
White Paper

Adopting Web-Enabled Transportation Solutions

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Is There A Business Case Behind Adopting Web-Enabled Transportation Solutions?

(If so, how can you figure out what it is?)

Logistics has a significant affect on many areas of an enterprise. Depending on whether you are talking about a manufacturing, retail, or services company, logistics can have a significant impact on sales, customer service, procurement, production, and/or store operations. The approach you take in determining whether Web-enabled transportation solutions can be of value to your company depends, in part, on the type of company you work for and whether you are (or aspire to be) a V.P. of Logistics, V.P. of eCommerce, CIO, or CFO. All four perspectives need to be considered and integrated in order to arrive at a balanced answer to the question. Given the breadth of functionality offered by the many Web-enabled transportation solutions (e.g., planning, optimization, execution, supply chain visibility, reporting and analysis) the answer to the question is heavily influenced by the particular solution you are evaluating. The answer also varies based on whether you are considering an application service provider (ASP) or a licensed solution.

The complete business case behind Web-enabled transportation solutions is made up of more than numbers. There are components of the business case that are non-monetary in nature and others that cannot be accurately measured but must be considered nonetheless. Despite the cost-benefit forecast you eventually arrive at, the real focus of these initiatives needs to be on “benefits realization” (i.e., directly lowering your company’s cost structure and/or directly adding to the top line). There are both “content” and “process” issues inherent in answering this question. The content issues are the “what” portion of the right answer for your company. The process issues are the “how” portion of the right answer for your company. The process issues are often the most challenging because they relate to the approach required to navigate the various business functions and political perspectives necessary to get to the right answer. This article proposes a framework that you can use to better understand the what and the how portions of determining whether there is a business case behind adopting Web-enabled transportation solutions. The arguments both for and against these solutions are presented from the perspectives of the various stakeholders in the decision.

The V.P. of Logistics’ Perspective

The V.P. of Logistics is going to be primarily concerned with service levels and budgetary issues. Logistics is an important services organization in most companies. Internal service levels need to be met or exceeded in order for manufacturing and warehousing to work properly. External service levels need to be met or exceeded in order for the company to meet its obligations to vendors

and customers. With the logistics function often being viewed as a cost center, the V.P. of Logistics is responsible for managing the ever-shrinking budgetary allocation made for personnel and systems. Depending on the particular company's situation and the solution being evaluated, several benefits and costs related to Web-enabled transportation solutions are likely to be of primary concern within the logistics function.

Benefits

- **Process Savings** – Many of the execution-focused transportation solutions offer significant labor savings to their users. These savings generally come from automating traditionally labor-intensive functions (e.g., load tendering, dock scheduling, and shipment tracking). These savings can be realized by reducing the labor required to perform today's work load and/or being able to scale volume in the future without increasing headcount.
- **Freight Rate Savings** – Planning-focused solutions, such as those that help combine multiple less-than-truckload shipments into truckload shipments or those that help create continuous moves for carriers, can have a significant positive impact on a company's transportation costs. Those solutions that offer eRFQ, group buying, and real-time market pricing features can potentially help to lower freight rates in certain lanes and/or control the escalation of freight rates over time. If a particular company operates a private fleet, similar solutions can help make better use of its transportation assets by giving it first right of refusal on loads before tendering them to common carriers.
- **Other Budgetary Savings** – Reducing dependence on EDI technology can reduce the variable charges associated with using value-added networks (VANs) and, over time, possibly eliminate some of the fixed charges associated with VANs. As more and more routine functions are automated and executed through the Internet, overall telecommunication charges can be reduced as well.
- **Better Access To Information To Facilitate Reporting And Analysis** – A benefit that can be harder to quantify is the access that many of today's transportation solutions provide to data and analytical tools. Many logistics functions are becoming metric and measurement-intensive organizations. This focus on performance measurement validates the importance of access to comprehensive operational data and the tools to analyze and interpret it. As more routine logistics tasks become automated, more operational data is captured, and personnel within the function can spend a greater percentage of their effort on higher value added activities (e.g., measurement, analysis, and decision support).

