealing to businesses and the way technology is moving. Today, many companies are using RFID tags in their distribution warehouses to monitor containers. Other industries are already using RFID tags, such as the apparel industry and major theme parks.

**Autonomous Trucks and Drones**

A world where a computer drives you from Point A to Point B or you receive a package from a flying unmanned aerial vehicle sounds like something out of a movie, but that is where we’re headed. Autonomous cars are already a reality with trucks not too far behind. Embark and Uber have already made long hauls using autonomous trucks, with Tesla releasing a truck this year. While it wasn’t completely driverless, with a driver in the passenger seat to monitor the computer, it is a huge step in this breakthrough technology and has the potential to increase efficiency in the delivery process.

Amazon has announced the future of packages being delivered right to doorstep by drones, called Amazon Prime Air. Drones deliveries are still a few years out due to regulatory measures and associated costs, but the thought of not having to sit around during a four-hour time span waiting for a package is pretty appealing.

**Enhanced GPS Accuracy**

Long gone are the days when you printed out directions from the computer before you left the house. Now almost everyone uses GPS, whether built-in on their vehicles or on their cellphones. The accuracy of these devices has drastically increased throughout the years, not only helping frustrated, lost drivers but also improving the supply chain. The advanced accuracy of GPS allows for increased productivity and satisfied customers, by tracking trucks’ locations and improving hauls through access to updated traffic data.

**Social Media**

Who doesn’t check some sort of social media platform every day? The power of social media is optimizing the logistics industry and operations as a whole. These platforms are becoming the easiest and most efficient way for companies to communicate with customers, conveying urgent information, industry news, and customer responses quickly. According to Hootsuite, 59% of Americans who have a social media account agree that customer service via social media has made it easier to get questions and concerns resolved. Here at Shapiro, we use multiple platforms to get news and updates to our customers: [LinkedIn](https://www.linkedin.com/company/94479/), [Facebook](https://www.facebook.com/shapiroco/), and [Twitter](https://twitter.com/shapiroco).

To remain competitive and enhance efficiency, keeping up with the latest technology is a must. The logistics industry is benefiting immensely from the latest technology and will continue to grow as more advances are made. The breakthroughs in technology will continue to push the boundaries for years to come.

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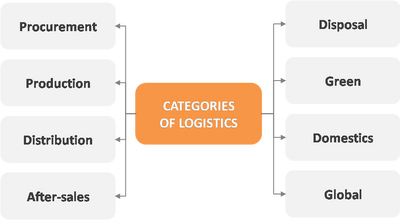
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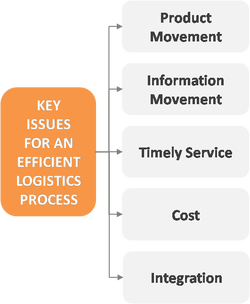
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* **After-sales logistics:**Any required after sales movement of goods is included in after-sales logistics. This could involve taking an item from a consumer back to the producer for repairs within a warranty period.
* **Disposal logistics:**Often, there is a need to dispose of waste materials or items that have reached the end of their useful life. Disposal logistics deals with this aspect in the most cost effective way possible.
* **Reverse logistics:**The area of logistics that deals with the re-use of any products or materials is called reverse logistics. This can also include managing and selling surplus items and those items being returned by the consumer. This can be the flow of goods from point of consumption to the point of origin for capturing value or for proper disposal.
* **Green logistics:**This category of logistics handles the work that goes into measurement and minimization of the ecological impact of any logistics activities.
* **Global logistics:**Logistics processes for global movement of goods and services brings with it a host of issues and complications. These can include import and export rules, regulations and duties, delays, safety and security and modes of transportation.
* **Domestics logistics:**Domestic logistics handles issues related to the movement and storage of goods and services within the country. This also has important issues within it such as security, delays and infrastructure.

## ****OPTIMIZING LOGISTICS****

### ****Key Issues for an Efficient Logistics Process****

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The logistics process is relevant to the entire company and interacts with external stakeholder such as vendors, suppliers and customers. Given its importance to the company and to the consumers, it is imperative that the process work as smoothly and as efficiently as possible. To achieve this end, there are five key issues that need to be highlighted:

#### ****Product Movement****

Often, this is seen as the only real job of a logistics function. While there are other aspects to the area, the movement of products itself is not as straightforward as it is made to appear. The way the material is moved from point A to point B needs to follow the direction and strategy of the organization. If the ultimate goal is to make sure that the product reaches the consumers as fast as possible, then cost reductions may not be a concern. On the other hand, if a company is focusing on cost efficiency, then the goods will need to be moved in the best possible way at the least possible cost.

