

Decoding TMS Software:

# The Business Case for Build Vs. Buy



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# Introduction

A Transportation Management System (TMS) is a must today. You can't operate your supply chain profitably without a TMS to provide visibility into shipments from point of origin to end customer. Today's most successful logistics service providers (LSPs) rely on a modern TMS to improve efficiencies, reduce manual costs through automation and improve customer satisfaction with better on-time-in-full (OTIF) rates and communication.

[Learn more about TMS here.](#)

Supply chain disruption isn't going to end soon. Current challenges include geopolitical upheaval in both Ukraine and the Middle East, global inflation, peak demand for essential goods, supply shortages and more. End-to-end visibility, communication and analytics are critical to supply chain operations, especially transportation organizations like 3PLs and freight brokers. Inefficient logistics technologies only heighten this challenge.

**Trying to solve that technology challenge leads many organizations to ask, "Should we build our own TMS in-house or buy an off-the-shelf solution?"**

Increasingly, the answer is "buy." Continuous innovation is the key to overcoming market challenges — but that's a lot more difficult with an in-house solution when software development isn't your core business. Forward-thinking freight brokers and 3PLs have turned to the latest Software-as-a-Service (SaaS) and cloud delivery model TMS vendors to keep up with the latest tech like AI and machine learning so they can focus on what they're best at: moving freight efficiently.

In this playbook, we'll explore the options, costs and risks of building vs. buying your TMS.





## Why Do Logistics Organizations Choose to Build Their Own Software?

For many companies, the answer is control. When considering an in-house solution versus an off-the-shelf product, many businesses assume that staying in-house means they'll decide which features they deploy and how those features will be prioritized. They may also worry about the opposite with a pre-built solution: not having a role in the development process and being unable to dictate the project's direction.

But this perception is misleading. Once you start adding people and processes to the software development project, you can't maintain control over every aspect. That's the nature of software engineering and project management. Timelines slip, projects go over budget, and problems arise that require setting a new course. That's why studies consistently find that up to 80% of software projects fail.

**Only 1 in 200 projects were able to meet both time and budget goals while delivering expected benefits.**

Source: Unlocking the potential of public-sector IT projects, McKinsey

In fact, according to [McKinsey research](#) conducted over the past decade, IT projects overall went over budget by 75%, went over time by 46%, and delivered 39% less value than the organizations predicted.

The truth is, in-house systems increase operating costs by requiring full-time integration, configuration, maintenance and continued development. Building software is a complex process that can lead to further system siloes within your organization. These siloes can impede communication and collaboration and limit your business efficiency.

At the same time, disruptions and fast-changing technology keep changing what counts as table stakes in a TMS solution. Just one example: according to KPMG, [50% of supply chain organizations will invest in AI and advanced analytics tools through 2024](#).

The SaaS market is expected to grow from \$317 billion in 2024 to more than \$1.2 trillion by 2032, according to [Fortune Business Insights](#). That fast growth rate puts SaaS vendors in a much better position to develop new capabilities with more robust ROI than a supply chain organization can build on its own.



# Understanding the Limitations of Your Tech Stack

Your organization may have an excellent suite of systems in your tech stack. But if those systems can't make data accessible to all stakeholders in your supply chain (both internal and external), you'll struggle to achieve maximum performance and ROI.

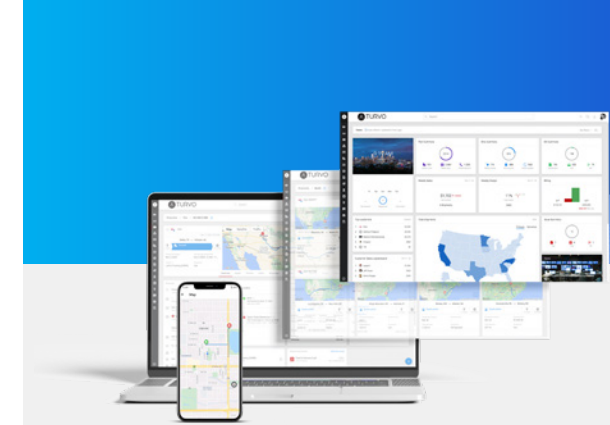
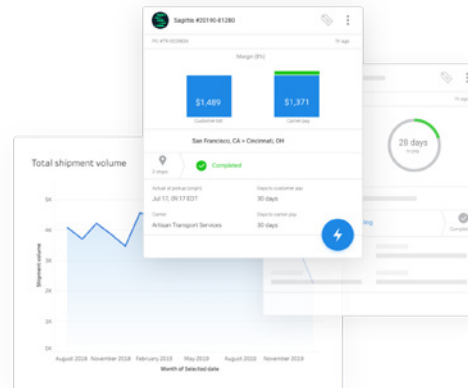
Here are just two examples of supply chain issues caused by underperforming, disconnected tech:

## 1. Inconsistent inventory data and inventory forecasting.

Over- or under-reporting inventory levels leads to problems in managing inventory replenishment and the cause out-of-stock problems. Inventory inaccuracies can also cause challenges with storing freight, managing cash flow and maintaining quality and consistency of the order fulfillment timeline.

## 2. Inability to guarantee and meet on-time delivery.

A clear and transparent process for sharing shipment information with real-time status updates (including possible changes to the ETA) for all deliveries is crucial for a shipper to provide a positive customer experience. Home-grown solutions often struggle with collecting and processing external data required to provide this real-time status.



## Advantages of Partnering with an Experienced TMS Vendor

- ✓ Reduced operating costs
- ✓ Decreased total cost of ownership
- ✓ Decreased time to pay back
- ✓ Increased return on investment
- ✓ Focus on core competencies rather than IT
- ✓ Scale without additional IT spend
- ✓ Higher user adoption
- ✓ Modern integrations to maximize your current tech stack value

# 3 Challenges of Self-Built TMS Solutions

## CHALLENGE 1:

### Software Development and Maintenance is Outside Your Core Competency

Building your own solution may seem like a one-time investment versus paying for a monthly software license – but over time, the costs of building, supporting, maintaining and upgrading that software add up. It also pulls your focus from your main area of expertise. Software isn't a set-it-and-forget-it tool. Industry trends change, technology evolves and new regulations get introduced, all of which may require a partial or complete overhaul of your solution, far sooner than expected.

An early problem you'll have to overcome to build your own TMS is finding and attracting the right talent for the project. "Many of the brightest minds in the technology space are addicted to solving big, meaty problems," says Andy Miller, Senior Solution Engineer at Turvo. "Your bespoke logistics solution is usually a much smaller-scale project than what attracts those experts."

As a supply chain organization, you have different expertise than a dedicated software firm. If someone asks the CEO of a brokerage where to hire an operations manager or how long it should take to build a shipment, they can answer that question easily because it's part of their core business. But if you ask that same CEO where to hire a backend engineer or how long it takes to build a user interface (UI), they'll have to do a lot more research to answer.

**"One of the biggest challenges of an in-house platform is that software is not your core focus as a company."**



**Andy Miller**  
Senior Solutions Engineer, Turvo



## CHALLENGE 2:

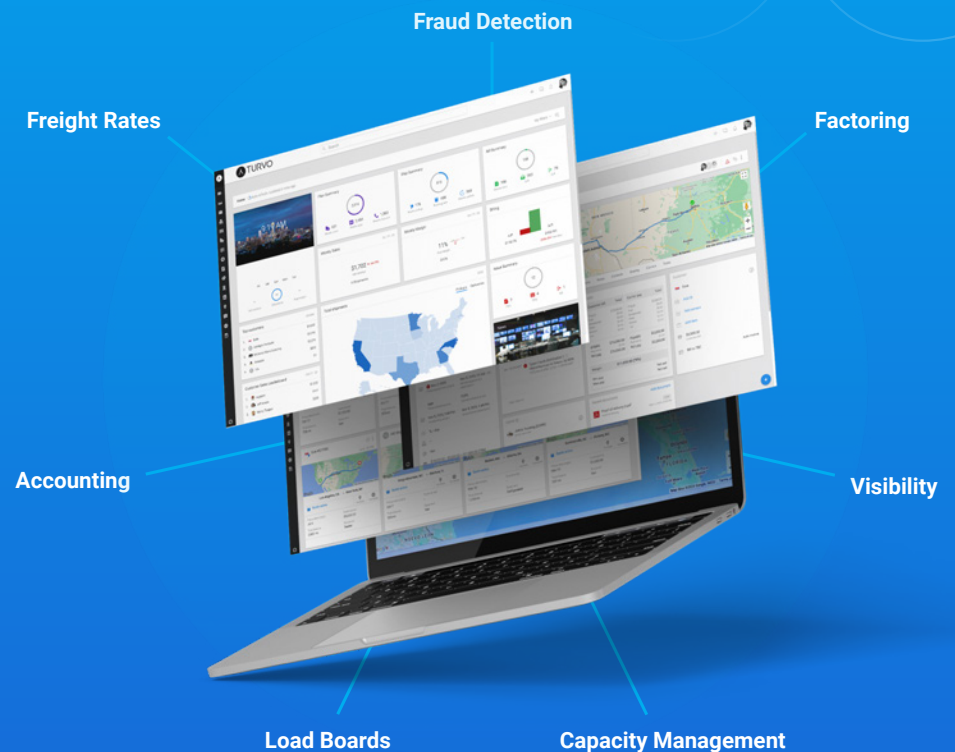
### In-House Systems Struggle to Keep Up with Evolving Needs

