Guide To Transportation Management Software

A TMS (transportation management system) is a software platform designed to give shippers tools for control and visibility over their supply chains. This whitepaper is your ultimate guide to TMS, and how it can help you grow revenue, manage costs, mitigate risk, and gain efficiencies.

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INTRODUCTION

As technology has risen to the top of Chief Supply Chain Officer's (CSCO) initiatives lists, access and visibility to data have become a must-have. A Transportation Management System (TMS) is a software platform designed to give shippers tools for control and visibility over their supply chains. With functionality and resources for all supply chain stakeholders: transportation, warehousing, carriers, vendors/suppliers, purchasing, customer service, sales, finance, and the executive leadership team, a TMS provides a single platform to manage all logistics events in the life cycle of an order, both inbound and outbound. All stakeholders gain tools to become more efficient, agile, and aware of the flows of the supply chain with better and more accurate information for improved, more informed decision-making. TMS technology can help create a competitive advantage to grow revenue, manage costs, mitigate risk, and gain efficiencies that allow assets to be redeployed to more strategic areas of the business.

TMS CAN:

- Grow revenue

- Manage costs

- Mitigate risk

- Gain efficiencies
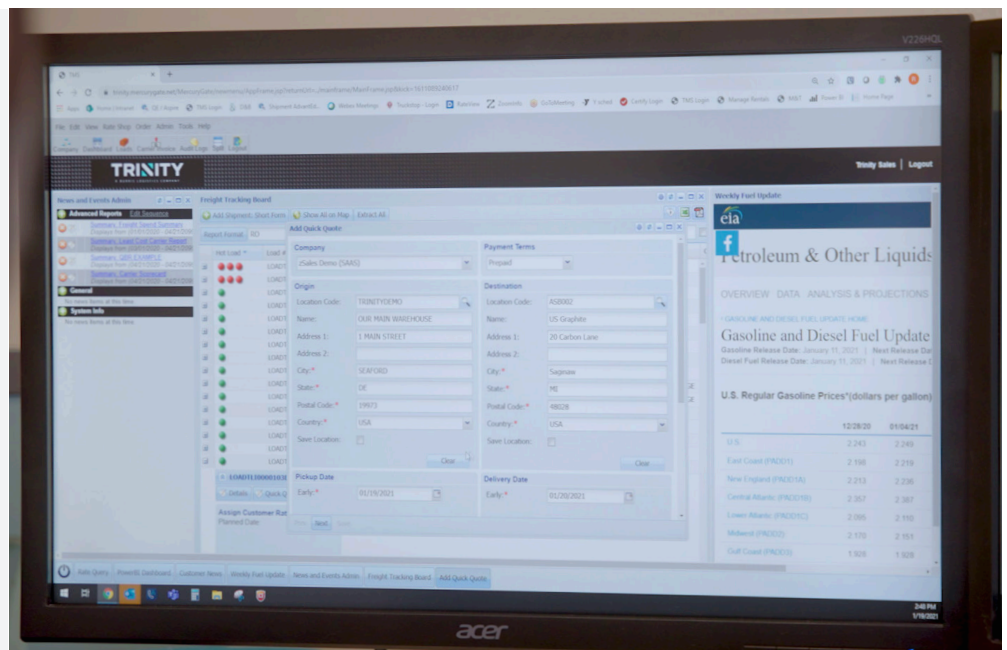
*Source: www.arcweb.com/sites/default/files/Documents/study-brochures/study-transportation-management-systems.pdf

TRANSPORTATION MANAGEMENT SYSTEMS (TMS) DELIVERY MODELS

Although technology is rapidly evolving and new disruptive ideas appear more frequently every day, there are two main types of Transportation Management System delivery methods: "On-premise Software" and "Cloud-Based Software as a Service (SaaS)." Let's go over the differences between the two delivery methods:

On-premise, or the traditional license and install model, requires shippers to install and maintain software in-house on their servers. On-premise is commonly known in the software world as a single-tenant platform as it is running one instance of the software serving one shipper/organization.

Cloud-based SaaS TMS, also known as multi-tenant solutions, are designed to run on a single server (the provider's cloud) and be used by a community of shippers. Shippers can access their TMS on any computer that has internet access without installing software, accessing a virtual private network or downloading plug-ins to do so.

