

Körber Supply Chain

Supply chain imperatives: 2024 and beyond

14 focus areas to future-proof your supply chain



Contents

Introduction 3



Section I: Foundational | Structural | Continuous 5

- The case for microservices in supply chains | [Strategem](#) 6
- Nearshoring & the relevance for supply chain technology | [Tsol](#) 10
- Supply chain sustainability | [Publicis Sapient](#) 14



Section II: Commerce and order lifecycle 18

- The impact of a frictionless OMS+WMS+analytics strategy | [Pivotree](#) 19
- eCommerce is dead, long live commerce | [Perficient](#) 22
- On Time in Full (OTIF) - customer requirement, supply chain imperative | [Körber Supply Chain Solutions](#) 26



Section III: Warehouse operations and design 30

- The power of connectivity: transform your business with supply chain planning and management | [Blue Ridge Global](#) 31
- The significance of DC design and the consequences of neglecting it | [Extolla](#) 35
- Best practices in warehouse management | [enVista](#) 38
- The evolution of warehouse control systems: adapting to modern supply chain challenges | [Alpine Supply Chain Solutions](#) 42



Section IV: Fulfillment 46

- Carrier diversification: avoiding capacity crunches and spiraling costs | [EasyPost](#) 47
- Focus on fulfillment optimization | [Red-Shift](#) 51



Section V: Labor and robotics 55

- The future of labor and robotics | [Bricz](#) 56
- The power of gamification | [vaibe](#) 60

Introduction

Supply chain solutions hold commerce together

Over the past 15 years, organizations have invested billions in eCommerce platforms and technology. Corporate initiatives became “all eCommerce, all the time” and far too often, this singular focus distracted companies from the exponential value achieved from supply chain modernization. Here are the two main reasons:

1. Innovation

eCommerce innovation became a default answer and companies felt the need to keep up. Innovation in supply chain was also happening, but not at the same speed as eCommerce technology and thus did not bring out the same sense of urgency.

2. Stability

Billions of dollars were spent on the implementation of eCommerce platforms, augmented reality (AR), artificial intelligence (AI) and other overengineered initiatives that extend beyond the core competencies of the acquired system. All in the name of getting a customer to add one more “line” to their order.

During this time, the supply chain was frozen in place

An eCommerce platform is an online e-shop or e-storefront capable of making a transaction. It is when you think about it in those terms that you start to realize the singularity of it. The e-shop is simply an online catalog

where you display your goods with the hope customers buy, a single channel in a “channel prolific” world. It is not the eCommerce platform that ties channels together, manages the order lifecycle or coordinates allocation - that is the steadfast role of supply chain solutions.

Enterprise B2B has been surviving like this for decades using electronic data interchange (EDI) over other outpaced and even more technically modern solutions as their primary coordinator of commerce. Given the globally distributed nature of supply chain networks, all stakeholders need to consider an upgrade. The growth in supply chain complexity has not come at the expense of consistency. Instead, the eCommerce boom has left the customer experience focused on the front end of a single channel of execution stitched together without a reliable, single source, of truth. This short-sighted focus on the end-to-end customer experience has also placed exponential demands on systems designed for far simpler commerce motions.

While eCommerce platforms are single-channel commoditized solutions, ERP systems are exposed for the lack of flexibility and debilitating costs. Conversations in the boardroom are returning to supply chain topics and solutions for their time to value, flexibility and accountability from one end to the other.

Your supply chain requires attention!

As we enter 2024, that commoditization and overengineering of the eCommerce storefront has forced a critical look at the back-end systems that power the front-end experience.

Going through the process and re-platforming to another new eCommerce platform will not suffice.

The pain points these businesses are enduring will become the differentiator companies leverage; an advantage through the supply chain and customer experience from the immediate moment a purchase is made. The imperative to increase margin, drive customer satisfaction and capitalize on operational efficiency is really to improve, update, rationalize and configure your supply chain to match your business strategy in the next frontier.

It is time to take the post-purchase customer experience to the next level, while at the same time, address the businesses' imperatives. Where is tomorrow's value to the business and what is the next move? The answer is in your supply chain.

The strategic value that businesses achieve in their commerce motions will be the differentiator to address their pain points. Körber spoke to our partners, thought leaders and subject matter experts about the components of said strategic value. The results of those conversations are the continual improvements to supply chains and an invisible layer of commerce, discussed in this eBook.

We invite you to explore our partners' expertise and relevance to your supply chain needs. Then, create a plan that prioritizes which of these topics are your supply chain imperatives.

Matt Boland

Global Director; Supply Chain Partners
Körber Supply Chain Solutions

“...[we] have been so focused on the front end of a single channel of execution, without a reliable, single source of truth that our supply chain has not made continuous improvements. Our systems are legacy and antiquated, and they simply cannot keep up with the strategies we have for the business. This move will get us back on track, current and position for the future...”

Matt Boland

Global Director; Supply Chain Partners
Körber Supply Chain Solutions

Section I

Foundational Structural Continuous



Stratagem

The case for microservices in supply chains

The case for microservices in supply chains

Microservices architecture is rapidly emerging as an ideal approach for supply chain technology in the modern volatile era. Traditional monolithic systems – where applications are built as a unified unit – are far too inflexible and siloed to enable the agility, scalability, and rapid innovation required by today's dynamic supply chains.

Microservices provide a more modular architecture compared to monolithic systems. Large applications are broken down into minor, independent services that work together through APIs. Instead of building a massive monolithic application, the microservices approach constructs applications as collections of decoupled, focused services. This model offers several key advantages:

Agility – Services can be developed, deployed, and updated independently, allowing rapid iteration.

Scalability – Individual services can be scaled up or down to handle fluctuations in workload.

Resilience – Issues with one service have minimal impact on other services.

Flexibility – Services can leverage different languages and technologies as needed.

Given their ability to enable rapid change and flexible growth, microservices are extremely well-suited for the volatile world of supply chain management.

The case for microservices in supply chains

To thrive amid growing consumer expectations and constant disruption, supply chains must become more adaptable, innovative, and resilient. Microservices support this through their flexible, modular architecture.

Microservices offer a modular approach to supply chain systems, allowing targeted modifications without disrupting the entire platform. This enables quick and nimble changes, unlike monolithic architectures that require risky, large-scale modifications for even small updates.

The modular architecture also allows flexibility in optimizing languages and frameworks per service, overcoming the limitations of mandated uniform technology in monolithic architectures. This enables seamless integration with external ecosystems, making microservices ideal for modern, dynamic supply chains that require agility, innovation, and resilience.

Supply chain leaders acknowledge microservices architecture as a critical paradigm shift. While many companies have microservices on their technology roadmaps, realizing the

full benefits depends on adept change management and technical implementation. Partnering with seasoned experts like Körber improves the odds of successfully unlocking the many advantages of microservices.

As with any paradigm shift or technology advancement, understanding your business, its needs, and constraints comes first. This requires a strategy that compliments your ability to incorporate and deliver microservices. Larger enterprises with unlimited resources can afford to make a larger investment in microservices. Smaller organizations might look at a more measured approach to pinpoint specific areas where a single (1), individual microservice or several microservices can make an exponential impact with a more palatable, manageable investment of time, money and resources.