- **Ability To Better Manage Service Levels** – Other company functions, vendors, and customers are becoming increasingly sophisticated and demanding with regard to service level requirements as they relate to logistics. Companies lacking in tools to help manage and meet these requirements often have to add labor to the equation to keep pace or simply fail to keep pace. Many of the execution-focused transportation solutions provide help in this area through event-driven statusing of transactions (e.g., ANSs and PODs), self-service capabilities (e.g., allowing the customers to track their own shipments), and exception reporting to draw attention to problems in high-transaction volume environments. Such tools can provide the means to meet or exceed service levels as well as the ability to document your company's performance.
- **Benefits For Your Company's Transportation Service Providers** – Many of the execution-automation, self-service, and status-visibility features offered by Web-enabled transportation solutions benefit shippers and their transportation service providers. Note that full realization of many of these benefits is dependent on the ability of Web-enabled solutions to integrate with the business systems used by your service providers. This is a critical area to investigate when evaluating potential solutions. In an environment where there is increasing pressure on your carriers' profit margins, these benefits may provide your company some advantage in terms of increased service levels and/or cost savings from your service providers.
- **Learning How To Incorporate eCommerce Into The Logistics Function** – Whether or not electronic commerce has over promised and under delivered, or simply gotten off to a slow start, most experts agree that it is a fact of life and your company's dependence on it is going to increase in the future. As with the advent of ERP systems years ago, there is some benefit in embracing aspects of new technology early and experimenting with how you can apply it within your organization. Until you begin to get your feet wet with Web-based technologies, it can be difficult to gain real insight into the application and associated benefits of these technologies within your organization. No less real, but much more amorphous, are the growing promises made by collaborative commerce (so-called cCommerce). The full benefits of cCommerce are not expected to be realized in the near future, but it is not too early to begin thinking about how your company can benefit through tighter collaboration with its business partners.

Costs

- **Implementation Costs** – There are start-up costs associated with any new solution. The obvious costs include the cost of the solution itself (whether ASP or licensed), integration costs (if any), training, and necessary changes to your technical environment (e.g., new servers and PCs). These costs are relatively easy to identify and plan for. Perhaps the most difficult cost to

estimate is the cost associated with integrating the new solution with your current business systems. This may or may not be necessary depending upon the type of solution you select. Begin the analysis of integration feasibility and cost early in the evaluation process.

- **The Cost Of Change** – The costs associated with change are harder to quantify, but no less real. Management time is required to evaluate and select solutions, effort is required to plan and manage the implementation of the solution, and some disruption is inevitable during the start-up phase of the initiative. Assessing the costs of change is really more a matter of determining whether you have the time required to manage the change process. You often have latitude in deciding how large an initiative will be. If you cannot dedicate the time to a company-wide change initiative, you might find that you have time to start and manage a pilot initiative at one or more locations. Be sure to align the scope of change you are trying to effect with your ability to manage that change.
- **Risk To Established Relationships With Service Providers** – The implementation of some Web-enabled transportation solutions can ultimately affect your company's relationship with its transportation services providers, for good or for bad. Some solutions are specifically designed to bypass transportation brokers. If you are not ready to fly without the safety net provided by your brokers, think about how to approach the implementation of this type of solution in order to mitigate risk to your company. Other solutions are designed to reduce the labor required to operate the logistics function. If that labor is currently provided by a third party (e.g., third-party logistics provider), how will implementing such a solution affect your relationship with that service provider? Implementing these solutions can be a win-win situation for companies and their transportation service providers. Some care should be given to considering this topic when evaluating and selecting solutions.
- **Business Risk Associated With Adopting Solutions From Emerging Companies** – Many of the Web-enabled transportation solutions available today are being offered by companies that did not exist a few years ago. There is some risk inherent in being an early-adopter of any solution and in working with emerging companies. This risk can be mitigated by performing proper due diligence on these companies prior to adopting their solutions. Another way to mitigate risk is to require a company to put the source code for its solution into an escrow account so that it is available to your company in the event the solution provider fails to remain a going concern. Being an early-adopter of a solution can be turned to your company's advantage in terms of the significant price concessions that solution providers often make to "marquee customers."

- **Potential Short-Term Risk To Service Levels** – Almost all change initiatives experience a few bumps in the road. These are to be expected and can be planned for and reduced to an extent. But, given the critical services provided by the logistics function, significant effort should be given to contingency and back-up planning prior to switching over to any new solution.

The V.P. of eCommerce's Perspective

The V.P. of eCommerce (or equivalent) is in a similar situation as the CIO was 15 – 20 years ago. Not all organizations have one, and among those that do the expectations of the position and the position description can vary widely. In some organizations the V.P. of eCommerce is a staff position with thought leadership and advisory responsibilities and in others it is a function with “go-no-go” authority over projects and the application of resources. In those organizations that have named a V.P. of eCommerce, or have an unnamed equivalent, this individual is motivated to facilitate the organization’s use of eCommerce either as a revenue enhancement or cost reduction tool and to help foresee and mitigate the risks associated with this use.