In addition, there is a need for a balance between planning and flexibility in moving goods. The movement plan must be able to adjust according to any potential changes in the business plans. It must also be able to manage changing environments and possible obstacles and delays. In movements to geographically dispersed locations and their particular peculiarities.

#### ****Information Movement****

Adding to the generic concept of logistics, there is a step beyond the traditional movement of materials and this is the movement of information. This includes current location information about the products, as well as the incoming orders and delivery timelines. This information is crucial for good decision making and needs to be both timely and accurate.

This information must flow openly between suppliers, warehouses, consumers and the company itself. There also needs to be a flow of information internal to the company between various departments and stakeholders. Ideally, an [IT](https://www.cleverism.com/lexicon/information-technology/) system should be in place to ensure this flow of information. This system needs to be dynamic and able to handle all ends of the process from production, material and requirement planning to financial and sales forecasts. These systems need to be present at both a macro level and a micro level, with both types of views available so that the right information is available for the right person.

#### ****Timely Service****

The importance of time in the world of logistics cannot be stressed enough. In order to operate in the global market and its ever-changing forecasts, customer requirements, product launches and a multitude of other issues, there needs to be an ever present focus on time. Any raw materials need to be ordered accurately and need to arrive on time and as ordered. Any orders places must be filled quickly and correctly. Lead times are shrinking in all areas and in all fields and may make the difference between a successful company and one on the way out.

#### ****Cost****

As with all matters of business in today’s world, cost is a key measure of logistic success and effectiveness. Containing costs in all areas such as freight charges, warehouse space and labor among other things is vital to corporate profit margins. There needs to be an understanding that high prices do not mean the best quality. Conversely, the lowest price may also not make good business sense. Instead, there need to be solutions that offer the best value for money and value to the business.

#### ****Integration****

Bringing all stakeholders and elements of the logistics process together is an important elements of logistics optimization and is called integration. This is a vital point for the continued success of the process. For the process to work well over the long-term, all its relevant parts need to perform at an optimal level.

Traditionally, organizational chart driven organizations will find it difficult to integrate since different areas will be locked into pre-defined silos. Internal integration being vital to efficient logistics, this compartmentalized way of work needs to be re-imagined since it fragments a process and slows down development.

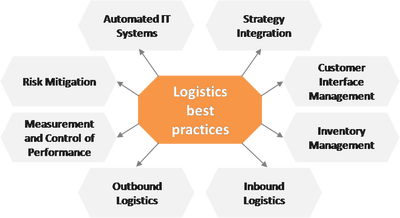
Both internal and external integration are vital to success. External integration with suppliers and vendors ensures that they become partners who understand how things work and why they work that way. When logistics vision is shared, there is a higher chance of success. Similarly, integrating with consumers offers its own benefits. These include a better understanding of their needs and a higher chance of satisfying them. Forming relationships with a customer makes them feel values and important and forms a competitive advantage for the company.

### ****Rules to Optimize Logistics****

Logistics and supply chains often offer the biggest opportunity to reduce costs and increase efficiency. For many companies, better decision making can lead to cost reductions by up to 40 percent. Over the years, through automation and process improvement, many organizations have managed to reduce human effort but in order to achieve true results, the [following rules](http://www.supplychain247.com/article/10_rules_for_supply_chain_logistics_optimization) must be observed.