Microservices in action

Real-world examples showcase the transformative impact of microservices on supply chain operations. Based on public information and case studies, let's explore how leading companies have leveraged microservices to drive tangible benefits:

Amazon: As a pioneer in adopting microservices, Amazon transformed from a monolithic architecture to a more flexible, scalable architecture. Breaking systems into smaller services simplified deployment and enhanced development speed / agility. This addresses bottlenecks and maintainability issues, enabling Amazon to become a large online player with modern architecture.

eBay: eBay shifted to microservices to accelerate time-to-market and improve productivity with millions of daily users. Dividing systems into smaller components allowed responding to codebase complexity. Decoupling databases, tiers, and search engines effectively addressed challenges and delivered high-quality user experience.

These examples showcase the power of microservices to enable supply chain agility, resilience, and innovation.

Deploying microservices in supply chains

Numerous complex supply chain processes can gain advantages from microservices:

- **Order Management:** Enables real-time visibility, dynamic order rerouting, and integration of new delivery options.
- **Logistics Coordination:** Optimizes load building, intelligently routes shipments, and leverages IoT sensors for enhanced visibility.

The case for microservices in supply chains

- **Warehouse Operations:** Enables omnichannel inventory visibility, rapid scale-up/down of storage resources, and integration of automation technologies.
- **Procurement:** Rationalizes suppliers, gains global inventory visibility, and implements dynamic switching based on real-time variables. Warehouse Operations: Enables omnichannel inventory visibility, rapid scale-up/down of storage resources, and integration of automation technologies.

However, to realize the benefits of microservices, supply chains must thoughtfully identify processes to transition to or enhance with microservices. With deep expertise in designing scalable microservices, Stratagem makes an ideal partner for this migration, leveraging software solutions providers like Körber Supply Chain for their microservices architecture.

Partnering with supply chain experts like Körber ensures successful microservices design and launch, avoiding common pitfalls and maximizing business value.

Conclusion

Looking ahead, Microservices perfectly match the requirements of modern supply chains: nimbleness, innovation, and ability to handle constant change. As

microservices enable greater optimization, transparency, automation, and real-time coordination, they will become ubiquitous across supply chain technology landscapes. The soaring complexity of global supply chains demands IT architectures that are agile, flexible, scalable, and enable rapid innovation. Monolithic systems are far too restrictive and inflexible to keep pace with the speed of modern business.

The path forward is clear - supply chains must undergo a paradigm shift to microservices; but keep in mind, this transition requires careful change management and technical execution. Generally, microservices offer two paths, one to build and one to extend – be sure to select the right path for you.

Stratagem can help you decide the right path for you.

With their expertise in architecting and integrating microservices, Körber can help equip organizations with the capabilities needed to thrive in this new era of supply chain technology.



About Stratagem

[Stratagem](#), established in 2019, is a global IT consulting organization that capitalizes on several years of industry expertise. Our ambition is to be the leading provider of transformative IT services, paving the way in terms of innovation, reliability, and a customer-focused approach.

Our core specialization is in business transformation. We form strategic partnerships with enterprises to offer personalized, long-term solutions that foster growth.

Our highly skilled team consists of:

- 1. Advisors:** Our advisors ensure that your business receives optimal strategies tailored specifically to your needs and goals.
- 2. Engineers:** Our team of engineers integrates diverse technologies seamlessly into your existing systems, ensuring minimal disruption and maximum efficiency.
- 3. Strategists:** Our strategists work closely with your team to understand your business goals and formulate actionable plans to achieve them.

At Stratagem, we offer a diverse range of services including:

- Enterprise Transformation: We help businesses adapt to changing dynamics, ensuring they thrive in the constantly evolving digital landscape.
- Digital Commerce
- Cyber Security
- Data Management & AI
- System Integration
- Cloud Transformation

Want to learn more about how Stratagem can help transform your business?

Reach out to us at contact@stratagem.net or visit us at <https://stratagem.net/>

Authors

Giridhar Kuppli - CEO

Digital Commerce & Omni Channel specialist with 25+ years of experience, delivering transformational capabilities to leading brands.

Ashwin Katuri - COO

With 20+ years of experience in Health Care, Retail, & Financial Services, Ashwin leads complex operations & business process improvements while focusing on customer experience.

Clients



Nearshoring & the relevance for supply chain technology

Nearshoring & the relevance for supply chain technology

From the perspective of the United States and Canada, nearshoring refers to work performed outside their borders but within a region incorporated by Mexico, Central America, and the Caribbean. Nearshoring is relevant to the development and implementation of supply chain execution software from two (2) angles:

- Manufacturers supplying the US and Canadian markets from “near” regions require software solutions to enable logistics operations that meet exact fulfillment requirements
- Professional services provided from the “near” regions can help reduce the cost of implementation of enterprise software solutions within the US and Canada

Let’s address each of these angles individually.

Manufacturing

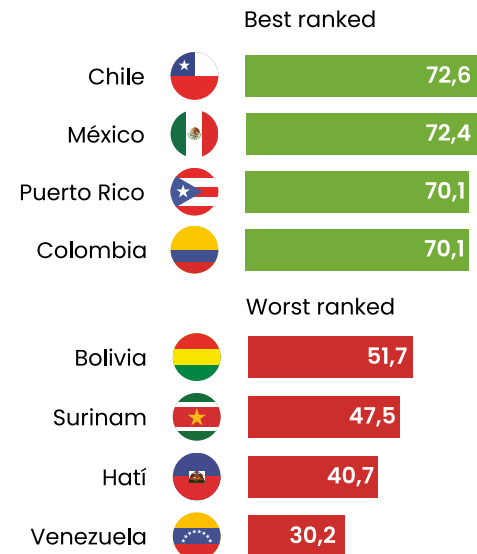
“Near” manufacturing operations produce finished and intermediate goods for industries as varied as automotive, pharmaceutical and consumer goods. In serving US and Canadian markets, they must meet high standards of quality and must deliver products on time to avoid supply shortfalls or assembly line interruptions, while maintaining cost efficiencies. These objectives require the precise management of inventory (both raw materials and finished goods) as well as the management and control of freight transportation.

During the pandemic, many companies recognized the problems and risks of having production lines on the other side of the world. Lock downs at ports, airports, and customs challenged logistics. Some have not recovered years later. This situation is aggravated by rising production costs in China and by geopolitical dynamics that affect trade. The combined result of these circumstances has been a reduction of 5.1% in imports to the US from China over the last four years (US Dept. of Commerce).

Nearshoring offers an alternative by:

- Providing access to skilled labor at lower costs,
- Significantly reducing transit times & costs (both hard and soft)
- Mitigating uncertainty, and
- Shielding from geopolitical issues. The fair-trade agreement signed by the US, Mexico, and Canada in 2020 (USMCA) provides significant additional advantages by setting clear rules that govern customs regulations, product content, and visa programs to encourage trilateral trade of goods and services.

Ease of doing business, among major LatAm countries



*According to the score obtained based in a scale on 0 to 100, where 100 meansthe best performance and 0 the worst.