TMS PROVIDERS TODAY AND IN THE FUTURE

TMS providers come in many forms, from multinational software conglomerates, to TMS specific companies, to third-party logistics (3PL) providers. The TMS provider landscape is ever shifting as new technologies emerge and old ones become obsolete, but as a general rule we distinguish two categories of providers, "Software" companies and "Logistics Solution Providers/3PLs".

61% increased customer satisfaction and reduced data errors through use of TMS.

(Aberdeen Group, May 2011. 191 Supply Chain Executives were surveyed)

TMS PROVIDERS TODAY AND IN THE FUTURE

Software Companies

While TMS has been around for years, more software companies are offering transportation management and optimization programs, allowing more options for companies looking to improve their supply chain efficiency. Software companies deliver TMS in both on-premise and cloud-based formats, either a module component or, more recently, more software vendors have started offering TMS as part of an on-premise enterprise resource planning software package.

Most TMS under this category are stand-alone models designed to integrate with ERP systems and purposed for connectivity with providers and vendors. Cloud-based TMS is a growing form as businesses, shippers, software providers, and 3PLs are finding value in being able to have access to their supply chain around the clock and in any location. Software companies are not transportation or logistics companies, which can have its advantages and drawbacks.

Logistics Solutions Providers / 3PLs

Third-party Logistics providers are major players in the TMS landscape. Some offer scaled-down "TMS" portals as part of their services with limited user interface and functionality to track shipments and pull active load information. 3PLs offering more of a "True" TMS platform allow users to push the buttons, driving the system for carriers. These offerings are somewhat unique but are becoming more prevalent. 3PL solutions typically deploy operations staff and account managers to offer support with capacity and bandwidth for TMS functionality. When working with a 3PL, shippers decide at implementation the amount of workload they would like to handle versus the amount the 3PL manages.

Companies saved an average of **11%** when choosing to outsource more of their operations beyond SaaS and saw an average of **6%** industry cost reduction.

(Third-Party Logistics Study: The State of Logistics Outsourcing 2014)

TMS PROVIDERS TODAY AND IN THE FUTURE

Emerging and Disruptive Technologies

Every day, emerging technologies and new ideas surface trying to find the hot, new, latest way to make logistics visibility easy and accessible. Most notably are the app-based TMS modules that connect carriers and shippers. While some circles are pushing this as the "next frontier" for capacity management and procurement, this approach is not aggressively taking the true TMS market from SaaS or On-Premise TMS solutions. These solutions have brought some serious players into the logistics technology, but are largely viewed as carrier connectivity tools and lacking the robust functionality required to optimally run a business.

FUNCTIONS OF A TMS

Visibility

Visibility to supply chain data and activity are main value drivers behind TMS and deriving ROI. Massive amounts of data flows through the supply chain. Some of it is captured in internal systems; some is housed in outside carrier and vendor systems; some never gets captured at all. And while connectivity and access to this data is an entirely different subject, visibility to activity is increased for both internal and external stakeholders. Shippers can see shipment activity to prepare and schedule labor for heavy or light dock volumes. At the same time, the end customer receives tracking links to carrier websites for location updates on shipments, Electronic Data Interchange (EDI) messages from carriers, or the updates can come from a direct application programming interface (API).

Reporting

Business Intelligence (BI) reports should bring meaningful and actionable visibility to data and trends. BI reporting drives cost savings and continuous improvement KPI measurements. Summary, exception, performance, activity, and advance reports all provide insight into supply chain performance, bringing visibility to data.

Operations

With TMS, shippers retain both the strategic and day-to-day tactical control over their operations. Employees of the company drive the logistics process through the TMS, starting with planning and carrier selection, through the entire order life cycle to invoicing audit and payment. In this environment of "True TMS," shippers are "pushing the buttons" and managing all the events of a shipment.

Optimization

Another common function among most Transportation Management Systems is the ability to analyze a batch of shipments based on a variety of sophisticated parameters in order to determine the most cost-effective route plan. TMS provides the opportunity to determine least cost mode,to analyze and plan routes, and the ability to analyze consolidation opportunities by marrying-up shipments into one load. The optimization engine of a TMS also allows for dynamic, static, and closed-loop routing.

Automation

Automation= efficiency! With TMS, no one is keying in orders. Not only does this save a lot of time because it pulls data from their system into the TMS, but it also minimizes the chance for keystroke errors, increasing accuracy.

