RETAIL LOGISTICS:

Are Your Supply Chain Gaps Cutting in to Your Margin?

RETAIL LOGISTICS: PREVENT MARGIN LOSS BY IDENTIFYING SUPPLY CHAIN GAPS

Business As Usual (BAU) is now subject to so many disruptions that "abnormal" is the new normal. Today is very different from three years ago; imperfections that you could get away with then you can't now.

Have you considered how vulnerable to disruption and fragmented your supply chain is? More importantly, how much money are you spending to shore up the gaps?

This paper addresses four key topics:

1   **Planning silos and the benefits of removing them**

2   **Why supply chain planning and execution need to happen in real-time**

3   **The hidden costs and inefficiencies of using spreadsheets**

4   **Why a Digital Twin of your supply chain brings value**

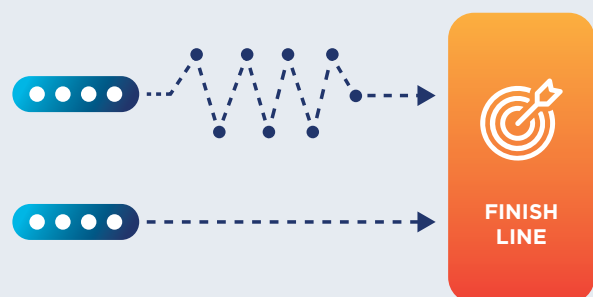# SILOS AND WHAT HAPPENS WHEN WE REMOVE THEM

Planning with silos

Imagine running your supply chain without connected teams and data, as it was a mere 25 years ago. Teams were not connected, organizations did not have an overview of their operations, data was mostly pen and paper and a week latent, and therefore out of date. In order to manage the sheer scope and complexity, planning puzzles needed to be broken into smaller components resulting in the creation of silos. As a result, many organizations struggled to have a complete overview of their operations.
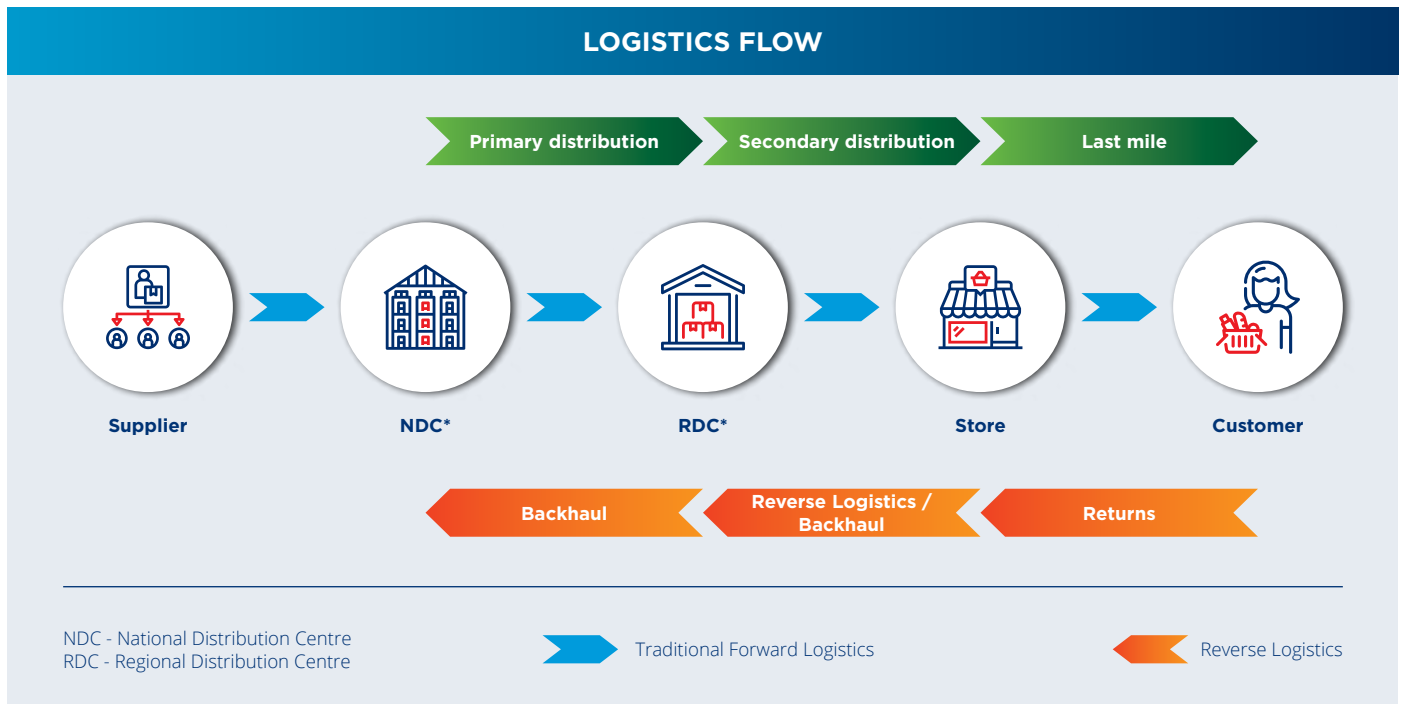
But has your organization really changed as technology has evolved? In many cases, small team silos plan individually, passing data between the teams, via email, and even on pieces of paper such as warehouse pick notes or Microsoft Excel spreadsheets. These copies of data inherently introduce latency and are frozen at the point of creation. This exposes the outmoded concepts of localized thinking and planning. The modern supply chain needs to work without silos, so each stakeholder has the same, live, and consistent information to facilitate the well-oiled machine.