* **Set Quantifiable and Measurable Objectives:**Objectives are the end results any optimization effort aims to achieve. These objectives need to be clear and precise. It is important for any effective goals to be easily quantifiable and hence east to measure. This is the only way a target return on investment can be set and then measured.
* **Explicitly Consider Variability:**It is a given that there will be variability in all possible logistics processes. This means that a trip along the same route may take different times according to external factors along that route such as traffic or construction. Also, there may be a different number of items delivered each day along the same route between the same entities. An assumption that no variability exists may lead to incorrect decisions and poor logistics management.
* **Ensure that data is Accurate, Timely and Comprehensive:**The right data is essential to any optimization decision or process. Any solutions based on incorrect data will lead to more damage than benefits. Regarding any parts of the process, there needs to be detailed and comprehensive data regarding all the different parts of an activity to ensure that no important elements are left out.
* **Ensure Integration of Automated Data:**The amount of detailed data required for optimized logistics needs to not only be automated but also to be unified and integrated. This will ensure that there are no difficulties and errors in manual data entry and that comprehensive data is available to those that need the information.
* **Ensure Efficient Execution of Optimization Plans:**Optimization is only as successful as the people who are tasked with executing the plan. Field teams, as well as relevant stakeholders need to be able to follow simple directions and execute them as directed. These actions then turn into measurable items that can be used to gauge the return on investment for any optimization endeavor.
* **Educate and Train People:**Any technical or complicated aspects of a logistics system or process can only be successful if the people running them have all the knowledge, skills and expertise required to execute the plans.
* **Ensure that Processes Exist to Support Optimization:**Logistics optimization needs to be an ongoing supportive effort that needs to continuously monitor both the current process and the current problems. There needs to be analysis on whether the system in place is still supporting the current problems of the marketplace. This will allow the company to keep a streamlined process in place, benefit from any potential opportunities and avoid any potential disasters.
* **Provide Proof of Return on Investments:**Management will always expect a substantial return on their investment into the optimization of a logistics process. This needs to offset the cost of technology, people and operations in a significant way. For this, there first needs to be a true depiction of the total cost of optimization activities as well as a benchmark comparison to best practices. The second step is to identify metrics before the implementation of an optimization programs and compare these to figures after the process optimization.

## ****LOGISTICS BEST PRACTICES****

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In the increasingly globalized world of today, logistics management offers a unique advantage to the company, both in terms of its function and its potential to act as cost management center. [Some of the best practices](http://www.supplychain247.com/article/best_practices_in_global_logistics)from industrial companies include:

### ****Strategy Integration****

All aspects of the logistics process including service level agreements, production locations, warehouses, and outsourcing decisions are integrated with overall [company strategy](https://www.cleverism.com/establishing-winning-corporate-strategy/). The entire logistics process is regularly evaluated to ensure that it remains aligned strategically with the direction of the company.  Any service levels are kept relevant to the customer and all relevant strategy is shared with the right external partners and stakeholders.

### ****Customer Interface Management****

In the best companies, the supply chain is customized for every segment of customers or different product categories. The highest revenue generating customers will receive the most customized service while others may receive the same service but with some variety of choices in pricing or timing. There may be relationship building activities with the customers such as scheduled regular meetings to understand their needs and optimize processes accordingly.

### ****Inventory Management****

Most effective companies will ensure that demand and order forecasts are based on real time data. This helps ensure strategic inventory management and prevents instances of over or under stocking.

### ****Inbound Logistics****

This end of logistics is usually the responsibility of the vendor or supplier. Suppliers are incentivized to keep costs low and efficiency high. There may be rewards for complying with service level agreements while there may be penalties for delays or poor quality of service or materials. Contracts often have flexibility to allow for quick responses to changes in demand or requirements.

### ****Outbound Logistics****

This part of logistics is usually controlled centrally by the company. Defined processes and established benchmarks are required to ensure optimal performance. Expertise is developed among teams to ensure that the right people are running processes.

### ****Measurement and Control of Performance****

Regular checks are performed on the supply chain performance to ensure compliance with established and metrics that are defined through the overall company strategy. There are plans defined to manage performance gaps both internally and externally.

### ****Risk Mitigation****

There are several stages in the logistics process and not all of them can be controlled one hundred percent. Instead, there is usually a plan of action for identifying and managing risks and this plan needs to be evaluated every month to ensure relevance. The probability of a risk occurring also need to be assessed. Contingency plans can then be developed for those events most likely to occur or those likely to cause the most loss or damage. Responsibility for risk management and authority for quick decision making also need to be defined and communicated across the company.

### ****Automated IT Systems****

It is now necessary to have a comprehensive supply chain management system in place. This system needs to fulfill all the company’s logistics requirements and needs to fully support the process in place. Once the system and process are cohesive, the IT systems can then be connected to both customers and suppliers ensuring a completely integrated supply chain environment. Any IT systems need to be regularly re-evaluated and updated to keep them relevant.

The importance of the logistics function for the global company of today cannot be emphasized enough. Though globalization has meant that many production functions are outsourced to other countries, it has also meant that the need for effective global logistics is even greater now. For this reason, it remains pertinent for a company to create and maintain a strategically focused logistics and supply chain network.