Improving supply chain performance with the Law of Marginal Gains

Introduction

Supply chain businesses operate on fine margins. Sustained cost pressures ushered in by megatrend disruptors, rising freight costs, surging shipping volumes, bottlenecks, and transportation labor issues have created burdens that can significantly chip away at profits. On top of that, operational constraints experienced by supply chain logistic providers may limit the implementation of newer technologies like end-to-end visibility or predictive ETAs, which could provide new insights.

In response, companies must find ways to drive new efficiencies and squeeze more cost from their existing supply chain logistics operations year after year. But this becomes increasingly challenging for many companies to do on their own within complex and dynamic supply chains.

That's where location data and technology come in.

As the world's #1 location platform, HERE can help you pull the right levers to reduce supply chain risk and cost – fueling sustainable operational improvement, customer satisfaction and financial performance – whatever the level of sophistication of your supply chain operations.

Often, it's the compounding of several small, incremental changes across the supply chain ecosystem that yields monumental performance improvement results. The powerful impact generated from small, targeted changes across multiple facets is known as the Law of Marginal Gains.

The first step in achieving these gains is a matter of identifying which metrics to optimize and their interdependencies, which is simple but not easy.

With deep expertise in supply chain logistics, HERE can help you identify where you are in your logistics journey and what steps to consider to advance to the next level of maturity, automation, and efficiency. We can assist you in laying the building blocks for a transformational roadmap that will lead to realizing your longer-term business vision.

Let's explore the state of the supply chain logistics operations and how location intelligence can increase performance through incremental gains.

Small changes produce big results

Sir Dave Brailsford, former professional cycler, MBA holder and coach of the British cycling team, introduced the concept of marginal gains to a team that had won only one gold medal in 76 years. He suggested that if the team broke down everything that goes into competing on a bike, and then improved each facet by 1%, they would realize a significant aggregated performance increase.

It became a path to success – and not just for the British cyclists who dominated the Olympic and Tour de France podiums. A broad range of global organizations across industries have deployed the methodology of marginal gains achieving dramatic improvements.

A reality check – where are we starting from?

Every logistics organization, whether a shipper, carrier, 3PL, 4PL, retailer or other business, has a unique combination of constraints they must juggle daily, centered around time, cost, and distance. Each must navigate a sea of variables – from driver hours to traffic conditions, weather, time of day, mileage, vehicle maintenance, depreciation, CO_2 emissions, and more - to optimize their logistics and routing operations.

Each is at a different place in their journey. Some are at the very early stages of optimization and still using a degree of manual processes. Others have progressed to more sophisticated stages where we have helped them leverage their own historical data or tap into analytics for better outcomes.

What's clear is that having a well-defined digital supply chain vision, strategy and implementation plan is critical to competitive differentiation and survival. And at every stage of logistics maturity, there are significant opportunities for meaningful incremental improvements.

A trusted, experienced partner can help evaluate operational aspects to identify inefficiencies and remove barriers to cost saving and growth.

Want to talk? We do, too. Get in touch here.

According to Gartner®, supply chains are increasingly complex and chaotic, yet only 22% of companies say they have an extremely clear digital supply chain vision, strategy and plan. Companies identify adapting to new technologies as one of the most important strategic challenges they will face over the next five years.[1]

Furthermore, Gartner's research reveals that only 30% of supply chain organizations surveyed felt supply chain strategy was well aligned with operational execution.[2] Meanwhile, 68% of supply chain leaders say they are constantly responding to high-impact risk events that they were not prepared for.[3]

This highlights that a disproportionate amount of time and resources are being allocated to emergency tasks and resolving operational issues.

To find the right path forward, technology leaders and logistics providers need to understand executional goals and develop a strategic roadmap that aligns, prioritizes, and links cross-functional objectives through incremental investments. The aim is to identify a series of projects that come together to deliver extended cost savings by leveraging customer data, in a consistent format, across a common platform.

Once this roadmap is established, you can guide your organization from a vision to a solid foundation for future capabilities. This is important whether you are developing software that will be sold to and used by fleet and supply chain managers or proprietary software that will be used to manage your own operations.

[1] Hype Cycle for Supply Chain Execution Technologies, 2022, 27 June 2022. Gartner, Inc.

[2] How to Create a Supply Chain Strategic Plan - Template. 2022. Gartner, Inc.

[3] Supply Chain Executive Summary: Close the Loop to Create Future-Fit Raw Material Strategies. 17 September 2021. Gartner, Inc.

Mapping your incremental investments to improve performance

The roadmap is key to this concept because it focuses the team's expertise, time and resources on projects that can quickly deliver value and expand in scope, rather than siloed initiatives.

For example, fleet management software that delivers highly accurate arrival times would build on the basic elements like driver hours, mileage and costs. The first project could incorporate service level agreements (SLAs), ETAs, and vehicle-specific road attributes to create 2-hour delivery windows.

The project then expands with real-time vehicle tracking and real-time traffic and weather data to enable dynamic route optimization and more accurate arrival times. Depending on the executional objectives, the next project might focus on digitizing customer or dispatcher communication with automated alerts and updates.

Unleash the power of location

Two of the most commonly overlooked options to deliver incremental gains involve carrying out activities at different times of day and changing the sequence in which deliveries to specific locations are made.

