

Measuring what matters

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Terminals are continually pressured to increase the efficiency of how goods are moved. As such, operators must be able to obtain and leverage insight from data quickly to make decisions that impact their business and customers. But how can this be done when terminals often lack the infrastructure and resources necessary to sort through terabytes of data, the majority of which could change several times within a day? The secret lies in creating a well-formed data strategy that can inform decision-making and ensure smooth operations across ports and the broader supply chain.

The big buzzword that comes across most frequently when I speak with customers is “optimization.” “We want to optimize.” “Your software should optimize our operations for us.” “We want to be fully optimized within the next five years.”

But what does this actually mean? What stands behind “to optimize your terminal’s operations?” Because each facility operates differently, and because they are unique snowflakes per se, their definition of optimization and data strategies need to be unique.

A data strategy is a framework that a terminal develops to effectively manage, use, and leverage its data assets to achieve business objectives. Some of these are tactical, like keeping gate turn times below a certain threshold, while others are strategic, such as minimizing unproductive moves to maximize margin. A good data strategy outlines business goals and offers a comprehensive roadmap for how a terminal should use and share its data across the organization and with customers and vendors.

As I write this, a copy of John Doerr’s *Measure What Matters* is staring at me from my bookcase. In this seminal tome, he introduces the concept of Objectives and Key Results (OKRs) for setting clear and measurable objectives across the organization, providing alignment, transparency,

accountability, adaptability, and perhaps most importantly, focus. A good data strategy starts here, identifying what matters, why it matters, and with what frequency decisions on that data need to be made.

The right data, at the right time, in the right place

Terminals are swimming in transactional data. This type of data records specific interactions or events, such as a gate-in, a container’s location, or equipment move instructions. This information matters in the moment and can be used to guide hour-to-hour, day-to-day operations.

Compare this to master data, core information about vessels, berths, equipment, terminal layout, customers, employees, and container data like the number, owner, type, and status. Master data is pretty stable; it doesn’t change frequently, compared to transactional data like a container’s location, which could change daily.

There are other data types, but let’s keep it simple and start there. So, the big question is whether these types of data are suitable for analytics. The assumption I see many terminals make is “yes.” And with that, they start building data warehouses to gather all of the information that the terminal produces, hoping it will eventually lead to some insights.

It is a fair assumption, and companies in other industries started with this same assumption many years ago. Still, they quickly learned it was a costly, time-consuming affair that produced minimal results. Why? It ignored Doerr’s advice: measure what matters.

Analytical data is structured specifically for analysis and reporting. Analytical data is what belongs in a data warehouse, and through its specific data lineage, it is the data used to compute it. Doesn’t this mean all data? Absolutely not! It’s only the data that matters to that specific terminal – that the terminal is using to make decisions.

The best data initiatives start simple, are time-boxed, and are tied to a specific, measurable business outcome. Resist the temptation to boil the ocean; start small and get results – fast. In this way, a terminal optimizes its operations, one OKR at a time.

The value of real-time data – and a warning about AI

A data strategy often relies on real-time data to provide accurate and timely information on events happening throughout a terminal. Real-time data becomes available as events unfold with a few seconds of minimal delay. It is a valuable measure in a data strategy because it gives insight into recent and present events and helps organizations anticipate future moves.