Siloed planning is akin to participating in a boat race without a coxswain onboard to synchronize the rowers and provide navigation. With each person reacting differently to change and choosing their own path, over time the vessel goes off course covering a greater distance with less momentum, eventually coming last in the race.

FINISH LINE

SILOS AND WHAT HAPPENS WHEN WE REMOVE THEM

Supply chains are complex, with many links forming that chain, each link exchanging data with the others. Even when we think we can identify the links in the supply chain, they are often their own sub-chain. For example, within logistics it is common to see planning, execution, depot/warehouse management, HR/Roster planning, yard management, etc. Each link has its own planning puzzles (such as distribution and reverse logistics) and is often a closed box to other teams and stakeholders.

LOGISTICS FLOW

Primary distribution → Secondary distribution → Last mile

Supplier → NDC* → RDC* → Store → Customer

Backhaul — Reverse Logistics / Backhaul — Returns

NDC - National Distribution Centre
RDC - Regional Distribution Centre

Traditional Forward Logistics

Reverse Logistics

A plan should not be stale. Once made (or even while it's being made), your plan starts to become stale. When this is handed off to the next link in your supply chain, it can no longer be altered since the next link/team is already building their plan based on it. This handing-off is an example of a gap in your supply chain that you shore up by spending money in execution, and when disruption occurs yet more money is poured into the gap in an attempt to address it. Gaps between planning teams and operational silos mean frozen data is exchanged between them, and opportunities for savings are lost. Fortunately, vast improvements can be made simply by removing silos in planning.

Planning without silos

Silos are often created because the puzzle (supply chain) has been too complex to solve in one go. Historically, the technology was not there to solve the bigger integrated supply chain challenge. Traditionally, almost any plan available in time has been acceptable, even if it has needed hours of manual reworking supported by yet more Excel spreadsheets and localized knowledge. Silos by their very nature, mean that visibility is reduced, which in turn affects the implementation of standards. Each silo has its own rules, planning style, and goals which results in local KPIs which do not align with other silos. With only localized planning tools, silos are an environment for localized spreadsheet growth that constrains your operation.

Maybe the way you plan is not that much further forward than 25 years ago, with localized planning teams working in their own way. This is certainly a long way from a central planning team who all understand and work towards corporate standards and goals.

Breaking down the walls of silos enables live data to flow across your organization, allowing information to be standardized and shared. You can empower employees, and instead of each silo working in isolation, they collaborate as one body.

Using the capabilities of a true end-to-end supply chain Digital Twin, you can model the entire supply chain while allowing stakeholder groups such as primary distribution, secondary distribution, and warehouse to connect to a single version of the truth. Having this unified approach to the supply chain with clear goals and a way of measuring the plan's quality requires working with real-time data that considers primary KPIs, such as Lowest Cost To Serve and On Time In Full, while also considering secondary KPIs like overtime.