Companies that are faced with constraints in available driver hours can add **real-time traffic data** to an optimized route. This solution would allow them to avoid congestion and use the available driver hours effectively – which will also bring cost and efficiency savings.

Similarly, improving components in an existing supply chain configuration – such as address management, last-mile routing, or vehicle tracking solutions, all deliver short-term gains, whilst also upgrading the organization's core capabilities.

The competition to hire, train and retain drivers in sectors like grocery or food delivery, and last mile delivery is driving greater use of **tour planning** and **routing technology.**

Before e-commerce and home delivery boomed during the global pandemic, companies used tour planning and last-mile routing algorithms for cost-efficiency reasons. Now many are combining these algorithms with accurate address management solutions to:

→ improve the effectiveness of available driver hours
→ simplify driver schedules
→ improve the number of drops per hour
→ lower recruitment and training costs

These types of incremental improvements – which involve the analysis of existing activities using a combination of AI and scenario modeling – can help deliver cost savings. Additionally, analyzing the available data, correcting anomalies, building data analytics skills and fine-tuning the algorithms used to deliver incremental improvements are all part of the process of unlocking new gains.

Building a more predictive supply chain

Siemens Digital Logistics is leveraging the power of HERE's location data to help their customers build more predictive supply chains.

According to the experts at Siemens Digital Logistics, three main steps which lay the foundation of a predictive supply chain are:

1. Start digitizing your processes and reduce paper-based operations wherever possible.
2. Identify the internal and external data and activity silos. Stronger collaboration among teams and partners can improve the quality of your supply chain network.
3. Leverage your network's data by building an ecosystem of integrated data sources.

"The availability of good quality data can help optimize supply chain processes, reduce costs, and increase efficiency," says Magdalina Stravreva, Product Portfolio Management & Strategic Alliances, Siemens Digital Logistics

Watch the on-demand webinar to hear more from Siemens Digital Logistics and HERE.

Understanding the end-to-end workflow is a priority

Some of the basic components for smooth supply chain operations include a company-wide address management system and a simple-to-use vehicle routing solution. While creating an efficient end-to-end workflow is a simple objective, a variety of issues can complicate things:

→ Leaders responsible for specific activities focus on optimizing their department's activity, as opposed to optimizing the end-to-end workflow

→ Differences in data definition or KPI measurement introduce errors and affect investment priorities

→ Incorporating additional systems to prioritize specific elements of an end-to-end workflow, e.g. configuring carton sizes to effectively use packing space and vehicle cubic distribution capacity

When there are more factors to consider, it becomes harder to control and optimize the supply chain to meet all the requirements. Those variables might include meeting cost targets, minimizing distance traveled, reducing carbon emissions, reducing driver hours or improving first-time delivery accuracy.

Sometimes there might be only one solution that meets all the specified constraints. This is where HERE experts can leverage our location platform to help structure the relative priority of different variables and choose the best way to increase the performance.

A location platform can test and run a multiple-scenario analysis to help companies identify where they need to invest to gain the largest performance improvements.

Contact us

Building more efficient fleet management software

As the demand for home deliveries grows, delivery companies face challenges in finding qualified drivers. Rastret, a provider of software and hardware solutions for fleet management, assists its clients in optimizing delivery routes and expanding the pool of potential drivers.

With the support of HERE and Amazon Web Services (AWS), Rastret is solving complex problems for its customers with user-friendly development tools and updated **tour planning information.**

"I am really impressed by the flexibility of HERE's products. They save us a lot of work because they are ready-made solutions and we can focus on implementation," said Miguel Loya, CTO, Rastret.

This helps Rastret build a more efficient fleet management system and keeps customers within budget constraints. By leveraging the security and stability of AWS' servers alongside HERE's data, APIs, and geotagging tools, Rastret can plan the most efficient routes for their clients.

Download the case study.

Final thoughts

There's a lot that can be done to improve supply chain performance by applying the concept of marginal gains to a business and its workflows. It allows organizations to upgrade in-house capabilities and build a comprehensive digital supply chain program without having to commit to delivering real-time visibility of end-to-end activities or predictive ETA forecasts.

In the same way that the growth of e-commerce drove the adoption of routing algorithms, the next wave of supply chain innovation will be driven by a combination of AI and predictive analytics, supported by location technology.

Building transportation and logistics software is no easy task. Whether you're building fleet management software to optimize several hundred vehicles or developing a multi-modal control tower, you can build better with HERE. Contact us today and we can connect you to the latest resources and information you need to gain a competitive edge.

Further reading:

Whether you're looking to cut costs, drive workflow productivity or enhance operational efficiency, location technology can help make it happen.

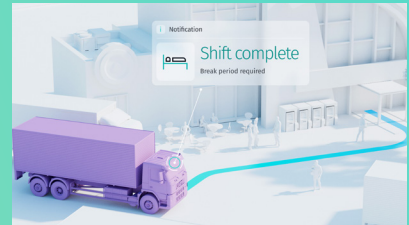Check out our additional materials below and reach out to us; we'd love to hear from you.

Optimize fleet management with real-time insight

Discover the solutions →

Reimagine your supply chain with end-to-end visibility

Discover the solutions →

Improve delivery times with superior tour planning

Plan routes effortlessly →