3PL Definition Guide

46 Logistics Support Services Explained

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About This Ebook

3PLs help companies with a wide variety of logistics tasks – which is why it can be difficult to understand what defines a 3PL and how they work. And that doesn't even scratch the surface on understanding what the various types of 3PLs and logistics support services do.

That's why in this ebook, we'll start by defining what a 3PL actually is – along with 1PLs, 2PLs, and 4PLs and an explanation of different 3PL business models. Then we'll give you the crash course on 46 different logistics services.

We've split up the services into five sections: Logistics Services, Transportation Services, Warehousing Services, Special Services, and Technology/Web Services.

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Chapter 1:

3PL Defined

3PL Defined

3PL Definitions

Since there is not one perfect definition of a 3PL, here are a few definitions from three different logistics authorities.

According to CSCMP, a Third Party Logistics Provider is:

A firm which provides multiple logistics services for use by customers. Preferably, these services are integrated, or "bundled" together by the provider. These firms facilitate the movement of parts and materials from suppliers to manufacturers, and finished products from manufacturers to distributors and retailers. Among the services which they provide are transportation, warehousing, cross-docking, inventory management, packaging, and freight forwarding.

According to the Consumer Product Safety Improvement Act of 2008, the legal definition of a 3PL is:

A person who solely receives, holds, or otherwise transports a consumer product in the ordinary course of business but who does not take title to the product.

According to Logistics Focus, Third Party Logistics is:

The activity of outsourcing activities related to Logistics and Distribution. The 3PL industry includes Logistics Solution Providers (LSPs) and the shippers whose business processes they support.

So if that explains a 3PL, then what is a 1PL, 2PL, or 4PL?

1PL (1st Party Logistics)

1PL consists of the very basics of shipping and receiving – the shipper, and the consignee. In the early days of logistics the only parties involved were these "1PLs".

2PL (2nd Party Logistics)

2PL consists of carriers, such as trucking companies, airlines, shipping companies, and rail companies. As early supply chains developed, carriers were the 2nd party to get involved.

3PL (3ʳᵈ Party Logistics)

It then followed that 3PL would be the name given to the third parties who add additional services to the supply chain without taking title to the products. 3PLs make money by buying and bundling services and adding a markup; for this reason, they have carrier preferences and relationships.

4PL (4ᵗʰ Party Logistics)

4PL is the newest level in the hierarchy. A 4PL manages the entire supply chain. They will essentially manage the activities of the 3PLs. Unlike 3PLs, 4PLs are carrier neutral, not taking preference for one carrier or another. They are paid as consultants, by the hour or by the project. The term 4PL was first created by Accenture as a way of describing their services.

Overlapping

It can also be possible for a company to be part of more than one "PL" category at once. It is particularly common for a 3PL to also be a 2PL. This may occur when:

- A shipping line owns a freight forwarder
- An airline owns a general sales agent (GSA)
- A freight forwarder owns trucks or a warehouse
- A courier company owns planes

For example, Fedex is both a 2PL (airline) and a 3PL (courier). DHL is both a 3PL (courier and freight forwarder), a 2PL (warehouse and trucks owner), and a 4PL (actual consulting divisions).

Lead Logistics Provider, or **LLP**, can sometimes be seen as a combination of a 3PL and 4PL. The LLP is given the responsibility to manage and carry out the client's logistics tasks. Part of these activities will be executed by the LLP itself. Meanwhile, any additional activities that the LLP doesn't have expertise in will be outsourced to 3PLs. These 3PLs are then managed by the LLP. (Practically speaking, the terms LLP and 4PL are often used interchangeably, while they may also be viewed as falling under the 3PL category. There is a wide range of definitions for LLPs.)

With the confusing and sometimes conflicting labels for 3PLs, perhaps a better way to view the industry is by business model. The three main business models used by 3PLs: asset based, management based and integrated.

Asset Based 3PLs

Asset based third party logistics companies use their own trucks, warehouses and personnel to operate their business.

Management Based 3PLs

Management based 3PLs (sometimes called non-asset based) provide the technological and managerial functions to operate the logistics functions of their clients, but do so using the assets of other companies and do not necessarily own any assets.

Integrated 3PLs

Integrated 3PLs can either be asset based or management based companies that supplement their services with whatever services are needed by their clients.