The nearshoring trend has accelerated over the last few years as companies from the US, Canada, Europe and Asia (including China!) establish manufacturing operations in Mexico and Central America. Additionally, specialized 3PLs are opening e-commerce fulfillment operations in Mexico. Many of these operations need supply chain execution solutions, such as WMS, TMS, OMS, YMS and AMR (robotics). While LatAm countries have developed several viable suppliers of such solutions, none of them approach the breadth of functionality and corporate stability offered by US and European software developers, such as Körber Supply Chain, which serves LatAm markets directly and through local partners.

Professional services

Regarding angle number two above; skilled labor, particularly in IT, continues to be in short supply in a US economy that has narrowly escaped a recession. This makes a nearshore option for professional services attractive. US and Canadian companies continue to look to countries such as Mexico, Costa Rica, Panama, Colombia and even distant Argentina, to subcontract IT professionals. The main benefit of “nearshoring” is the access to a large pool of qualified workers at a lower cost compared to domestic (US and Canada) options.

The pool of Latin American IT professionals continues to grow, and most are sufficiently fluent in English to enable fluid communications. Time zone and physical proximity are additional benefits to working within the same hemisphere.

Nearshoring & the relevance for Supply chain technology

Additionally, Mexican (only) IT professionals with college degrees may qualify for a TN-1 visa that enables extended stays in the US or Canada, should on-site work be required for a period beyond a short stay. All of this at cost savings of 30 to 50%.

Conclusion

Nearshoring offers many advantages, including logistics cost savings, skilled labor access, and proximity to major markets for the exporting country. Mexico is growing significantly as a nearshoring partner for the US and Canada. In fact, Mexico displaced China as the

#1 exporter of goods to the US, and it is rated favorably in the most recent “reshoring index” published by consulting firm Kearney. Notable examples, such as the recent announcement of Tesla’s new plant in the city of Monterrey, are evidence of the trend.

Visit tsolco.com and click on Contact Us to get a no-cost consultation about nearshoring and related strategies as well as other Tsol Supply Chain Services & Solutions across the Americas.



About Tsol

Tsol provides supply chain technology solutions in LatAm. We are a consulting firm and value-added reseller of WMS, TMS, OMS, and YMS (warehouse, transportation, order, yard mgt. systems). We have direct clients in LatAm and supporting projects in Europe, the US and Canada through partner firms.

Visit our website for more info:
<https://www.tsolco.com/>

Check out this video case study:
[GAIA WMS Success Story](#)

Contact us as you consider “near” countries as markets for supply chain technology solutions and as a source for implementation services

Authors



Lety Butrón

Project Manager

Certified Project Manager with broad experience in Transport Management and Warehouse Management Systems implementations and upgrades, as well as logistics processes re-engineering and sourcing of logistics services.

Follow Lety on LinkedIn:

<https://www.linkedin.com/in/letyant>



Erik Markeset

CEO and founder

Erik has over 25 years experience in the supply chain sector. He advises analysts and investors on the logistics industry in Mexico and LatAm. Erik has significant management consulting experience in business strategy, technology implementation and operations improvement.

Follow Erik on LinkedIn:

<https://www.linkedin.com/in/emarkeset/>

publicis
sapient

Supply chain sustainability

Supply chain sustainability

The sustainable supply chain survey

What do consumers really care about when it comes to sustainable shopping? How can organizations seize the sustainability opportunity and help customers turn their intent into action?

It all starts with data and supply chain transformation.

Consumers are avoiding organizations with a negative impact.

- **77%** - of all consumers surveyed (and 85% of younger adults) would avoid retailers or consumer products (CP) companies depending on their environmental impact.
- **46%** - would not purchase a product they wanted if they discovered it's not sustainable.

Insight: A company's reputation for sustainability at the start of the purchase journey has a larger impact on demand than product preference. Organizations need to incorporate sustainability into sales and operations planning to create new algorithms that get products to their end destination quickly, sustainably and profitably.

Planning

- **59%** - of consumers are concerned about the impact of the overconsumption of goods.

Insight: Many consumers are looking for quality over quantity. Real-time demand monitoring algorithms that combine social listening and search insights around sustainability can help companies adjust to fluctuations as consumer values change so that they don't overproduce.

Procurement / product sourcing

- **71%** - of consumers believe it is important to know where products are sourced from. The provenance of products is an increasingly important concern in the post-pandemic world, where health and social justice are high on consumers' agendas.

Insight: Companies should integrate owned and second-party data to provide consumers with transparent supply chain information, starting with product sourcing.

Production

- **62%** - of consumers are prepared to pay more for environmentally sustainable products.
- **64%** - of Female Customer 79% - of Young Adults - are over-indexing in their intent to make more sustainable choices.
- **34%** - of senior retail leaders believe the same, according to research from First Insight Survey.

Insight: Companies (or Retailers and CP Companies) should factor GreenHouse Gases (GHG) emissions into product manufacturing and design modeling to create green products that are cost-optimized from the start for consumers willing to pay more.

- **63%** - of consumers state that the choice of minimal packaging is an important factor in their purchasing decisions.

Insight: Create options for reusable/minimal packaging or refill subscription services.

Sustainable shipments

- **63%** - of consumers also agree that "low impact delivery" is an important factor in purchasing decisions.

Insight: Retailers and CP companies have an opportunity to innovate around last-mile delivery and provide the consumer with environmental impact options, testing various price points for delivery vs. store pick-up or standard vs. expedited delivery.

Carbon footprint

- **55%** - of all consumers think transparency of carbon footprint impact is important when making shipping choices. (60% of Female customers and 62% of Young Adults)

Insight: Measure GHG emissions across supply chains, including supplier operations, to accurately report the activities with the largest carbon, water and waste footprints. Companies can reduce transportation emissions through dynamic route optimization that more closely linking planning and execution, avoiding wasted miles.

Supply chain sustainability

Returns optimization - Attitudes toward recycling

- **67%** - of consumers take proactive actions toward recycling and circular retail models such as repair, renting and repurposing are growing fast. An increasing number of retailers offer in-store or online recycling methods, often in exchange for loyalty points or money-off vouchers.

Insight: Retailers and CP companies should identify opportunities to reduce “last-yard” product waste through local community drop-off, partnerships with charities and reuse of discarded products.

Returns optimization – Visibility to environmental Impact

- **46%** - of consumers would consider not returning items via mail due to the additional environmental impact. Due to concerns about profitability and carbon footprint, increasing return rates are a major cause of worry for apparel retailers.

Insight: Reduce returns waste in partnership with consumers, using AI-enabled predictive models, personalized return fee structures and local recycling or resale programs.

How can you leverage inventory planning and order management to impact the sustainability of your supply chain?

- **Customer intelligence driven inventory planning** – Digitally transform demand forecasting and optimizing inventory across the distribution network with sustainability as one of the key components of meeting customer expectations.
- **Promise to deliver framework** - Make the best possible promise to the customer explaining when they can expect to receive the purchase along with the environmental impact of those choices. Once the order is captured, ensure it is fulfilled in such a way to meet (if not beat) that promise at the lowest cost/ best margin possible.
- **Returns optimization** - Unlock value from returns and build a competitively advantaged returns capability, all while supporting your organizations’ and your customers’ Net Zero goals.