Benefits

- **Quick Traction For eCommerce Initiatives Within The Company** – Given that many of the Web-deployed transportation solutions are focused on cost and somewhat narrow in scope, these solutions will often be a bit easier to get up and running than other broader eCommerce initiatives. Getting companies off the starting blocks quickly with regard to eCommerce can have a positive collateral effect throughout the organization. Many of the lessons learned from undertaking a modestly sized eCommerce initiative in the logistics function will be directly applicable to other initiatives in other functions of the company. A newly minted V.P. of eCommerce may see the selection and deployment of a Web-enabled transportation solution as an attractive early foray into eCommerce, particularly if the solution being considered is offered by an ASP and can be brought on line relatively quickly.
- **An Early Win For The eCommerce Group** – An early win in the logistics organization can serve as motivation to explore eCommerce initiatives elsewhere in the company. This is particularly true given the growing number of stories about the “mixed results” offered by some eCommerce initiatives.

Costs

- **The eCommerce Group May Not Be Invited To Participate** – In some companies, the eCommerce group (if one exists) may or may not be invited to participate in the evaluation and selection of Web-deployed logistics solutions. This is all dependent on the tenure and role of the eCommerce group within an organization and the rules of engagement regarding the

sponsorship of eCommerce initiatives. If the solution that is selected is available in an ASP mode, the normal IT procurement process may or may not come into play. Also, the normal capital approval process may or may not apply to an ASP solution. It is quite possible for many such solutions to get up and running in some way, shape, or form without significant IT involvement and without a significant capital outlay. The full benefits of these solutions probably will not be realized without greater eCommerce or IT involvement. But, by this time, the logistics function may have already committed to using a particular solution.

- **The Initiative May Not Fit Within The Overall Plans And Priorities Of The eCommerce Group** – If there is an organized eCommerce function/effort underway in your organization, it may or may not have targeted the logistics function as a test bed for new initiatives. Given that the logistics function generally has not been the recipient of the latest and greatest technology over the years, it is likely that eCommerce initiatives in the areas of procurement, customer service, and/or sales might be prioritized higher than similar initiatives in the logistics function.
- **The eCommerce Group May Need To Dedicate Staff To The Initiative** – Even if the logistics function is toward the top of the list with regard to starting points for eCommerce activity, and/or your organization takes a somewhat opportunistic approach to eCommerce initiatives, limited staffing in the eCommerce group may make it difficult for that group to participate meaningfully in new initiatives. This participation can be critical in order to ensure that a given initiative supports overall company goals with regard to eCommerce and that lessons learned from one initiative are shared throughout the organization.

The CIO's Perspective

The CIO is often concerned with the application of technology either as one of the driving forces behind an organization's business strategy or, at a minimum, as a supporting element of that strategy. The CIO is also responsible for ensuring that the organization has a strong and stable technology platform/architecture, safeguards its information assets, chooses prudent technology business partners, and takes care of a host of other critical activities. Therefore, the CIO is certainly going to have opinions and concerns about eCommerce-related activities, particularly those that may result in partnerships with emerging technology companies and/or decisions to host key applications externally.

Benefits

- **The Ability To Better Meet User Needs For New Applications** – Many of today's ASP solutions related to transportation and logistics offer users quick

access to relatively narrowly defined system functionality. It is likely that these solutions are not a 100% answer to anyone's problems but they may help solve greater than half of any given business problem. These applications are available now, and when accessed in ASP mode, can be up and running relatively quickly. This provides a stopgap answer to urgent user needs for technology. Getting up and running quickly with a partial solution will better position an organization to understand what the complete solution needs to be down the road. Also, accessing a solution in ASP mode can help alleviate the need for the infrastructure and support resources needed to host a solution internally.

- **A Way To Ease Into Development / Use Of Web-Enabled Applications** – Licensing an emerging software solution, or accessing it in ASP mode for a period of time, will increase an organization's familiarity and comfort with Web-enabled solutions. Partnering with a solution provider to license and customize its solutions to meet your company's needs can be a great way for a traditionally mainframe or client/server-oriented IT organization to enhance its skill set. Whether the "make-versus-buy" decision related to a given solution ends up "buy" or not, working closely with a Web-based solution provider can benefit an IT organization in terms of better understanding the functional, architectural, and integration-related issues associated with these solutions.