Now that we've cleared up the definition of a 3PL, the types of 3PLs and the rest of the PL hierarchy, here are explanations of 46 of the 3PL services on the market today.

Chapter 2:

Logistics Services

Logistics Services

Logistics Services – Inbound Logistics

Inbound Logistics – The movement of materials from suppliers and vendors into production processes or storage facilities.

Logistics Services – Just-in-Time (JIT)

Just-in-time (JIT) manufacturing is a production model in which items are created to meet demand, not created in surplus or in advance of need.

The purpose of JIT production is to avoid the waste associated with overproduction, waiting and excess inventory, three of the seven waste categories defined in the Toyota Production System (known in North America as the lean production model).

Just in Time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. To meet JIT objectives, the process relies on signals or *Kanban* between different points, which are involved in the process, which tell production when to make the next part. Kanban are usually 'tickets' but can be simple visual signals, such as the presence or absence of a part on a shelf. Implemented correctly, JIT focuses on continuous improvement and can improve a manufacturing organization's return on investment, quality, and efficiency. To achieve continuous improvement key areas of focus could be flow, employee involvement and quality.

Logistics Services - Payment Auditing / Processing

A **Freight Audit** is the process of analyzing and examining the accuracy of freight bills. An auditor will check the validity of the charges, ensure that duplicate payments are avoided, and check the accuracy of the charges.

Freight Payment Outsourcing is a way to reduce a company's administrative costs to process bill payments. A freight payment/auditing company can save clients 90 – 95% in administrative costs.

Both of these services also provide companies with data that they can use to guide their business decisions. For example, they can tell companies whether their carrier is charging them above or below the going rate, which customers can then use to help them negotiate. Some services can even track whether or not vendors followed the customer's routing guides properly. They then deduct a penalty from the bill if vendors did not follow the instructions.

These third party companies can also benefit carriers with the ability to pay them in a matter of days, rather than weeks.

Logistics Services – Logistics Process Re-engineering

Logistics process re-engineering is the process of completely reworking an organization's logistics procedures, from purchase to customer delivery. This may be done in the spirit of continual improvement to remain competitive, or it may be done when the organization is faced with a more pressing problem caused by ineffective processes. A change in the market or customer needs may also create a need for logistics process re-engineering.

A 3PL helping a company with logistics process re-engineering will start with an assessment of the business' current processes, as well as talking to stakeholders to better understand what they want to achieve by overhauling their processes. From there they will redesign the logistics process to meet the needs of the company.

Chapter 3:

Transportation Services

Transportation Services

Transportation – Package Delivery

Package delivery or **parcel delivery** is the shipping of packages (parcels) or high value mail as single shipments. While the service is provided by most postal systems, private package delivery services have also existed in competition with and in place of public postal services.

Transportation – Air Cargo

Air transportation is used to transport air cargo by plane. Air cargo or air transport is a vital component of many international logistics networks, and it is a vital part of international commerce. Air transport involves integration of information, transportation, inventory, warehousing, material handling, and packaging. Transporting goods to and from the airport is also an essential part of the process.

Transportation - Ocean

Ocean transport is used to move goods across the ocean or larger lakes. There are many different types of cargo that are moved in various types of ships. The ship types include: **bulk carriers, container ships, tankers, refrigerated ships, roll on / roll off ships**, and **multi-purpose ships.**

Bulk carriers are cargo ships used to move bulk cargo like coal, ore, grains and liquids. Bulk cargo is commodity cargo that is transported unpackaged in large quantities. It refers to material in either liquid or granular, particulate form, as a mass of relatively small solids, such as petroleum, grain, coal, or gravel. This cargo is usually dropped or poured, with a spout or shovel bucket, into a bulk carrier ship's hold, railroad car, or tanker truck/trailer/semi-trailer body.

Container ships are cargo ships that carry their entire load in truck-size containers, in a technique called containerization. They form a common means of commercial intermodal freight transport. Informally known as "box boats," they carry the majority of the world's dry cargo.

Tankers are cargo ships for the transport of fluids, such as crude oil, petroleum products, liquefied petroleum gas, liquefied natural gas and chemicals. They also carry vegetable oils, wine and other food.