Contact us for a review of how Publicis Sapient’s capabilities and sustainability solutions can impact your supply chain digital transformation.

Satyendra Pal

Global Supply Chain Practice Lead

satyendra.pal@publicissapient.com

Rich Schmidt

Senior Director Strategy and Consulting

rich.schmidt@publicissapient.com

About Publicis Sapient

Publicis Sapient is a digital transformation partner helping established organizations get to their future, digitally-enabled state, both in the way they work and the way they serve their customers. We help unlock value through a start-up mindset and modern methods, fusing strategy, consulting and customer experience with agile engineering and problem-solving creativity. As digital pioneers with offices around the globe, our experience spanning technology, data sciences, consulting and customer obsession — combined with our culture of curiosity and relentlessness — enables us to accelerate our clients' businesses.

Our purpose

We help people thrive in the brave pursuit of next

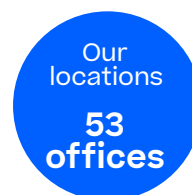
At Publicis Sapient, we help companies and the public sector keep up with the pace of technological, societal and cultural change—all while meeting the ever-evolving demands and expectations of their customers. How? By elevating customer

experiences, modernizing organizations and unlocking value through technology and data. By setting bold but achievable visions for digital transformation, we empower our business partners with true speed and agility.

A global team to help transform your organization

Let's talk:

Contact us for a review of how Publicis Sapient's capabilities and sustainability solutions can impact your Supply Chain digital transformation.



Authors



Satyendra Pal

Global Supply Chain Practice Lead

satyendra.pal@publicissapient.com



Rich Schmidt

Senior Director Strategy and Consulting

rich.schmidt@publicissapient.com

Section II

Commerce and order lifecycle





The impact of a frictionless OMS + WMS + analytics strategy

The impact of a frictionless OMS + WMS + analytics strategy

OMS: By 2026, the global market for OMS software will nearly double to reach \$1.9 billion.

Order management system (OMS) software helps digital businesses deliver on four core capabilities: enterprise-level inventory visibility, distributed order management, customer service, and optimized and frictionless omnichannel fulfillment.

OMS systems play a crucial role in modern B2B and B2C business and enterprises that operate across multiple sales channels, such as brick-and-mortar stores, e-commerce websites, direct sales, and online marketplaces. OMS systems allow businesses to efficiently manage orders, inventory, and fulfillment operations from a single, unified interface and enable real-time order tracking, inventory updates, and seamless communication between different departments, suppliers, and logistics partners. By automating and optimizing order processing, inventory control, and shipping procedures, OMS systems enhance overall operational efficiency, customer satisfaction, and enable businesses to scale effectively.

WMS: More integrated forms of order processing through WMS result in more than 20% reduction in space use, a 30% more efficient use of stock, and over 25% more productivity.

A Warehouse Management System (WMS) is crucial for optimizing warehouse operations and supply chain efficiency. It offers real-time visibility into inventory levels, aiding accurate stock management and reducing the risk of overstocking or stockouts. WMS systems streamline order fulfillment processes by automating tasks like picking, packing, and shipping, leading to

faster and error-free order processing. Efficient space utilization, labor management, and improved accuracy in inventory tracking are additional benefits. WMS facilitates compliance with industry regulations, enhances reporting and analytics for informed decision-making, and accommodates business growth by providing scalable solutions. A WMS is essential for businesses seeking to enhance operational efficiency, customer satisfaction, and competitive advantage in today's dynamic market.

Analytics: Over \$1B in order revenue globally is lost every year due to unrecoverable transactions.

An analytics-observability layer is crucial for both WMS and OMS due to the numerous benefits it offers in terms of operational efficiency, data-driven decision-making, and overall system optimization.

Pivotree™ Control Tower provides customers with the ability to monitor and manage your entire ecosystem proactively with powerful insights for data-driven decisions at every level of your organization.

With multiple dashboards and other powerful visuals, self-healing alerts, and the ability to zero in on business processes in near real-time, you'll gain strategic insights and understand issues that will improve your business and have a direct impact on your end customer's brand experience.

Sources:

Forrester, Jitender Miglani <https://www.forrester.com/blogs/by-2026-the-global-market-for-oms-software-will-nearly-double-to-reach-1-9-billion/>

Amazon 2021, <https://www.extensiv.com/blog/7-warehouse-technology-statistics-you-should-know>

<https://www.growcode.com/blog/average-order-value>, <https://chainstorage.com/operations/study-delivery-issues-cost-retailers-1-5-billion-lost-revenue>



About Pivotree

[Pivotree](#), a leader in [frictionless commerce](#), designs, builds and manages digital Commerce, Data Management, and Supply Chain platforms for over 250 major retail and branded manufacturers globally. Pivotree's portfolio of digital transformation solutions as well as our managed and professional services help provide businesses with true end-to-end solutions. We offer strategic planning through platform selection, deployment, and hosting. Headquartered in Toronto, Canada with offices and customers in the Americas, EMEA, and APAC, Pivotree is widely recognized as a high-growth company and industry leader.

Our vision for frictionless commerce

We live in an age where consumers expect an experience that meets their own, personal expectations. They expect products to be in stock and available for fast delivery at any time and anywhere. They expect seamless omnichannel commerce, trusted multiple payment options, and a return process that's just as easy and convenient.

When consumers trust they can find, buy and get the products they want, when and how they want them, we call that experience “frictionless commerce.”

We understand the challenges, complexity and costs related to digital transformation and achieving a frictionless experience. Our team of experts in commerce, data and supply chain work together to look for points of friction through all processes in

order to create solutions to eliminate those friction points. We believe so strongly in this integrated approach, that we've re-aligned our own business around it.

Are you ready to unlock the full potential of your OMS+WMS+analytics joint solution?

[Book a meeting](#) with us or talk directly with your Körber Supply Chain Key Account Manager and discover how Pivotree and Körber are working together to reduce cost, increase efficiency and maximize productivity and performance throughout your entire supply chain.

We have a diverse ecosystem and network of partners that help solidify this integrated approach and round out a complete portfolio of solutions and services encompassing the entire value chain of commerce, fulfillment and distribution. An example of this integrated approach is our OMS + WMS + Analytics joint offering. Bringing this joint solution to market along with Körber means delivering inventory visibility, optimizing fulfillment and distribution, and achieving complete observability of operations. Today is a great day to reevaluate the status quo and uncover new ways of optimizing and augmenting your current commerce and warehouse platforms and systems.

Next Steps: How can we help?

[Schedule a demo with us or talk directly with your Körber Supply Chain Account Executive today.](#)

Author



Doug Brochu

Senior Vice President of Supply Chain

Doug Brochu has over 30 years of global supply chain management and consulting experience, with specialties in order management, warehouse management, and enterprise software strategy. As Pivotree's SVP of Supply Chain Alliance he provides expertise in omni-channel buying and fulfillment options, inventory visibility, trading partner onboarding times, and complex business processes. Experienced in architecting and leading complex, high-impact enterprise supply chain IT and business projects Doug's focus is on providing immediate value to clients. His accomplishments include several successful implementations for complex retail and B2B solutions. Previously he served as President and CEO at Bridge Solutions Group.