Costs

- **The Need To Support New Technology Platforms** – If an organization chooses to license and host a Web-enabled software solution, this may result in the need to support new technologies. For example, a given solution may operate best on a Sun Solaris™, Oracle 8i™ platform but these may be unfamiliar technologies to a given organization. At a minimum this will result in the need to train existing resources to be able to support and maintain this application and it might result in the need to hire additional resources (e.g., an Oracle™ database administrator). Although a given application may be beneficial from a user's perspective, it may make IT support and maintenance more expensive. This is particularly the case in the arena of Web-enabled solutions where technology standards are still emerging.
- **Potential Risk Associated With External Hosting Of Mission-Critical Applications** – If an organization chooses to operate a given solution in ASP mode, as opposed to licensing it, there can be risk associated with hosting mission-critical applications externally. The ASP company may or may not apply the same rigor and professionalism to the operation of its system as the organization would. The reverse of this situation is that many ASP companies have invested heavily in world-class infrastructure and support with the thought of amortizing these costs over a large customer base. This might result in an organization having access to a more robust technology

platform and production environment for its ASP'd applications than for the applications it owns and operates itself.

- **The Need To Perform Technical Due Diligence On Potential Solutions** – Even if a user organization decides to sign up for and utilize a “simple” ASP solution using its own budget and resources, the IT organization is obligated to at least perform some cursory due diligence, ensuring the solution meets minimum standards in terms of security, scalability, performance, and reliability. The resources of an IT department can be easily strained performing the technical due diligence required to keep pace with solution selections conducted by user organizations.
- **The Need To Assign Resources To The Effort From An Integration And Support Perspective** – Once a Web-enabled solution is selected, whether to be licensed or operated in ASP mode, some commitment of IT resources will likely be required. In order to get the full benefit from many ASP solutions, some form of integration is often needed between the solution and a company's other business systems. This will inevitably involve internal IT resources. Even if a solution is licensed and hosted internally, effort is required to set up the technical environment for the solution, install the solution, and ensure that it is operating properly. There is also ongoing effort required to support the solution in production, periodically upgrade the solution, and potentially extend its functionality to better meet user needs.

The CFO's Perspective

CFOs are concerned with the wise use of an organization's limited financial resources both in the short and long term, as well as ways in which the organization can decrease its operating costs and/or increase its revenue. These and other issues create an interest on the CFO's part with regard to the adoption of Web-enabled solutions.

Benefits

- **Budgetary Reductions** – Many of the Web-enabled solutions related to transportation and logistics are focused on costs. Such solutions can help reduce an organization's dependency on labor for routine, repetitive tasks, allowing organizations to maintain and increase service levels without significantly increasing costs. The transaction-automation and self-service nature of many of these solutions can result in significant cost reductions for companies. These cost reductions can be expected to increase as the benefits of collaboration among business partners become better understood and more real.
- **Benefits Realization** – In addition to helping to analyze and plan for cost savings associated with new technologies, the CFO's organization is often

responsible for tracking the realization of those savings. Many impressive business cases have been written and approved that have resulted in little financial benefit to the organization. The CFO's organization is uniquely positioned and equipped to track and assist with benefits realization activities related to these types of initiatives.

Costs

- **Actual Cost Of The Solution** – Some care needs to be taken when calculating the total cost of ownership associated with operating a software solution in ASP mode versus licensing the solution. The result of this analysis will depend upon such things as the ASP pricing structure offered, the license and maintenance fee structure being offered, the terms of the contract related to converting an ASP agreement to a licensing agreement over time, an organization's anticipated usage of a solution (e.g., volume and number of users), and the accounting treatment of the various ownership options. These issues, as well as others, need to be taken into consideration before adopting a given solution.
- **Other Incremental Costs Associated With A Solution** – In addition to the method and price associated with obtaining the right to use a given solution, there are other costs potentially associated with implementing the solution. Some of these costs will differ based on whether a solution is operated in ASP mode or whether it is licensed. Care should be taken to put together a complete business case before adopting a solution. This business case should take into consideration the need for additional hardware, operating systems, and databases; incremental training for the IT department and/or increased IT staffing; integration of the new solution with existing business systems; and the need for end-user training.
- **Business Risk Associated With The Solution** – The CFO's organization is well positioned to help perform financial due diligence on potential business partners, determine risks associated with a potential relationship, and develop strategies to mitigate these risks.