Refrigerated ships (reefers) are cargo ships used to transport temperature-controlled cargo, such as fruits, meat, fish, vegetables, dairy products and other foodstuffs.

Roll-on/roll-off ships are cargo ships designed to carry wheeled cargo such as automobiles, trailers or railway carriages. RORO (or ro/ro) vessels have built-in ramps which allow the cargo to be efficiently "rolled on" and "rolled off" the vessel when in port.

A **multi-purpose ship** (sometimes called a general cargo ship) is used to transport a variety of goods from bulk commodities to break bulk and heavy cargoes. To provide maximum trading flexibility they are usually geared and modern examples are fitted for the carriage of containers and grains.

Break bulk cargo or **general cargo** is a term that covers a great variety of goods that must be loaded individually, and not in intermodal containers nor in bulk as with oil or grain. Break bulk cargo is transported in bags, boxes, crates, drums, or barrels. Unit loads of items secured to a pallet or skid are also used.

Transportation - Less Than Truckload (LTL)

Less Than Truckload (LTL) is a shipment that does not require a full 48 or 53 foot trailer. There are many carriers that specialize or offer this service. Like full truck load carriers, the LTL carriers themselves specialize in different services such as lift gate and residential pick-ups and deliveries, guaranteed services, protect from freeze, transit, and bottom line cost to name a few.

Within a local area the LTL freight operator has a number of vehicles which collect shipments from their customers. After finishing the daily collection, the shipments are taken to a terminal where the vehicles are unloaded. Each shipment is weighed and rated which allows customer bills to be processed. The individual shipment is loaded onto an outbound vehicle which contains shipments from other customers bound for the same geographic area. The outbound shipments are trucked to appropriate regional terminals, where they are unloaded. The shipments are sorted and placed on local vehicles for delivery. Each individual shipment is handled a number of times from the time it is picked up from the customer until it reaches its final delivery location.

Transportation - Truckload

Truckload shipping is the movement of large amounts of similar freight, usually the amount necessary to fill an entire semi-trailer or intermodal container. A truckload carrier is a trucking company that generally contracts an entire trailer-load to a single customer.

Full truckload carriers normally pick up and deliver dedicated shipments. Typically, shipments are picked up at the shipper and delivered directly to the consignee. Truckload shipments are generally handled less, cost less per unit shipped and have less freight damage.

Transportation – Fleet Acquisition

Fleet acquisition services help companies acquire trucks. Fleet acquisition companies conduct an analysis of the client's needs so they can acquire the right truck(s) for their clients.

To specify the truck fleet, the following information is considered: customization, driver requirements, market information, maintenance costs, pricing, financing options, taxes, etc. Other functions may include: project management, inspection, and delivery.

Generally, fleet acquisition services will help their clients save money through market intelligence, volume pricing and close relationships to the OEMs.

Transportation – Equipment / Drivers

There are logistics companies that sell or lease transportation equipment to their clients. Transportation equipment is used to move material from one location to another (such as between a loading dock and a storage area) within a facility or at a site. Typical equipment includes: conveyors, cranes, and industrial trucks.

There are also logistics companies that provide temporary and / or fully-outsourced driver leasing services. These companies manage the driver workforce, enabling their clients to focus on their businesses. Driver leasing companies specialize in hiring, training, driver management, insurance, employee retention and benefits management.

Transportation - Dedicated Contract Carriage

Dedicated contract carriage (DCC) is a third-party service that provides dedicated equipment (vehicles) and drivers to a single customer for its exclusive use on a contractual basis.

DCC is a flexible service that offers all the service advantages of a private fleet and the convenience of a for-hire carrier. DCC in a sense outsources many of the challenging functions associated with managing a fleet. Services and materials provided may include but are not limited to: ongoing operations management, technology, drivers, vehicles, vehicle maintenance, safety, regulatory compliance, risk management, and pickup and delivery instructions.

Transportation - Intermodal

Intermodal refers to transportation by more than one means of transport such as ship, truck and rail.

The intermodal containerization of cargo has revolutionized the supply chain logistics industry. The reduced handling and improved efficiency have lowered shipping costs substantially.

Transportation – Final Mile

Final mile (last mile) describes the movement of goods from a transport hub to a final destination. Transporting goods via freight rail networks and container ships is often the most efficient and cost-effective manner of shipping. However, when goods arrive at a high-capacity freight station or port, they must then be transported to their final destination.