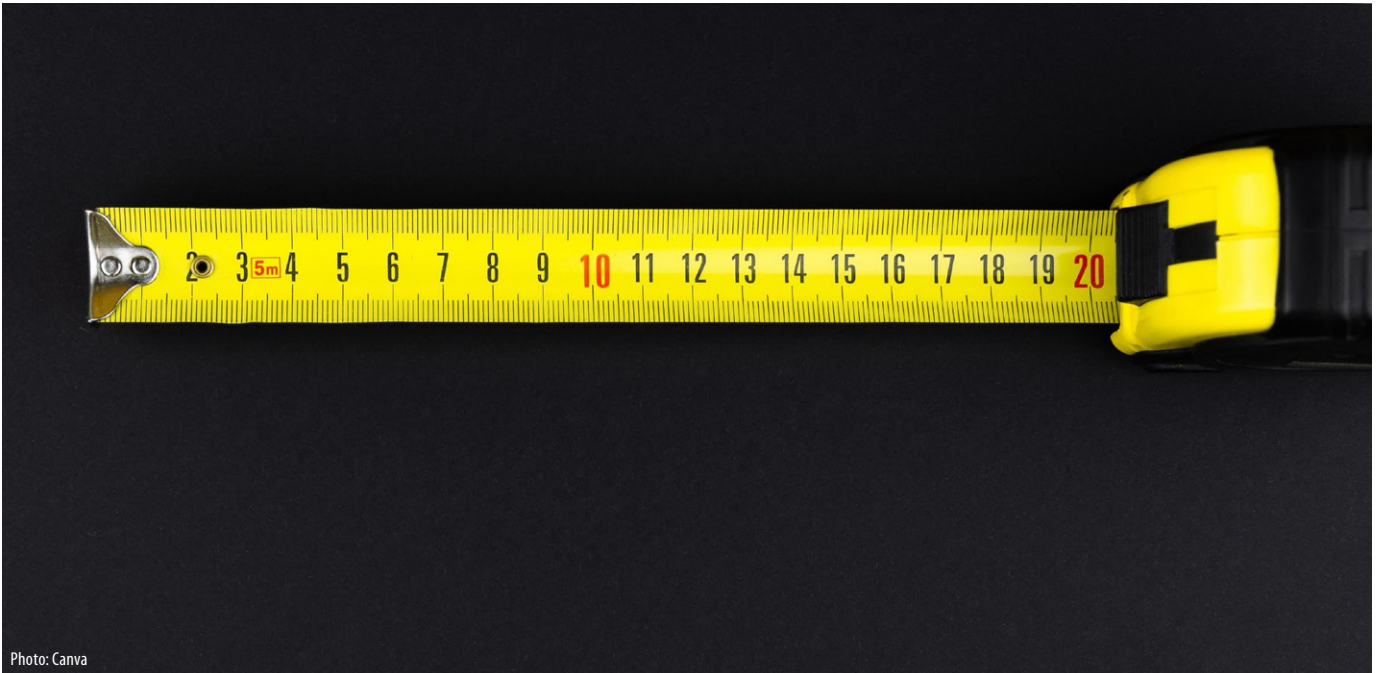


Photo: Canva

And there's the gazillion-dollar data strategy word: anticipate. So, let's talk about Artificial Intelligence, or AI, those two enchanting letters representing the magical black box for quick and easy optimization. Where does AI fit into a terminal's data strategy?

While AI can certainly uncover hidden insights in large data sets and apply predictive analytics and machine learning models to forecast trends and outcomes, it should be considered a piece of your strategy but in no way a substitution for it. A magic bullet is just that, magic, and without the work to identify OKRs, your various types of data and its lineage, and then applying the people, processes, and systems to govern that data, ensuring its quality and integrity, your AI initiative is sure to fail.

We have all heard the adage 'garbage in, garbage out,' and so without an effective data strategy already in place, how could you possibly trust in the results of AI? For any strategy to succeed, there must be rules and processes: cue data governance, one of the critical steps in defining your data strategy.

Creating a data strategy

Terminals can begin by following six key steps to optimize their data assets and implement a data strategy effectively.

First, organizations must have a firm understanding of their business objectives and ensure that their data strategy aligns with these goals. This alignment makes sure the organizations directly tie their data strategy in a way that aligns with how their business runs and how they interact with customers, partners, and the broader supply chain.

Second, connecting with technology providers and key decision-makers is important to understand existing philosophies. Including them in the data strategy will make sense because it will likely benefit and optimize how their solutions serve the business and its customers.

The next step involves assessing the organization's current state of the data itself and data management. This assessment entails identifying any organizational issues, such as data inconsistencies or duplications. A thorough evaluation of existing data use and management will help uncover potential challenges that might obstruct data utilization. These challenges include data silos, where valuable information is not easily shared or accessible across the organization, hindering collaboration and decision-making, and workflow challenges, where there are difficulties when designing, implementing, or optimizing the processes and steps involved in handling, transforming, and analyzing data.

Fourth, following the data assessment, organizations must create and implement data governance practices that will be utilized throughout the organization's data strategy. A data governance framework will ensure that all data is secure, compliant, and high-quality.

Fifth, the terminal's data strategy is taking shape at this point. Now, the terminal can create an implementation roadmap, defining how and when it will enhance its business strategy with data and equip its various teams with a tactical approach to managing current and future data streams and avoiding common challenges in data management.

The last step in implementing a data strategy is the assignment of ownership for each aspect of the data. This step entails designating individuals responsible for various stages of the data process, ensuring accountability, effective management and consistency throughout the data lifecycle.

Empowered

A well-structured data strategy, rooted in real-time data and clearly defined practices, empowers terminals to make informed, timely and secure decisions. A data strategy can help terminal operators use existing technology resources to address congestion and capacity changes where access to timely and standardized data is essential. With a cohesive data strategy, companies can harness the power of data to meet short- and long-term goals and adapt to evolving industry dynamics. ■



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