Connect with [Doug Brochu](#) on LinkedIn.

PERFICIENT

**eCommerce is
dead, long live
commerce**

eCommerce is dead, long live commerce

eCommerce has transcended its traditional boundaries set over 20 years ago, morphing into a holistic experience that extends far beyond mere online transactions. This transformation has recently been fueled by the integration of artificial intelligence (AI) into the commerce ecosystem, propelling the industry into a new era of personalized, intelligent, and immersive shopping. Commerce holistically is the aim now, where customer monologues become a dialogue, where transactions become interactions, and where commerce becomes more than just about systems, but about business outcomes.

Personalization, redefined

Gone are the days when online shopping and B2B purchasing merely involved scrolling through a list of products. The customer now desires an immersive experience super-charged by AI solutions that have the power to analyze vast amounts of customer data to gain insights into preferences, behaviors, and purchase history. This allows businesses to craft hyper-personalized experiences and offers for each individual shopper and buyer, which ultimately puts the customer in the driver's seat of choice and preference. This level of personalization not only enhances customer satisfaction but also drives increased conversions and loyalty. AI algorithms help guide customer's taste and buyer preferences, anticipate their needs, and even predict future buying trends.

Is seamless commerce the new 'frictionless'?

The holistic evolution of eCommerce means that buying is no longer confined to only one channel. Consumers now expect a seamless experience across various touchpoints – from online stores and mobile apps to social media platforms and even in-store interactions. AI empowers businesses to provide consistent and engaging experiences across these channels by analyzing customer behavior and optimizing content delivery. Customers now prefer a commerce experience that can be started and finished in any channel they want. Websites and native apps are now accessed in stores and in person, where devices are becoming voice-controlled, and AI ensures a seamless journey where the customer needs the brand to be. B2B companies incorporate comparison buying, social, sales representatives and support channels help their clients understand their procurement options and contract rates through personalized websites. B2B companies have the added complexity of creating a personalized experience from an EDI transaction (e.g., alerts, notifications, offers / pricing plateaus, self service and more).

AI-powered chatbots and customer support / self service

Customer support centers staffed with dozens of customer service reps (CSRs) are now becoming a legacy way of working for brands. The recent trends around intelligent bots provide near-instant assistance, answering queries, addressing concerns, and even guiding customers through the purchasing process. Natural language processing (NLP) capabilities enable chatbots to understand and respond to customer inquiries just like a human representative would, ensuring a round-the-clock support system. This not only enhances customer satisfaction but also reduces response times and operational costs for businesses. As more B2B companies turn toward online assistance and self-service for real time information, the criticality of these functions to be detailed and precise will exponentially increase. This means that both customers and customer support view and understand single version of the truth across the order lifecycle.

Order management as a commerce catalyst

Inventory management is fundamental to making the customer promise and seeing it through. Post-purchase experience design is a key enabler of customer lifetime value. From a systems perspective, order management systems (OMS) enable brands to optimize their inventory levels, minimizing stockouts and overstock situations. By ensuring the right products are available at the right time through the right channels, operations become streamlined and revenue potential is maximized. Additionally, the OMS has the next generation business logic required to satisfy both the expectations of the customers and the demands of the business to maximize return on the investment of inventory. Where previously eCommerce was the sole focus, now brands must have the right strategies, systems and capabilities in place to enable accurate inventory promising to be served in real-time to consumers.

The evolution toward visual search & augmented reality

Visual search and augmented reality (AR) technologies are bringing the in-store experience to online shopping and an online shopping experience to B2B procurement. The line between channels continues to blur. Visual search now allows customers to snap a picture of an item and find similar products available for purchase. Improved buying journeys are further sustained by customers

eCommerce is dead, long live commerce

virtually trying products “on” or simulate their use before procurement, now being enabled by generative AI solutions. There are similar applications of this in the furniture space as well, as consumers now can see their living rooms and bedrooms with an augmented view of what the new room will look like. The eCommerce landscape as we knew it could not have conceived this just 10 years ago. Commerce is now enabled to be where the customer wants, fueled by AI.

The holistic evolution of eCommerce is being driven by AI toward commerce itself -- reshaping the way we shop and do business.

No longer confined to online transactions, eCommerce has expanded to encompass personalized experiences, multi-channel interactions, and intelligent decision-making. New capabilities and operational processes are

being developed to enhance personalization, streamline operations, provide seamless customer support, optimize order management and order lifecycle management, and even bring virtual experiences to life.

eCommerce is dead, and in part, AI killed it.

As the synergy between commerce and AI continues to grow, the future promises an even more immersive shopping experience and intelligent buying, orchestration, allocations and fulfillment across the supply chain.



About Perficient

Company description

Perficient is the leading global digital consultancy transforming how the world's largest enterprises grow their businesses

Learn more

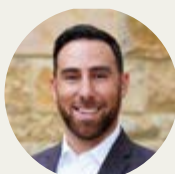
Email us at omx@Perficient.com to start a conversation, or visit our website at www.Perficient.com

About us

Digital has the power to connect the unconnected and drives humans to expect the unexpected in all we do. Your business is built on the experiences you provide and the connections you foster. We're the leading digital consultancy, and we have thousands of skilled strategists and technologists in the U.S., Latin America, and India to help you move faster, engage smarter, and connect deeper with your customers to grow your business.

Authors

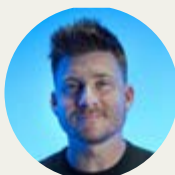
The global Commerce solutions group is led by Kim Williams-Czopek, along with two thought-leaders in the industry focused on Unified Commerce Strategy - Justin Racine and Order Experience through Zach Zalowitz. Follow each of them to stay informed on top trends in commerce strategy and technology.



Zach Zalowitz

Principal, Order Management Experience

Connect with [Zach Zalowitz](#) on LinkedIn.



Justin Racine

Principal, Unified Commerce Strategy

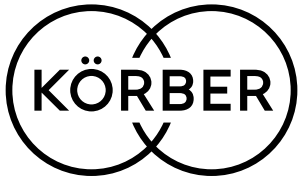
Connect with [Justin Racine](#) on LinkedIn.



Kim Williams-Czopek

Managing Director, Commerce

Connect with [Kim Williams-Czopek](#) on LinkedIn.



On Time in Full - customer requirement, supply chain imperative

On Time in Full - customer requirement, supply chain imperative

In the supply chain, the phrase “On Time In Full (OTIF)” refers to the concept of delivering the correct goods in the right quantity to customers on the date promised. Adding this key performance indicator (KPI) to your supply chain allows your business to measure its success while evaluating the performance of all the participants in the commerce ecosystem. Ultimately, it allows the measurement of a company’s ability to deliver on their promise while capturing the highest gross margin on their inventory investment.

How to measure OTIF:

OTIF measurements pose challenges for organizations regardless of their type or industry. It is a crucial metric that reflects the supply chain’s contribution to the customer experience, impacting brands, wholesalers, retailers, manufacturers, and distributors – both online and offline.