The last mile problem can also include the challenge of making deliveries in urban areas where retail stores, restaurants, and other merchants in a central business district often contribute to congestion and safety problems.

Transportation - Rail

Rail transport utilizes freight trains to haul cargo. Sometimes, the freight cars are customized for a specific type of freight. Freight trains are very efficient, with economy of scale and good energy efficiency. However, pick-up and delivery to the rail head is costly and inconvenient.

With the growth of intermodal shipping, container trains have become the most important type of rail transport for non-bulk shipping. Containers can easily be moved to other modes of transportation like ships and trucks.

Rail is the most efficient mode for transporting bulk shipments like coal, ore, grains and liquids. Bulk is transported in open-topped cars, hopper cars, and tank cars.

Chapter 4:

Chapter 4:

Warehousing

Warehousing

Warehousing – Pick and Pack

Pick and Pack services are offered by many businesses that specialize in supply chain management solutions. Pick and pack is a part of a complete supply chain management process that is commonly used in, but not limited to, the retail distribution of goods.

It entails processing small to large quantities of product, (often truck or train loads), disassembling them, picking the relevant product for each destination, and re-packaging with shipping label affixed and invoice included. Usual service includes obtaining a fair rate of shipping from common as well as expediting truck carriers.

Typically, companies will use a warehouse management system (WMS) to ensure maximum effectiveness and efficiency. WMS is software used to manage movement and storage of materials within a warehouse.

Warehousing – Sub-assembly

Many warehouse companies do light assembly or **sub-assembly** work for their clients. This many entail receiving multiple components to the warehouse, assembling, inspecting, repackaging and shipping to their client.

The sub-assembly is a collection of parts put together as a unit, to be used in the making of a larger assembly or a final or higher item. What may be a subassembly at one point, however, may be an assembly at another.

Companies outsource this sub-assembly work to reduce manpower cost, maximize manufacturing space utilization, level inventory, and to manage inbound packaging requirements.

Warehousing – Site Location

Site location services help companies find the ideal location for their warehouse or distribution center. The ideal warehouse or distribution center location is usually determined by a combination of where the shipments are coming from and where they are shipping to.

Access to transportation infrastructure is also a key consideration. A warehouse or distribution center that is far from its suppliers and customers would obviously increase logistics costs.

Warehousing – Transloading

Transloading is the process of transferring a shipment from one mode of transportation to another. It is most commonly employed when one mode cannot be used for the entire trip, for instance, when goods must be shipped internationally from one inland point to another. Such a trip might require transport by truck to an airport, then by airplane overseas, and then by another truck to its destination. Alternatively, it might involve bulk material (such as coal) loaded to rail at the mine, and then transferred to ship at a port. Transloading is also required at railroad break of gauge points since the equipment between lines is not compatible.

Since transfer requires handling of the goods, it causes expense and risk of damage. Therefore transloading facilities are designed with the intent of minimizing the handling. Due to differing capacities of the different modes, the facilities typically require some storage facility such as warehouses or rail yards. For bulk goods, specialized material handling and storage are typically provided (for example, in grain elevators). Intermodal transport limits handling by using standardized containers which are handled as units, and which also serve for storage if needed.

Warehousing - Distribution Center Management

A **distribution center** is a warehouse for products. When a product is ordered it is shipped from the distribution center or warehouse. The distribution center manages inbound and outbound shipments and inventory.

A distribution center will typically be responsible for the following processes: receiving, putaway, order processing, replenishment, pulling, restocking, picking, validation, sorting and shipping.

Most companies in the distribution center management business will use a distribution center management system (DCMS). DCMS is an enterprise oriented application designed to track the activities performed in a distribution center.

Warehousing - Vendor Managed Inventory

Vendor-managed inventory (VMI) is a family of business models in which the buyer of a product provides certain information to a supplier of that product and the supplier takes full responsibility for maintaining an agreed inventory of the material, usually at the buyer's consumption location, usually a store.

A 3PL can also be involved to make sure that the buyer has the required level of inventory by adjusting the demand and supply gaps.

The close relationship between supplier and buyer reduces the chance that the buyer will ever run out of stock. VMI also helps manage inventory and react to changes in supply and demand. Many of the big box retail chains use VMI very successfully.