Your Digital Twin needs to talk your language, so it must work with your KPIs. By defining rules to balance the KPIs across your entire supply chain, planning decisions can be optimized. Solutions can be found that balance the needs of all supply chain stakeholders and obey your corporate rules and goals with global deliverables, not local costs in the silos.

When data flows, you can drive secondary benefits, such as reducing the number of yard movements and dedicated resources. Furthermore, having a live plan removes the "over the wall" handover approach. By connecting planning and execution, you retain the value generated through both planning and execution.

Imagine if your pick rate plan was synchronized with your transport plan and your yard activities aligned with your transport plan — what would you save?

WHY SUPPLY CHAIN PLANNING AND EXECUTION NEED TO HAPPEN IN REAL TIME

Retail supply chains are 24/7 operations. However, they often run on different "time zones". For example, stores have operating times and delivery restrictions, data is only available after certain times, the warehouse cannot start to pick until the transport plan is available, and transport execution cannot start until the warehouse pick is underway. The concept of planning based on days can be traced back to the thought processes of 25 years ago. Planning should not be an exercise that takes hours and starts after a certain trigger. Execution should not need to take isolated decisions that affect the viability of the following day's plan being produced in parallel.

In a 24/7 operation, discussions about different start times represent another gap in your supply chain that you shore up by spending money. Simply having a continuous rolling plan can remove this gap and help you overcome the different "start of day" times in different parts of the operations. For example, transport's day might start at 6:00 a.m. so that trailers can be loaded based on a warehouse start of day of 3:00 a.m. and a store start of day of 8:00 a.m.

This "day-based" thinking also causes issues within silos. For example, a planner's day starts once data becomes available, and the plan's deadline is when execution needs to receive the plan. Once this goes to the execution team, they often rework the original plan using local knowledge and spreadsheets. However, what happens in execution when an inbound trailer is not there because the once-a-day plan did not consider a change that had to be made in parallel by the execution team? The warehouse would have to split the load, leading to more yard work and an extra trip that disrupts the store. In some cases, it means needing to spot hire a subcontractor or spending more on agency resources to cover the inefficiency. These hidden costs are required to shore up the gaps in your supply chain.

WHY SUPPLY CHAIN PLANNING AND EXECUTION NEED TO HAPPEN IN REAL TIME

By breaking the limits of siloed thinking, you can gain various synergies throughout the retail supply chain, including:

More efficient use of bottleneck resources

One example of a bottleneck is that your double deck trailers used for inter DC movements could also be used for deliveries to larger stores. By breaking the silo, you can plan to balance your trailer stocks, not just at the end of a day's plan but continuously over a rolling horizon. It also enables you to look for ways to be more efficient such as using the overnight trucking trailers during the day or advising the warehouse on when to unload a trailer to ensure it's available in the trailer pool for its next trip.

Improving trailer stock management

This can only work when transport makes clear requests of DCs and depots, with ways to monitor the performance of those locations in meeting those requests. The plan must also consider the needs of the DC or depot to ensure that the correct trailer balance is maintained.

Better interactions with stores

The same approach also applies to interactions with stores, wherein planning and execution must consider the store's individual needs. This involves planning around other deliveries to a store, avoiding the store's peak times, or finding efficient ways to plan reverse logistics from the stores. All of these represent various constraints within a plan. Some are hard constraints such as trailer access; others may be soft constraints contributing to KPIs such as on-time delivery percentages.

Reducing dependency on agency and third-party resources

We've all seen depots where transport and warehouse teams still communicate by paper and email, resulting in more gaps that can cost you money. By removing these gaps and ensuring the execution team is kept updated, they can proactively reduce disruption while ensuring the warehouse is aware of the transport team's actions so they can better fulfill, pick and put away. By adapting this "linked up thinking", you can reduce the number of assets you need as well as your dependency on agency drivers, workers, and subcontractors.