While there is no single solution to measuring OTIF, it is often the result of multiple factors affecting overall performance. Suppliers, inventory visibility, and other variables beyond direct control can influence OTIF.

By analyzing KPIs and identifying failures across various categories, businesses can understand the story behind their numbers. Failures generally fall into four categories – people, process, participant, and system – helping pinpoint areas for improvement.

There are several factors that lead to delays/discrepancies and ultimately failures in OTIF in a business. Those can include but are not limited to:

- Issues with inventory visibility
- Linear order execution
- Logistics updates
- Exception handling
- Supplier performance

An underlying OTIF strategy is essential – and it’s critical to consider all aspects of the business and its ecosystem when looking at the cause of issues and how to address them:

- 1. Expectations with suppliers and third-party participants:** Set clear expectations, improve communication and resolve any issues that are impacting OTIF. Establishing the same KPIs sets the goal but also works to ferret-out where the failures exist.
- 2. Technology for real-time monitoring:** Implement technology that delivers specific, measurable, actionable, realistic, and timebound (S.M.A.R.T.)

results and provides regular reports to the relevant stakeholders. More importantly, this offers monitoring that signals exceptions that can be actioned upon in real-time, saving a potential failure.

- 3. Inventory optimization:** Understanding your global inventory positions is the most critical element to success in OTIF. You cannot promise with certainty without knowing your inventory availability and location in real-time with accuracy.

- 4. Customer service-level agreements SLAs):** Communicate with customers, understand their needs and prioritize them. Make sure that your system (OMS) can model their SLAs and is executable therein.

- 5. Continuous improvement:** This comprises end-to-end visibility and systems to monitor and capture success and failure that improve OTIF performance. And lastly, it means to be able to quickly replicate success factors across the enterprise by regularly reviewing the progress and adjusting as needed. Meet frequently (quarterly) with all constituents to your supply chain initiatives, successes and failures.

Improving the OTIF rate for a company can have a significant impacts on its operations and bottom line. In fact, an improvement of 5% in OTIF can significantly benefit your business by:

- Increasing customer satisfaction and loyalty
- Improving inventory cost, accessibility and utilization
- Solving complex, channel agnostic order orchestration requirements
- Improving fulfillment, rates and exception handling
- Enhancing supplier relationships and meeting expectations

B2B Focus Area; Think of the complexity of a B2B order coming in via EDI and no system (ERP, eComm Platform, etc.) is better equips to improve OTIF than a next generation OMS.

From a B2B perspective, a single order coming in via scan be thousands of products, across hundreds of lines, with dozens of ship to addresses, etc. Meeting OTIF expectations may mean splitting lines across DCs / warehouses to determine exactly how, where, and when inventory should be leveraged. This may be based on individual customer expectation (SLA) that is configured to determine the best source of inventory based on a complex set of business rules and sourcing and allocation logic configured in the OMS. The OMS then reorchestrates the order and executes / passes it through to the fulfillment stage. This process is channel agnostic and accepts orders from any source, automates and removes most manual steps, and improves commitments exponentially over basic integrations and linear order routing.

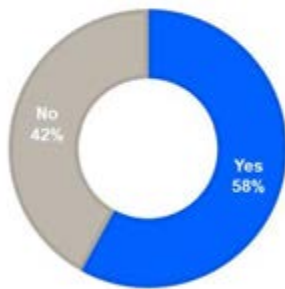
On Time in Full - customer requirement, supply chain imperative

How can an OMS help improve OTIF?

After measuring OTIF, businesses should analyze the tech tools capable of improving performance. An order management system is a great example of software that is capable of improving a company's OTIF successes.

[Check out this article to learn more.](#)

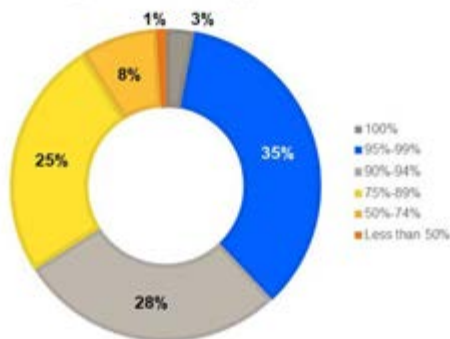
Organizations saying their OTIF program has prompted changes to their operation



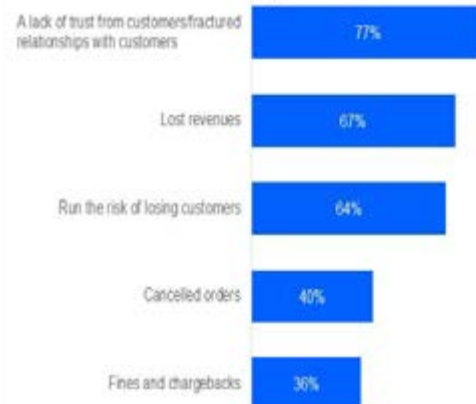
Benefits realized as a result of an OTIF policy



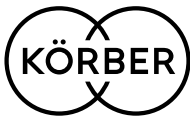
Percentage of orders shipped on time in full



Consequences for failing to meet promised delivery dates



- https://storage.pardot.com/152261/183875/use_analytics_meet_otif_goals.pdf
- <https://www.freightwaves.com/news/transplace-meet-otif-goals-and-customer-expectations>



About Körber

Company description

Körber provides a broad range of end-to-end supply chain solutions fitting any business size, strategy or appetite for growth. Capable of delivering not just software, but automation, voice, robotics, and materials handling – plus the expertise to tie it all together. Learn more at:

www.koerber-supplychain-software.com

About us

Supply chains are becoming increasingly complex. To meet the needs and expectations of vendors and the expectations of consumers, a range of new technological capabilities is required.

At Körber's supply chain software business we present the solutions to address your challenges. We put technology front

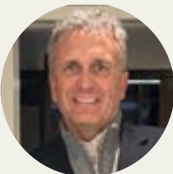
and center to provide integrated software and technology solutions that deliver maximum return on investment for our customers.

Our integrated supply chain execution software provides planning, control, execution and monitoring functionality for high-performing logistics networks. It enables our customers to take control of their end-to-end supply chain, optimize it and turn it into a competitive advantage.

Learn more

Ready to unlock the full potential of your workforce? [Book a meeting with us or talk directly with your Körber Supply Chain key account manager and discover how vaibe can boost your company's performance.](#)

Author



Matt Boland

Director, Global OMS Partner Ecosystem

Connect and [follow me on LinkedIn!](#)

Section III

Warehouse operations and design





BLUE RIDGE

The power of connectivity:

Transform your business with supply chain planning and management

The power of connectivity: Transform your business with supply chain planning and management

In the world of supply chain management, adopting a comprehensive and strategic approach is imperative for achieving highly efficient and effective operations. Given the intricate and interdependent nature of modern supply chains, it becomes crucial to implement a robust and well-coordinated supply chain planning solution that seamlessly integrates various elements to optimize processes and outcomes. This entails not only having the right technology in place but also fostering collaboration among stakeholders, leveraging data analytics for informed decision-making, and continuously adapting to dynamic market conditions. By embracing such a holistic approach, enterprises can navigate the complexities of supply chain management with confidence and drive sustainable growth in today's competitive business landscape.