Automation also eliminates manual processes, enabling the ability to do the following with the click of a button:

Rating: Enter shipment details and receive rates from the carrier base

Booking: Browse carrier rates and book loads through TMS

Tendering: Emailed/EDI/API tenders, customized tender documents, hassle-free responses

Tracking: Carriers can update loads, dashboard tracking available

Automation Continued

Auditing: Identify and reconcile invoice discrepancies, automatically approve and process matching invoices

Invoicing: Once information is entered, the user can generate invoices for any load at the click of a button, extract approved AP information to your ERP for payment processing

Reporting: Summary Report, Activity Reports, Performance, and Advanced Reports

TMS MODEL DIFFERENCES

While both models are designed to serve the same functions, there are some key differences in the two TMS models:

- How to pay?

- IT Resources - Implementation and Integration, Maintenance, and Updates

- Connectivity and How Information is Exchanged

45% saw an increase in perfect order fulfillment with use of TMS

43% saw a reduction in the cost to process a customer with TMS

(Aberdeen Group, May 2011. 191 Supply Chain Executives were surveyed)

PAY UPFRONT, PAY AS YOU GO, OR BOTH?

A very important consideration in choosing a TMS provider is the pricing mechanism for the technology. Often TMS costs are allocated to an IT budget rather than a freight/transportation budget. Other times they can be passed through to the end user in "Prepaid and add".

An on-premise TMS software package requires a large upfront capital investment to purchase the license for the software from the vendor. Original on-premise TMS options were expensive to implement and support, cumbersome and often underutilized, not providing the full value and return on investment (ROI). Today, although still very expensive, in the world of big data and analytics, a large expense for technology is much easier to justify.

On-demand models are typically offered via two different pricing structures. Many shippers prefer a subscription-based pricing structure where the client pays in fixed weekly or monthly installments. The second pricing structure is a transaction-based model, where the client only pays a small, per-load transaction fee for each order they move through TMS. With the rapid development of cloud-based, multi-tenant TMS, barriers of entry have shrunk considerably, allowing small to medium spend shippers ($250K-$5MM) to now take full advantage of TMS benefits of automation, optimization, visibility, and reporting. No longer are TMS solutions the competitive advantage and secret-savings weapons of the Fortune 500.

ON-PREMISE REQUIRES MORE INVOLVEMENT OF IT RESOURCES

The initial Implementation and Integration (I/I) process is a key differentiator in the decision between on premise and cloud-based TMS. Time to "Go Live" and internal resources required to launch and maintain the platform should be considered when looking at TMS providers.

With on-premise TMS models that are purchased from software vendors, shippers must purchase licenses and load the program on each user's internal computer. The software is then managed and maintained by the shipper's internal IT department. Updates are managed internally and upgrades to the latest versions are generally required every few years, which can be resource-intensive and costly to maintain. Timeframe from launch to Go-Live varies widely, from three to 12 months or longer, as multiple sites and customizations can require complicated I/I work.

Cloud-based TMS models are accessed online, allowing users to log on anywhere the internet and a web browser is available. These systems are managed and maintained by the TMS provider and updates occur constantly and automatically. Cloud-based models typically require six to 12 weeks from launch to Go-Live for I/I and have much less resource-intensive demands on internal IT departments.

CONNECTIVITY AND EXCHANGING DATA

TMS systems vary widely with regards to integration capabilities, and how and where data and information is exchanged. Creating integration points for pushing and pulling data files from internal ERP or WMS systems and 3rd party carrier and supplier sites to the TMS can require extensive IT resources and programming. Some TMS platform providers have preexisting feeds (EDI, API etc.) which can greatly reduce the resources needed for this piece of integration. Testing and mapping file extracts with multiple vendors, who are on multiple systems, is one of the main reasons for a delayed implementation and missing milestones.

CONCLUSION

Beyond efficiency, accuracy, and visibility, deploying TMS enhances and augments the supply chain partner's ability to interact and influence activity. Creating a connected, collaborative online community and providing value to your carrier base, suppliers, and end customers further strengthens those relationships and makes an organization more desirable to work with and for end users to buy from. Today, information is everywhere and available on-demand at the click of a mouse. With an increasingly competitive economy, the difference between success and failure can lie in the smallest of details, which makes visibility to trends and data even more crucial. Profitably growing and building your business and out-maneuvering the competition will require competitive advantages in several areas. We believe an agile, flexible supply chain is the ultimate weapon.

If you'd like to learn more about how Trinity's Collaborative TMS Solutions can help your business grow revenues, manage costs and risk while redeploying assets to more strategic needs, please fill out our form for a free supply chain analysis or learn more about our free TMS, the Trinity Customer Portal.