Other Perspectives

As stated earlier, logistics can have a significant impact on the functioning of sales, customer service, procurement, production, and store operations. Each of these functions, and potentially others, has a stake in the adoption of new transportation solutions. For example, what if the company is generally pleased with the new transportation solution it has selected and implemented, but during the first few weeks of utilizing the solution there are hiccups that result in customer service suffering? Customer service should have been involved at least to the extent that it was prepared for potential problems as the solution went live. Where possible, the best approach to evaluating and selecting a solution

would be to involve all affected departments as long as this does not unnecessarily extend the evaluation and selection process. In order to successfully manage the change associated with adopting these solutions, and to mitigate the risk to the enterprise associated with this change, the perspectives of the various constituencies need to be considered.

The Solution Provider's Perspective

Sellers of Web-enabled transportation solutions would generally prefer to sell their solutions more quickly and to larger companies than more slowly and to smaller companies. In addition, many of these solution providers are smaller, emerging companies for whom revenue recognition and cash collection is particularly important. Therefore, emerging software companies often focus on selling to larger customers. This focus on large customer sales provides the smaller company the following benefits:

- The price tag on large-company solutions is generally much higher than the price tag on smaller company solutions.
- The sales cycle for an emerging company may not be appreciably longer with a large customer than with a smaller customer.
- Operating in a large-company environment is often a much more legitimate “proof of concept” for a new solution than operating in a small-company environment.
- Large companies can often serve as “marquee customers” for emerging companies, participate in press releases, and provide favorable references.
- The “network effect” of selling to a large customer can be much more powerful than selling to a smaller customer, particularly with regard to transportation-related solutions. For example, a large company is in a much better position to help proliferate solutions into its vendors’ and customers’ operations than a smaller company.
- The business case for adopting the solution is often much more compelling to companies that have a larger scale of operations than for those with a smaller scale of operations.

When emerging software companies target larger customers, they insert themselves into the decision framework and processes described in this article. This can often result in a Catch 22 situation. For example, if a solution provider starts selling to the V.P. of Logistics it may alienate the CIO’s organization. If it starts selling to the CIO’s organization, it may alienate the V.P. of Logistics’ organization. If it starts selling to either of these organizations, it may alienate the V.P. of eCommerce’s organization. Emerging software companies trying to gain acceptance for their solutions within large companies often have a long and difficult path to travel.

An Integrated Decision Framework

The most complete answer to the question of whether there is a business case behind adopting Web-enabled transportation solutions in your company comes from a blending of the perspectives discussed above. This blend is depicted in Figure 1. The content issues related to making this decision are relatively easy to understand. The more challenging aspects of the decision are the process issues involved (i.e., how to solicit and incorporate the various perspectives and arrive at a consensus with regard to how to proceed). The logistics function or an organization's eCommerce committee (if one exists) may be best positioned to drive the evaluation process. It is difficult to argue with a user-driven evaluation process led by the logistics function. But, an organization's eCommerce committee may have more of a "license" to work across functions to solicit and synthesize opinions. Input from third parties such as consultants or analysts that follow the software industry may also be beneficial to the decision making process. Once a decision to move forward with a solution has been made, a cross-functional team comprised of representatives of the various constituencies of an initiative should be formed to help steer the initiative. The implementation process might also benefit from the assistance of external consultants or a third-party facilitator.

Conclusion

Many of today's Web-enabled transportation solutions are still emerging and are essentially "point solutions" (i.e., they have a relatively narrow breadth of functionality). In a world of point solutions it is often preferable to take a best of breed approach to solution selection. If you are looking for a 100% end-to-end solution offered by a single provider, you will be looking for quite some time. Look for functionality that is of use to your organization with an eye toward integrating it with other available solutions as well as your existing business systems. Do not spend too much time "thinking" when evaluating potential solution providers. You will find that your organization will benefit more from starting several tightly scoped and managed pilot programs than from engaging in a protracted and overly formal selection process. The "ready, fire, aim" philosophy can be readily applied to this problem without exposing your organization to unnecessary risk. The best way to find out if some of today's Web-enabled transportation solutions will benefit your organization is to try them on a small scale and see for yourself.

About The Author

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Figure 1. An Integrated Decision Framework

The perspectives of all constituents should be taken into account when assessing the value of Web-enabled transportation solutions to your organization.