If you are a manufacturer of products for local or global markets, or if you are a distributor or retailer looking to achieve exceptional service levels and maximize margins and profits, it is crucial to adopt a strategically structured supply chain approach. By implementing a well-designed and optimized supply chain strategy, you can effectively manage and coordinate the flow of goods, information, and processes across your business operations. Your approach not only enables you to efficiently allocate resources, but also enhances collaboration with suppliers and customers, leading to improved responsiveness and customer satisfaction. Moreover, a strategically

structured supply chain empowers your business to adapt to market changes, mitigate risks, and seize opportunities for growth. With a robust supply chain in place, you can unlock the potential to fuel the further expansion of your company and achieve sustainable success in today's competitive business landscape. Supply chain planning is undoubtedly a challenging endeavor, requiring intricate problem-solving skills. However, it can be simplified into a cohesive best practice process that seamlessly aligns with planners' conceptualization and execution, ensuring precision and perfection. The simplified process unfolds as follows:

- 1. Demand forecasting and planning:** The foundation of successful logistics lies in accurate forecasting and demand planning. Utilizing a variety of forecasting models, the solution selects the most suitable model and employs an AI-powered framework to continually enhance precision and adaptability.
- 2. Lead time forecasting:** Disruptions are inevitable in supply chains. Companies require a solution that incorporates disruptions to create lead time forecasts and assess their variations. Factoring these disruptions into safety stock calculations offers significant advantages and insight into supplier-related challenges.
- 3. Service level optimization:** Determining the ideal service level for the market is a multifaceted endeavor. An ideal Supply Chain Planning solution simplifies this process through an automated tool that optimizes service levels with minimal manual intervention.



The power of connectivity: Transform your business with supply chain planning and management

4. Order cycle optimization: As the first order approaches, determining the optimal order frequency becomes critical. This is a complex mathematical calculation that juggles variables, commercial dynamics, and logistical constraints. A robust Supply Chain Planning solution is adept at orchestrating this intricate symphony, equipping buyers with the insight to make astute and profit-maximizing decisions.

5. Automated ordering: The culmination of meticulous planning and strategizing unfolds in the realm of automated ordering. This feature not only streamlines the process but also introduces a layer of optimization. By intuitively flagging exceptions, this approach significantly reduces planning time while improving accuracy.

6. Special orders: With time savings achieved, planners can devote their energy to strategic planning, such as anticipating changes in demand, promotions, and forward buying.

7. Validation: Order validation is a critical final step in the supply chain planning process. With the right Supply Chain Planning tool, orders undergo rapid validation, with options for manual approval or automated acceptance based on predefined criteria. Implementing this approach not only cultivates heightened control and efficiency but also unlocks a significant amount of time and provides enhanced control for both buyers and planners. This newfound freedom allows them to delve into strategic activities such as Sales and Operations Planning (S&OP), fostering collaboration among teams and refining assortment planning to better meet the ever-evolving needs and preferences of customers. By incorporating this approach, organizations can optimize their operations, streamline their processes, and drive greater success in their business endeavors, leading to increased customer satisfaction, improved profitability, and a competitive edge in the market.

For more on this and other supply chain topics, visit our website [Blue Ridge](#) and book a meeting with one of our supply chain experts today: <https://blueridgeglobal.com/contact/> or reach out to [Book a Meeting](#).



About Blue Ridge

Company description

Blue Ridge Global is a leading provider of supply chain management solutions, offering comprehensive software for demand planning, replenishment, inventory optimization, and S&O planning.

About us

Blue Ridge Global offers a simple, scalable, and powerful supply chain management solutions allow businesses to break free from spreadsheets and inadequate ERP planning modules, enabling them to leverage a data-driven and AI-powered supply chain planning engine, supported by world-class customer support.

After years of servicing our customers, we have seen the diverse challenges of supply chain planning. We help our customers to gain control of their supply chain and to achieve

profitability. Through our partnerships we can support our customers with end-to-end supply chain solutions. To find out more on how to achieve supply chain success click here. <https://blueridgeglobal.com/>

To learn more, visit our website [Blue Ridge](#) and book a meeting with one of our supply chain experts today: <https://blueridgeglobal.com/contact/>

For insights into what Blue Ridge can do for you to optimize your supply chain management have a [look for yourself!](#)

Author



Sverre Rosmo
General Manager of Europe

For almost a generation, Sverre Rosmo has marketed, sold, designed, and implemented supply chain planning solutions throughout Europe and now oversees Blue Ridge's operations in the Nordics.

Sverre has an educational background in business strategy and logistics and a varied career helping retailers, distributors, and manufacturers get in control of their supply chain- and production planning in several countries across Europe.

Having seen the Blue Ridge solutions save companies and turn them into profitable and rewarding companies to work in, Sverre has become passionate about the immense value that the solutions bring to the table – all from breakthrough changes in the annual statements to creating new and enriching job content for our heroes, the supply chain planners, – to management gaining full control of the company, and for the owners who see their investment prosper and thrive.

For more supply chain insights, feel free to connect with Sverre on LinkedIn by clicking here! <https://www.linkedin.com/in/sverrerosmo/>



The significance of DC design and the consequences of neglecting it

The significance of DC design and the consequences of neglecting it

Overview

An efficient DC Design plays a pivotal role in optimising supply chain operations, regardless of whether it is a new build or a redesign of an existing facility. The following points outline the importance of a well-planned DC and explore the potential consequences of neglecting it.

Operational inefficiencies

Investing time in DC design is critical. A poorly designed layout can lead to bottlenecks, congestion, poor material flow, resulting in increased cycle times, fulfillment delays, and decreased productivity. Inefficient workflows can strain labour resources, leading to higher labour costs, poor productivity and errors. This can significantly impact operational efficiency, hindering the overall performance of the supply chain.

Wasted space and ineffective storage

Failure to prioritise storage optimisation can force businesses to invest in additional facilities or outsource prematurely. Storage solutions such as racking and shelving, together with inventory strategies, require detailed analysis as they drive higher utilisation levels. Businesses may struggle to accommodate growth efficiently if not addressed. This can result in increased storage costs, compromised inventory accuracy, and difficulties in locating and retrieving products in a timely manner.

The footprint of a DC is only one aspect of a design; to optimise you must also look at the cubic space available within the four walls. Ensure racking or automation is built to the maximum permissible height. Procure material handling equipment (MHE) / material handling systems (MHS) that will allow you to effectively and efficiently use the entire building cube.

Inaccurate inventory management

Warehouse DC design plays a critical role in ensuring accurate inventory management. Neglecting design considerations can lead to poor inventory tracking, misplaced products, and inaccurate cycle counts. A well-designed layout incorporates clear labelling systems, defined storage areas, inventory management technologies or the businesses risks understocking, overstocking, and errors in order fulfillment. This not only affects customer satisfaction, but also increases financial pressure due to higher stocking costs, stock obsolescence, and increased shipping costs.

Some potential inefficiencies in a DC are the lack of an effective Sales, Inventory, Operations Planning (SIOP) process, incorrect storage location types and sizing resulting in low utilisation, poor product slotting, and slow moving and obsolete stock. Addressing these issues can reduce footprint, lower labour costs and potentially defer a move to a larger facility.