Warehousing – Cross-docking

Cross-docking is the logistics practice in which cargo from incoming vehicles is directly loaded into an outbound mode of transportation.

Companies receive the following benefits from cross-docking: reduced labor costs, reduced need for warehouse space, and reduced lead time from order to customer.

There are different types of cross docking depending on whether the client is a distributor, manufacturer, wholesaler or retailer. The most common process would be as follows: the warehouse receives goods from multiple suppliers, repackages those goods, then loads the goods onto another truck for shipment to the customer.

Warehousing - Fulfillment

Fulfillment is the process of taking an order and executing it by making it ready for delivery to its intended customer. It may involve warehouse pickup, packaging, and labeling. There are many variations depending on the client, but the most basic services provided are: storage and warehousing, order processing, pick and pack, shipment of product, returns and exchanges, call center services, invoicing and order administration. The fulfillment service provider plays a key role in the supply chain because they will have direct contact with the client's customer.

Chapter 5:

Special Services

Special Services

Special Services - Direct to Home

The **direct to home service** is an alternate supply chain model. In this channel, the product is shipped directly from the producer or distributer to the customer. Home shopping services where brands are able to sell and ship directly to the consumer use this distribution model. This distribution model may also be used for custom-made products. For example, Dell computers fall under this category. 3PLs specializing in direct to home services can help businesses to best manage this channel.

Special Services - Direct to Store

The **direct to store**, or **direct to store delivery (DSD)** model is an alternate supply chain model. In this model, the manufacturer delivers directly to the retailer, rather than working with wholesalers or distributers. There are several pros and cons to the DSD model.

This model is useful if the manufacturer wants to have closer contact with the retailer to ensure satisfaction. It is also helpful when retailers are only able to accept deliveries at limited times, and when they require frequent small deliveries. For these reasons, this model is useful for manufacturers who service convenience stores and small retailers.

A disadvantage of Direct to Store is the high receiving cost, since the store receives shipments from several individual vendors. Transportation costs are often more expensive as well. A 3PL specializing in this service can help businesses to manage these challenges.

Special Services - Sustainability and Green Logistics

Sustainability and **green logistics** are common labels given to actions that reduce the environmental impact of logistics tasks.

Examples of green logistics initiatives include route optimization, packaging optimization, use of recycled packaging, and CO_2 reduction. A 3PL specializing in sustainability can help a business plan and implement these initiatives.

Depending on the initiative, green logistics activities may cost or save an organization money. For example, route optimization would save the company labor and gas costs in the long run. Due to rising oil and gas prices, activities that reduce gas consumption are often popular initiatives. Other activities, such as using more environmentally friendly but more expensive materials may end up costing the company money. However, there is often pressure to become more "green" despite costs. A company's

sustainability efforts are now being noticed by consumers and investors, who may choose or boycott companies based on how sustainable they are.

Special Services - Reverse Logistics

Reverse Logistics is the process involved with moving goods through the supply chain from the end user back to the point of origin. This may be done in order to dispose of the product. The end user may also make a return due to an ordering or fulfillment error.

Special Services - Product Lifecycle Management

Product lifecycle management (PLM) is the process used to manage the information associated with a product over its lifecycle. This information includes everything to do with the product – manufacturing processes, design information, and maintenance information. This process might also manage secondary information about the product, such as marketing information and customer feedback. A 3PL specializing in these fields can help you to better manage these areas of your business.

Special Services - Supply Chain Security Analysis

This 3PL service involves an audit of all parts of the supply chain to identify – and correct – security issues. The auditor might examine in-house security measures as well as security measures on site or in the field. They may also review the details of current issues such as freight theft. The auditor would then present a plan to correct or improve supply chain security.

Areas of review in a supply chain security analysis might include:

- Information security and document control
- Monitoring systems
- Review of whether loads and vehicles are left unlocked or unattended
- Schedule of stops
- Locks and seals on containers
- Whether packaging deters or encourages theft

Special Services - Contingency / Crisis Planning

Contingency or **crisis planning** refers to planning for how your company will deal with a logistics disaster. Examples of crises to plan for include:

- Worker strike
- Terrorist attack
- Natural disaster
- Fire
- Airport closure
- Pirate attack

In order to plan for a potential crisis, you should make a list of all potential crises for your business. Then come up with an action plan that you would take in the worst possible scenario for each. It's also a good idea to test your plan. You may wish to do this planning within your own company, or you can enlist the help of a 3PL who specializes in contingency planning.