When software development isn't your organization's main focus, you might only develop new features incrementally, which puts your business behind during periods of rapid change or miss out on new opportunities.

New technology emerges all the time, and adjusting your in-house system to communicate and work with that new tech can be difficult, if not impossible. That's a big deal when you're trying to compete or build into new markets using systems that can't integrate with your outdated TMS — at least not without a lot of time, effort, and cost.

No single TMS can solve all your problems, whether you build or buy it. Accessing and sharing modern APIs for easy integration with industry-leading solutions is critical. As your home-built tech falls out of date, the inability to connect technology creates data silos around your TMS. These silos limit automation, increasing manual tasks which lead to more errors and costs, ultimately slowing your business.

Your TMS should accelerate growth, not create roadblocks. A TMS hosted in the cloud uses APIs for easy integration with other systems, such as load boards, accounting apps, IoT devices and business intelligence tools.





### CHALLENGE 3:

## The Cost of In-House Software Usually Exceeds Expectations

While many companies considering their own TMS development focus on the upfront cost versus the potential costs over time of a purchased solution, they often miss some of the expenses that arise when building your own system. These include on-site servers or cloud hosting services, ongoing maintenance/IT costs and developing new features to keep up with industry trends.

But the biggest potential for unforeseen (and often devastating) costs is having outdated or subpar cybersecurity. If your system goes down or is hacked, you can face huge losses, both in system downtime and in repairing the damage. **It's unlikely your in-house software has the same level of security as a SaaS solution built by a software company dedicated to safety and functionality across their customer base.**

Catering to that wide customer base also means software vendors are held to higher standards than in-house solutions. You don't necessarily have to maintain security operations center (SOC) compliance for your own software — but a dedicated software company needs that and other certifications to prove its solutions are secure.

This focus on security is critical. Ransomware, which is just one of many forms of cybersecurity risk, is expected to cause about \$265 billion in annual damages by 2031.

**One of the most notable ransomware attacks was against Colonial Pipeline in 2021, resulting in a \$4.4 million ransom payout, of which only about half was recovered.**



# Benefits of Buying a TMS Solution

Along with benefits covered earlier in this playbook, off-the-shelf TMS solutions also offer:

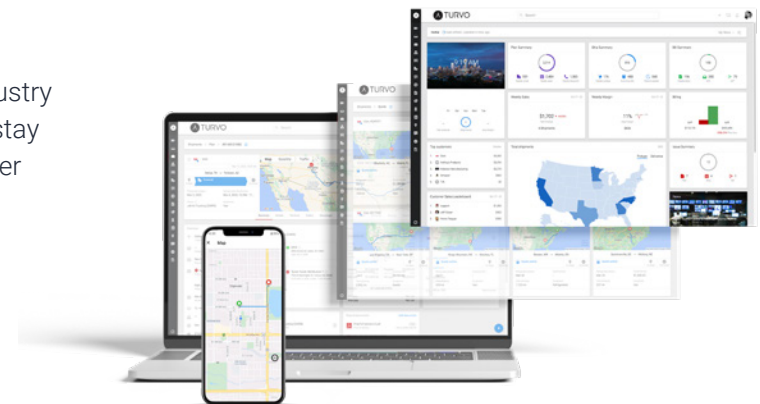
**Speed to market.** You can implement your new tools now instead of months or years from now when your software development is “complete.” (Tip: it’s never complete.) You also get the newest tech as it becomes available because the vendor constantly updates their solution.

