What Type of TMS Solution Is Best?

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Transportation Management Systems; Logistics

Overview

Shippers use transportation management systems (TMS) to reduce freight costs while maintaining or improving service levels. In recent years, a new style of TMS has emerged. Based on a multi-tenant architecture, these new

> There are two main types of TMS solutions. Which one is better? What are the pros and cons associated with the different types of TMS?

TMS solutions link transportation management planners to a wider community of carriers and shippers. This change complicates the buying decision. What are the pros and cons associated with the different types of TMS? Which style of solution offers better ROI?

Two Types of TMS

Historically, transportation management systems were based on the same architecture that most enterprise solutions still have. Traditional TMS solutions are single-tenant solutions; with the company's instance of the solution residing on their own servers or hosted by a service provider. No other shipper uses any portion of the software.

Multi-tenant solutions, another "flavor," have a single instance of the software that runs on a server, serving multiple client organizations (tenants). Multiple customers of that TMS solution hit the same software code base to manage their transportation. MapQuest provides a familiar example of a multi-tenant solution. When a user requests directions, he or she hits the same software code base as do many other users from many different companies. In other words, the software is not uniquely theirs.

But the newer type of TMS solutions, which we will call "community" solutions, have an additional characteristic. When users implement the solution they become connected to a larger network of carriers and shippers. A

shipper that buys a community-style TMS can be automatically integrated to tens of thousands of other carriers and other trading partners.

Community solutions also employ a multi-enterprise approach to master data. Once an entity (shipper, carrier, or other type of trading partner), location, or entity-owned supply chain asset is defined, that definition resides in the platform. Every participant in the community uses the same master data. In contrast, traditional solutions have their own distinct view of master data.

This common master data allows a common version of the truth. With a traditional TMS, a shipper may say, "This is what I believed happened to this shipment." Meanwhile, the logistics service provider's (LSP's) solution may be reporting a different version of that same shipment's history.

What Types of Solution Do the Leading TMS Suppliers Offer?

The chart below shows the top providers of traditional and community solutions for TMS planning and execution solutions according to ARC's recently completed TMS Market Outlook Study, which also includes a detailed look at the technology and the market and comprehensive profiles of all major TMS suppliers and their respective market shares in each category. The chart only includes solutions that offer rich optimization across all major modes of transportation. Since some suppliers offer both types of solutions, ARC has categorized vendors based on where they generate the bulk of their TMS revenues.

Traditional TMS	Community TMS
JDA	Descartes
Logility	LeanLogistics
Manhattan Associates	MercuryGate
Oracle	C.H. Robinson TMC
RedPrairie	Transplace

Leading TMS Suppliers by Type of Solution

What Type of TMS Is Better?

Key benefits delivered by a TMS include freight savings and supply chain visibility. Freight savings are generated through better procurement, optimization, and freight audit. To deliver these savings, a TMS must facilitate

electronic communication between shippers and carriers. The optimization engine must scale to handle large numbers of shipments or complex constraints. The TMS must provide business intelligence. Finally, the price of the solution and the types of complementary services a supplier can provide are also likely to be key decision factors.

Here is how ARC views the current comparative advantages of these different types of solutions.

Benefit Areas	Traditional TMS	Community TMS
Strategic Procurement	x	
Tactical Procurement		X
Completeness of Solution	x	
Scalability	x	
Optimization	x	
Freight Audit		X
Supply Chain Visibility		X
Electronic Communication		X
Business Intelligence		X
Price		X
Managed Services		X

Comparison of Community vs. Traditional TMS Solutions

In the table above, ARC shows advantages and disadvantages based on the type of solution on the whole. For example, in general, the leading suppliers of traditional TMS offer richer optimization. However, a particular supplier of community TMS may have very rich optimization.

While the chart shows that community solutions have a comparative advantage in more different categories, on average, traditional solutions still provide greater reductions in freight spend for their customers (see ARC's November 2011 Strategic Report, The Return on Investment for Transportation Management Systems). That is because the two benefit categories in which traditional TMS do better - strategic procurement and optimization - are the most important categories for driving down freight costs. Further, the largest shippers in the world use traditional solutions in the belief that multi-tenant-based solutions cannot scale to meet their needs.

What Type of Solution Will Be Better in the Future?

Currently, traditional solutions can generally do a better job at helping drive down a shipper's freight costs. However, the future may well belong to community solutions.

Community solutions are gradually closing the functionality and optimization gaps. Further, the biggest untapped savings opportunity in transportation involves reducing miles traveled in empty backhauls. While a TMS does help reduce empty miles, carriers still drive far too many empty miles on backhaul legs. Russ Meller, a Professor at the University of Arkansas, uses a US Department of Transportation statistics to show that 25 percent of trucks on the road are completely empty.

Shippers and transportation companies have experimented with collaborative backhaul programs. Today, most of these programs are based on logistics service providers introducing two of their shipper clients with potential network synergies to each other and suggesting that they might want to explore a collaborative backhaul program.

In the longer term, only community solutions offer the opportunity to reduce empty backhauls to a significant degree. Some community TMS suppliers are beginning to do beta development to solve this very difficult problem. Collaborating shippers would have to overcome trust and equity issues. Nevertheless, ARC believes that community solution are likely to deliver the next major freight savings opportunity in transportation management.

Recommendations

While ARC research shows that, on average, traditional solutions provide greater reductions in freight spend, potential buyers need to think carefully about their particular needs. For example, a particular shipper may not have a transportation network that will lend itself to a significant reduction in freight spend based on optimization. Thus, a big advantage of a traditional solution would not apply to them. On the other hand, this shipper might perceive great value from achieving better supply chain visibility; a benefit area associated more with community solutions.

Suppliers of traditional solutions will need to be able to also provide community solutions to maintain their market leadership. Some traditional

TMS suppliers have felt that it is enough to either acquire or partner with suppliers of business-to-business connectivity solutions. B2B suppliers such as CrossGate (acquired by SAP) and E2open (a partner to some leading TMS suppliers), do improve connectivity. However, some of the advanced functionality of community TMS can only be achieved with a platform that makes use of common community master data. In short, improved connectivity alone won't be enough to maintain a competitive advantage.

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