Special Services – Global Expansion

There are many risks, considerations, and new tasks to take into account when expanding globally. Foreign markets may behave differently than local ones, and there are new laws to take into consideration. New contacts and partnerships must also be developed. Therefore, it's becoming increasingly common for companies to enlist 3PLs for help with global expansion. A 3PL can help by providing access to the right contacts, infrastructure and resources. It can reduce the upfront cost that a company would otherwise need to budget for.

Special Services – Foreign Trade Zone

A **Foreign Trade Zone** is an area in or near a United States Port of Entry, where goods are treated as though they were still outside the United States. Foreign Trade Zones (FTZ) enable companies to delay paying duties, taxes, or other fees on imported products. Rather than paying the fees upon import, the fees are paid when the products are consumed or used, or when they are shipped out of the FTZ.

By using Foreign Trade Zones to delay tax payments, companies can improve cash flow. The program has other benefits as well. For example, companies can eliminate the need to pay taxes on goods that are imported, only to be exported again later. They can also avoid paying duties on imports of damaged or unusable parts.

While there are many potential benefits, as with any government program, there is an application process and regulations that must be followed. A 3PL specializing in FTZ can help companies make the most of the Foreign Trade Zone program while minimizing the risk and hassle involved.

Special Services – Logistics/Transportation Consulting

Logistics or **Transportation Consulting** services can help a company to optimize their logistics processes to reduce costs, increase effectiveness, and improve customer satisfaction. Below are just a few areas that a 3PL specializing in this service might advise in:

- International regulations
- Documentation requirements by country
- How to streamline the flow of products and materials
- How to ship oversized shipments and dangerous products
- Freight management and reporting
- Warehousing
- Packaging
- Six Sigma, Lean Manufacturing, Lean Supply Chain

A 3PL offering Transportation Consulting may also specialize in a particular mode of transportation.

Special Services - Import / Export / Customs

Properly dealing with customs regulations is important in order to avoid significant penalties. Working with a 3PL specializing in customs regulations can help you to navigate the system. A 3PL with this specialization can help to:

- Properly classify goods
- Save duty by finding ways to help reduce or exempt you from tariffs
- Advise you on NAFTA regulations
- Calculate the exact duty that you will need to pay, to avoid penalties and surprises

There are many unknowns when dealing with importing and exporting in addition to custom regulations. A 3PL that specializes in import/export can help you to:

- Plan your entrance into the freight market
- Adjust your product or service to fit with the foreign market
- Find partners such as suppliers in the new market
- Deal with export operations effectively

Special Services – Labor Management

Lean labor management is the process of reducing costs and improving quality or productivity in the labor force. A company typically looks into revising labor management when the CFO requires the

company to reduce costs. Lean labor management involves improving procedures, improving use of time, and creating goals and rewarding employees who surpass those goals.

Many organizations decide to support these efforts with a labor management system. This system can streamline tasks such as hiring and time-tracking and scheduling of staff. Using an automated system to track and manage scheduling can help to reduce unnecessary overtime costs. The system can also keep track of employee certifications to ensure that everyone has proper, current training. A 3PL specializing in labor management services can help you with these initiatives.

Special Services – Marketing / Customer Service

Customer service is an important element of nearly any company – but it is often hard to measure. Many logistics companies prefer to measure their customer services by standard KPIs, such as on-time deliveries. However, in order for a company to stand out, they will need to provide elements of customer service beyond basic competence.

Beyond basic KPIs, few companies actually define what qualifies as good customer service. It can also be difficult for shippers to know the experience of their end consumers when they are not doing the deliveries directly.

For companies who want to improve their customer service, they could measure KPIs such as time taken to respond to customer emails, frequency of recommendations, and grades on customer satisfaction surveys. They can also follow up with customers after receiving a complaint or question, to find out if the customer was satisfied with the service or if the issue was resolved.