SPREADSHEETS COST YOU MORE MONEY THAN YOU THINK

Traditional planning solutions such as Excel spreadsheets are no longer suitable for solving today's complex supply chain challenges. The fragmentation of planning systems severely limits visibility, control, and business potential. This often results in making isolated decisions which are inefficient, inaccurate, and add unnecessary costs.

According to the 2020 State of Retail Supply Chain Report, 61.5% of supply chain professionals in retail and manufacturing still rely on Excel.[1] Often created as someone's pet project, spreadsheets exist outside of IT support, and contain outdated information. However, spreadsheets cost your business money, as studies have indicated — 88% of spreadsheets contain errors, and the majority are human errors.[2] For companies, especially larger ones, even small errors can result in losses ranging in millions of dollars and ruin a professional's reputation and career.

Spreadsheets are so flexible and configurable that they become an easy solution to paper over gaps in your supply chain planning. But they were never designed to be an enterprise tool that's connected to a live data stream. Additionally, people forget why they put things into spreadsheets. They become unmaintainable and inherit a god-like status. Spreadsheets can be a convenient tool but cannot and should not be the basis for running a business, especially when used as a sticking plaster.

In many ways, spreadsheets can cost rather than save your organization money. They are able to contain data and information, but that is not enough. We need to progress to knowledge and — through continuous improvement — wisdom.
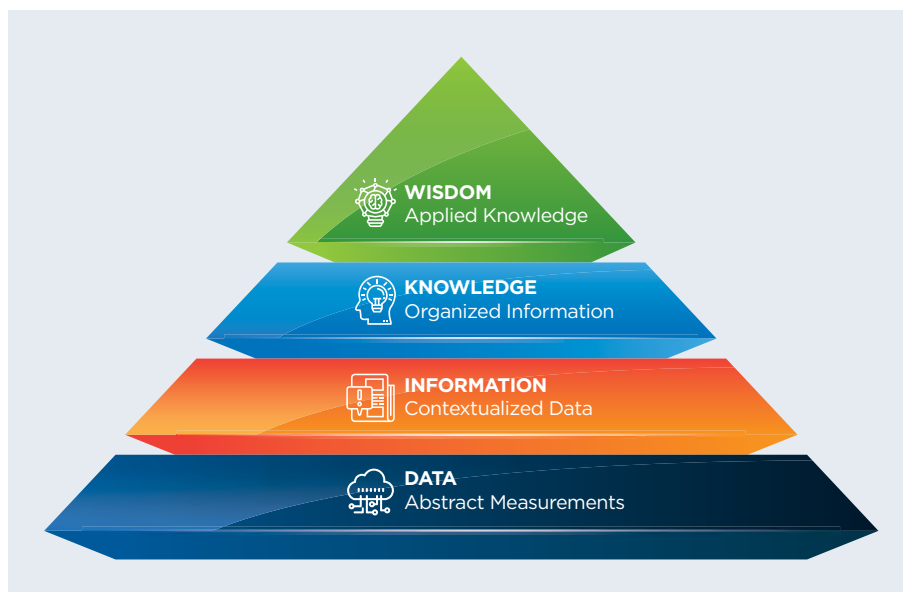
Instead of wasting precious time figuring out what all the data means, a Digital Twin should support with knowledge, propagation, decision support, and optimization. This means that both experienced and new stakeholders can shift their focus to maintaining and improving operations, allowing them to take any disruption in their stride while ensuring they deliver the highest level of customer service at the lowest cost.

[1] "2020 State of Retail Supply Chain Report". Reuters Events.
     https://www.reutersevents.com/supplychain/supply-chain/new-report-efts-2020-state-retail-supply-chain-report

[2] "Sorry, Your Spreadsheet Has Errors (Almost 90% Do)". Forbes.
     https://www.forbes.com/sites/salesforce/2014/09/13/sorry-spreadsheet-errors/?sh=1162c75456ab

WHY A DIGITAL TWIN OF
THE SUPPLY CHAIN BRINGS VALUE

Execution teams are normally poorly served with planning tools hence the proliferation of local fixes. They might track vehicles, but do they know the impact of a delay and of the decisions they make to solve an issue? And what does it cost you?