**Ease of integration and collaboration.** Using EDI or API, a purchased solution can “talk” to most modern systems, preventing data silos. Streamlined data sharing allows for better collaboration across organizations and partner networks.

**Compliance.** As regulations change or other industry requirements come up, software vendors must stay up to date. You won’t have to worry about whether your solution complies with industry standards.

**Cost.** While it may seem counterintuitive during the planning stage, buying a SaaS solution and leveraging the vendor’s staff, product experts and infrastructure often ends up being more cost-effective overall.

**Scalability.** What happens when technology changes a year or two from now? Maybe security protocols changed, or you just want to expand, but your software can no longer add new customers. A solution that’s automatically updated by the vendor solves all of these problems.



# What to Look For When Choosing a Vendor and TMS Software

When evaluating a TMS software vendor, go beyond the basic capabilities of the solution like planning, executing and settling shipments. Are there additional charges for some services or features? Can this software support not only today's needs but also tomorrow's? Do you have a good relationship with the vendor's team? If you don't like working with your sales contact or you don't feel you're getting much attention during the sales process, it's only going to get worse once they've got the sale.

Look for a vendor with a proven track record of pushing updates that keep their software relevant and useful as technology changes.

Finally, look for a software partner with supply chain experience and modern UI that works for staff, partners, carriers, and customers. If the UI is confusing or unpleasant to use, you'll have a harder time getting everyone on board and adopting the platform.

Recognized TMS vendors have endured the process of onboarding carriers, LSPs, shippers, and supply chain partners. So they have experience getting other people to use the system and maximize its return on investment (ROI) and have flip-the-switch integration and implementation capabilities.





## Ensuring a Smooth Implementation of Newly Purchased Logistics Software

OK, you're convinced: a purchased TMS solution is the way to go, and you've found the perfect vendor. How do you smoothly roll out this solution to your business?

It starts with buy-in at the leadership level. You need a strong business case, such as avoiding lost revenue or increased costs if you don't make this happen. When everyone understands the business need and the potential consequences of not implementing this solution, you can get stakeholder buy-in across your organization.

You also need a clear project management outline, along with designating a project champion who ensures all milestones are hit on time. Create a core team of subject matter experts who will spend several hours each week during implementation going through training and setting up your TMS with the configuration and features your company needs.

Prepare and cleanse your data — customer lists, carriers, locations, a year of shipment data — and get rid of duplicates so you have a clean dataset to transfer to the new software. If you just pull all your bad, duplicated, inaccurate data from your current system into the new software, it's going to feel like you haven't made a change at all.

Finally, alert your third-party systems that you're implementing a new TMS. This helps check whether all your tools work with the new software. You may need new credentials or to pay an integration cost to get everything working with the new system.

## Conclusion

Building your own TMS may seem like the perfect way to get a customized solution for your unique business needs, but it requires a lot of expertise your business likely doesn't have, so you'll have to hire the right talent to get the job done. Even then, maintaining a system that allows you to grow your business without technological friction can be unexpectedly costly – and you may end up wasting tens or hundreds of thousands of dollars for a purpose-built system that doesn't fulfill its purpose.

Only a tiny fraction of built-in-house software projects succeed in terms of cost, time and expected function. That's why a pre-built SaaS solution is a much better choice for the majority of supply chain organizations. Let the vendor worry about development, security and upgrades so you can focus on making your customers happy.

**Connect with Turvo to learn more about how your logistics business can seamlessly connect the people and systems in your supply chain with modern TMS for real-time visibility and collaboration.**





### About Turvo:

Turvo provides a collaborative Transportation Management System (TMS) application designed specifically for the supply chain. Turvo Collaboration Cloud connects freight brokers, 3PLs, shippers, and carriers to unite supply chain ecosystems, delivering outstanding customer experiences, real-time collaboration, and accelerated growth. The technology unifies internal and external systems, providing one end-to-end solution that streamlines operations, enhances analytics, and automates business processes while eliminating redundant manual tasks. Turvo's customers include some of the world's largest Fortune 500 logistics service providers and shippers as well as small to mid-sized freight brokers.

Turvo is based in Dallas, Texas, with offices in Hyderabad, India.

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