Marketing services can take a variety of forms. Marketing efforts may include PR, trade magazine ads, a company's website, search engine optimization, trade conferences, and social media campaigns. Marketing decisions will differ based on the company and their market. However, every logistics company can benefit from testing and tracking the results of their marketing campaigns. There are several third party providers who can help with either marketing efforts or in measuring customer service and satisfaction.

Chapter 6:

Technology/ Web Services

Technology/Web Services

Technology / Web Services - EDI

This is an abbreviation for **Electronic Data Interface**. This is a generic term for the transmission of transactional data between computer systems. EDI typically occurs via a batched transmission, usually conforming to consistent standards.

Technology / Web Services - Enterprise Resource Planning (ERP)

Enterprise resource planning (ERP) is business management software that allows an organization to use a system of integrated applications to manage the business. ERP software integrates all facets of an operation, including product planning, development, manufacturing processes, sales and marketing.

ERP software typically consists of multiple enterprise software modules that are individually purchased, based on what best meets the specific needs and technical capabilities of the organization. Each ERP module is focused on one area of business processes, such as product development or marketing. Some of the more common ERP modules include those for product planning, material purchasing, inventory control, distribution, accounting, and marketing,

Technology / Web Services - Predictive Analytics

Predictive analytics encompasses a variety of techniques from statistics, data mining and game theory that analyze current and historical facts to make predictions about future events.

In the logistics and supply chain space, the goal is to capture patterns within large volumes of information to predict supply chain behavior and events—in effect, forecasting future demand based on past demand.

Using software (TMS, WMS, etc.) is the best way to capture data for analysis.

Logistics providers can use predictive analytics for a variety of reasons including: modeling total landed costs, assessing the liability of suppliers, or anticipating freight rate changes.

Service and technology providers understand the key to continuous improvement is the ability to gather data, measure performance, execute solutions based on performance, and raise expectations.

Technology/Web Services – Global Trade Management (GTM)

According to Inbound Logistics, **Global Trade Management** is defined as "the practice of streamlining the entire lifecycle of a global trade across order, logistics, and settlement activities to significantly improve operating efficiencies and cash flows."

It is no secret that globalization is increasing opportunities for global trade, and that global trade is more difficult and carries higher risks than local trade. Of course, businesses that can accomplish any logistics functions more efficiently are more likely to be successful, and global trade functions are no exception. For these reasons, GTM solutions are drawing more and more interest.

Many companies have taken on individual GTM projects. However, in order to be most effective, companies must streamline the global trade lifecycle as a whole, rather than as a collection of individual functions. For example, the financial and physical supply chains must be integrated in order for GTM to be effective. A GTM solution or 3PL specializing in Global Trade Management can help to integrate and streamline various global trade functions.

Technology / Web Services - Transportation Management System (TMS)

A **transportation management system (TMS)** is a subset of Supply Chain Management (SCM) software focused on transport logistics.

The TMS product serves as the logistics hub in a collaborative network of shippers, carriers and customers.

Common TMS software modules include: route planning and optimization, load optimization, execution, freight audit and payment, yard management, advanced shipping, order visibility, and carrier management.

Technology / Web Services - Warehouse Management System (WMS)

A **warehouse management system (WMS)** is a key part of the supply chain and primarily aims to control the movement and storage of materials within a warehouse.

A WMS monitors the progress of products through the warehouse. It involves the physical warehouse infrastructure, tracking systems, and communication between product stations.

Common WMS software functions include: shipping, receiving, putaway and picking.

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Technology/Web Services – Supplier Management

Supplier relationship management (SRM) refers to the systematic process of managing third parties who provide supplies or services to the organization. The purpose is to develop closer relationships with key players and to better leverage the strengths of those players. Individuals involved with SRM will review suppliers from the perspective of the overall business strategy. SRM sees the various business interactions with suppliers as several small pieces which build the relationship, rather than unrelated tasks.

Technology/Web Services – Customer Management

Customer relationship management (CRM) is similar to SRM, but it focuses on the company's relationship with customers and potential customers, rather than suppliers. There are several types of CRM solutions that focus on different aspects of the customer relationship. CRM may focus on customer service, customer appointments, or marketing to potential customers, among other things. Some solutions even integrate with various social media platforms. Companies may use CRM to build loyalty among high value customers, to track leads, or to gather customer feedback in order to make product decisions.

A software system or 3PL specializing in Supplier Relationship Management can help you to leverage this practice.