We often see delivery windows being foreshortened and stop durations extended due to legacy thinking and inaccurate calculations. When stop durations are calculated, for example, in 30-minute increments, and time to unload is deducted both from the time window end and the latest arrival time, this can be the difference between needing extra agency or sub-contractor resources or saving that money. However, not allowing this extra time runs the risk of failing your SLAs, creating a catch-22 where planners don't have the time to work to this level of detail and execution are unable to react to change. Hence, the need for a Digital Twin of your real-world operation to accurately calculate stop, journey, and turnaround times.

A Digital Twin should be a perfect fit for your logistics, not a 'make do and fix' version of an imprecise plan. Benefits of the Digital Twin include:

Models your real-world scenarios accurately

A Digital Twin models your real world, using your timings/capacities, etc. It evolves with you, can learn from the data, and can be tuned by the planners so that as new services or processes are added, the Digital Twin can model the impact in advance.
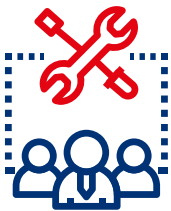
Everyone involved can easily collaborate on the same platform

The execution team is normally only fed historical data, such as a vehicle's last-known location and arrival/departure times. However, planning and execution need to use the same Digital Twin to look forward and collaborate on the same rolling horizon. The execution team needs the same decision support as planners to help them make the best possible decisions when making changes. Suppose you have an integrated supply chain with no gaps and the addition of automatic propagation, which reflects all changes across the planning horizon, so your execution team has an up-to-date view and can start to be proactive. Imagine what you could save.

For example, a driver running 10 minutes late is one thing. Knowing if they will make all their deliveries on time and if the tractor, trailer, and any product will be back in time for their next trips is the important piece. With a Digital Twin, both your planning and execution teams can adjust the plan, ideally with the planning solution making suggestions and presenting them against KPIs and constraint warnings so they can work in unison with the rest of your supply chain. Additionally, they'll meet your corporate goals, knowing that the solution has checked every aspect of, and propagated every change across the plan — the Digital Twin will have ensured the results are correct to your logistics "real world".

A unified source of truth for corporate goals and rules

If you were a progressive company 25 years ago, you might have used spreadsheets to work out your fleet and trailer requirements. These were estimates based on guesswork. In reality, you need to create the plan using your operation's "real-world" rules and goals. This enables you to drill into the details, compare scenarios, use and analyze each KPI, as well as propagate changes across the scenario to perform stress tests and ensure you understand how peak times will work.

The Digital Twin is the correct residing place for the local knowledge held in spreadsheets so it can be centrally managed, made available to all, and be correct to your corporate rules and goals.

Adapt quickly to changing business needs

As "abnormal" is the new normal, are you ready for the changes that affect your current and future operations? On-time and in full (OTIF) is no longer sufficient. You need to not only be able to demonstrate Corporate Responsibility but also show that it is at the heart of your organization and planning KPIs.

When you set sustainability targets, optimization and the Digital Twin mean that you can produce a baseline case of where you are now, set your targets of where you want to be, and quantify them against your other KPIs, again making sure that you do not spend unexpected amounts shoring the gaps in your sustainability plan.

We already know that governments are targeting that all new lorries run on electricity by 2040. To protect your stakeholders and shareholders, you need to be ready for the changes that will be needed across your supply chain.

To do this, you need to ensure maximum efficiency from an integrated supply chain and have the systems in place that will enable you to make that transition. In a nutshell, no more legacy thinking based on inefficient gaps and burning diesel.

CONCLUSION

Having a disconnected supply chain can lead to dire consequences for your business, especially when each function is allowed to continue to operate separately and focus solely on activities that benefit only one aspect of the business. These consequences range from revenue loss to poor performance and customer dissatisfaction.

With an integrated supply chain that allows for continuous optimization combined with a Digital Twin, you can assess the gaps in your current operations and plan for your future operations to deliver on customer satisfaction and prevent revenue loss while growing your business.

HOW THE LOGIC FACTORY CAN HELP

From defining and aligning the supply chain vision and how to get there, winning stakeholder engagement, determining business and data readiness for new supporting technologies, and scoping business value, we're here to assist.

To learn more, contact us to find out how The Logic Factory planning consultants can facilitate making your technology solutions relevant for your business.

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