Technology / Web Services - Cloud Based Solutions

A **Cloud based solution** uses a network of remote servers hosted on the internet to store, manage, and process data, rather than a local server or a personal computer.

There are several benefits that cloud based solutions offer over computer-based software. Cloud based solutions do not carry the high upfront expense that installed software does. This makes them more accessible and can also reduce the time it takes for companies to generate a return on their investment. Technical support usually falls to the software vendor, rather than the user, which reduces internal IT costs. On the same note, there is no lengthy installation either.

It is also easier to work with suppliers or partners who are using different types of software. It is much easier for a supplier to access information through a cloud based solution than it would be to install expensive desktop software that they wouldn't otherwise use.

Cloud based software is also more flexible than traditional software. It is more easy and inexpensive to scale, since the company does not need to purchase additional servers as usage increases. It is also easy for users to customize the cloud based solution to meet their requirements.

There are several 3PLs and software companies that can set you up with various cloud based software to manage a number of logistics needs. There is cloud based software for your transportation management solution, warehouse management software, and for freight claim management, to name a few.

Technology / Web Services - Visibility

Visibility can be defined as the knowledge of where assets are at any given time. Assets may refer to inventory, or in the case of military logistics, they may also refer to personnel.

Other important elements of visibility are the knowledge of *requirements* and *processes*. The *requirements* tell logicians who needs what at a given time. The *process* is the actions that must be taken to reach a goal, such as a repair.

While visibility is generally a good thing, it is important to realize that providing too much visibility to people who do not generally need it can be overwhelming and actually hinder decision-making. Therefore, it is important for an organization to ask themselves who actually needs the information and provide it only to the people who will benefit from it.

It is also important to realize that different parties will have different visibility needs. An end-user will have different visibility needs than a shipper or carrier. In addition to supporting the needs of individuals in the supply chain, visibility information can also help to streamline logistics processes. Visibility can be improved by investing in software or a 3PL who specializes in this service.

Technology / Web Services - Wireless

Wireless technologies are becoming increasingly common in the supply chain. Here are a few of the technologies that can improve your supply chain efficiency and visibility. Depending on the type, you might decide to work with a 3PL specialist to help you implement the system.

Radio Frequency Identification (RFID) – This technology is the wireless non-contact use of radio-frequency electromagnetic fields to transfer data, for the purposes of automatically identifying and tracking tags attached to objects.

RFID is used to identify pallets or individual items. They are much easier and faster to use than bar codes, since they can be read through materials such as ice or paint, and in conditions such as fog. When a tagged shipment enters the warehouse, the information captured from the tags can even be automatically uploaded to the WMS.

RFID has many applications in logistics including: yard management, shipping, receiving, freight management, rail transport and distribution center management.

GPS Tracking – The mass availability of smart phones equipped with GPS has made tracking a fleet much more cost-effective. Besides reducing the cost of GPS tracking by 10 – 20 times, drivers often prefer using phones to other unfamiliar technology. Carriers can use GPS tracking to reduce fuel consumption. They can also provide customers with real time information on the location of their products.

All-in-One Handheld Devices – Drivers can use wireless handheld devices to scan delivered products, collect signatures, record transactions, and even keep track of their route for the day.

About the Author – Joe Lynch

Joe Lynch is the author of the **"3PL Definition Guide – 46 Logistics Support Services Explained."**

Joe is the General Manager of Rock Solid Business Solutions, a management based 3PL headquartered in Brighton, Michigan. Joe is also the founder of the logistics blog, TheLogisticsofLogistics.com.

Mr. Lynch has over 25 years of experience with automotive OEM's and tier 1 suppliers. He has held a variety of roles in: program management, product development, engineering, manufacturing, logistics and supply chain.

Prior to joining Rock Solid, Joe spent 3 years as the head of consulting at Applied Technologies, Inc. (ATI) where he led a number of initiatives within Chrysler. Projects included: lean strategy and implementation (value stream mapping), automotive module outsourcing strategy, best practice development and knowledge management (software). Earlier in his career he launched new vehicle programs in China and Thailand.

Mr. Lynch earned a bachelor's degree in Business Administration from Cleary University and a Master's degree in Education from the University of Michigan. His master's degree concentration was Adult Instruction and Performance Technology.

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