Scalability and adaptability

The disregard of effective DC design affects limitations in terms of scalability and adaptability. A poor design lacks the flexibility to accommodate changing business requirements, fluctuating inventory volumes, and space to introduce new product lines. Failing to invest time wisely in designing a scalable and adaptable DC design solution can result in decreased agility, higher costs and slower response to market demands.

Data is king, and master data quality is especially important and generally the most neglected database due its complexity. Unit of measure (UOM) and weights are key, as this will provide the cubic information required to accurately size your requirements. Information generated from your ERP and or WMS, allows you to understand current and historical information and by adding growth you have a view of your future needs.

Safety hazards and reduced employee well-being

Inadequate planning may lead to congested aisles, while insufficient lighting and unclear signage can raise the chances of accidents, injuries, and worker dissatisfaction. Neglecting to prioritise safety can lead to increased absenteeism, higher turnover, and potential legal liabilities. Additionally, an unsuitable DC Design can impede ergonomic work practices, causing physical strain on employees, and decreased productivity.

A full safety audit is a starting point, if this has not been done recently, or you are unaware of the correct process, a supply chain or safety consultant can help. They can provide an initial audit service and set of review documents for you to take on the task for future audits. I recommend that these be done annually at a minimum.

DC Design is of paramount importance in ensuring efficient supply chain operations. Neglecting to allocate time and resources to this critical aspect can lead to a range of negative and unintended consequences. Extolla understands the importance of DC Design and helps businesses to proactively invest in optimisation that unlocks substantial operational and cost benefits.

About Extolla

Company description

Extolla specialist, end-to-end, supply chain solutions organization, solving complex problems and designing outcomes for manufacturers, distributors, wholesalers, 3PL's and omni-channel retailers.

About us

Our expertise lies in designing and driving innovative and efficient enterprise commerce for leading manufacturers, distributors, 3PLs and omni-channel retailers. We do this by applying our extensive supply chain technology, operations and software solutions experience.

At Extolla, we're committed to delivering real results for your organisation. This means that we go beyond presenting data and reports: we determine the best solution for your business and then we see it through from implementation to perfection.

Our experts have the experience to provide solutions to enhance any area of your supply chain. Reach out to [Extolla](#) for an obligation free discussion to help solve your supply chain challenges. We deliver results, not PowerPoint presentations.

Author



David Bille

Director DC Design,
Robotics and Automation

David has over 30 years experience in the Supply Chain industry, working in senior roles with international systems manufacturers and integrators. In 2015 he decided to start consulting and use his experience in providing customers with pragmatic solutions to enhance their businesses.

Connect, contact and follow [David on LinkedIn](#)



Best practices in warehouse management

Best practices in warehouse management

Warehouse Management System (WMS) best practices: Navigating the future of efficient warehousing

Warehouse operations continue to evolve rapidly, driven by technological advancements and changing consumer demands. As businesses strive to stay competitive and meet customer expectations, implementing effective warehouse management system (WMS) best practices becomes essential. Below are five predictions for the future of WMS best practices and how they will shape the landscape of warehousing.

Automation & robotics

As the technology landscape continues to advance, we can expect to see a significant increase in automation and robotics deployed in conjunction with warehouse management systems. Combined with robotics, [automation promises to revolutionize warehouse operations](#), improving efficiency and accuracy and reducing labor costs. Several trends in this area will likely emerge in the coming years. Robotic process automation (RPA) will streamline repetitive tasks, while autonomous mobile robots (AMRs) will optimize material handling and order picking. Collaborative robots (Cobots) will work alongside human workers, augmenting capabilities and automated guided vehicles (AGVs) will autonomously transport goods within the warehouse. Integrating artificial intelligence with these technologies will lead to even more intelligent and adaptive warehouse operations, requiring highly efficient, flexible and responsive warehouse management systems.

Artificial Intelligence (AI) and Machine Learning (ML)

In the coming years, we will see more widespread adoption of AI-driven WMS solutions. AI algorithms will analyze vast amounts of historical and real-time data to make accurate predictions and intelligent decisions. This includes demand forecasting, optimizing inventory levels and predicting the best routes for order fulfillment. By integrating AI and ML technologies into WMS, businesses can achieve greater efficiency in inventory management, reduce costs and improve overall operational performance. Moreover, AI-powered robotics will play a more significant role in warehouse automation, working collaboratively with human workers to streamline tasks like picking, packing and sorting.

The Internet of Things (IoT)

The Internet of Things (IoT) will continue to play a crucial role in enhancing warehouse operations. IoT devices, such as RFID tags, sensors and beacons, will provide real-time data on inventory levels, location tracking and environmental conditions within the warehouse. These real-time data analytics will enable businesses to achieve higher levels of accuracy in their inventory management and reduce the risk of stockouts or overstock situations. By leveraging IoT data, WMS can optimize warehouse layout and product placement, streamline order processing and improve overall supply chain visibility. Real-time data analytics will enable businesses to make informed decisions promptly, leading to improved customer service and increased productivity.

Cloud-based WMS solutions

Cloud-based WMS solutions are set to gain more traction in the coming years due to their flexibility, scalability and cost-effectiveness. Cloud-based systems offer real-time access to data from any location, making it easier for warehouse managers to monitor operations and make data-driven decisions remotely. This level of accessibility enhances collaboration between different stakeholders, such as suppliers, manufacturers and customers, leading to a more agile supply chain. [Cloud-based WMS also reduces the need for extensive IT infrastructure](#) and lowers initial investment costs. Additionally, the scalability of cloud-based systems allows businesses to adapt quickly to changing market demands and easily expand their warehouse operations when needed.

Omnichannel fulfillment strategies

As consumers continue to expect a seamless shopping experience across multiple channels, businesses will focus on enhancing omnichannel fulfillment strategies. A well-optimized WMS will be crucial in managing complex order fulfillment processes, efficiently handling orders from various channels such as e-commerce platforms, brick-and-mortar stores and mobile applications. To achieve a seamless customer experience, WMS needs to be integrated with other business systems, such as enterprise resource planning and transportation management systems. This integration will enable end-to-end visibility and facilitate smoother order processing and delivery coordination, regardless of the sales channel.

Best practices in warehouse management

As AI and ML technologies become more integrated into WMS, businesses can leverage data-driven insights to optimize warehouse operations and streamline supply chain processes. IoT-powered real-time data analytics will enable greater visibility and accuracy in inventory management, reducing costs and improving customer service. Cloud-based WMS solutions will offer increased agility and scalability, while omnichannel fulfillment strategies will cater to evolving consumer demands. Embracing automation and robotics will improve efficiency and accuracy, while reducing labor costs.

By staying proactive and embracing these predictions for WMS best practices, businesses can unlock new levels of efficiency, productivity and customer satisfaction in their warehousing operations, ensuring long-term success in a rapidly changing landscape.

[enVista](#) takes the guesswork out of [warehouse management software selection and implementation](#). With unparalleled WMS expertise, proven methodology and a vendor agnostic approach, hundreds of leading brands leverage enVista's experts to streamline their WMS implementations and selections. [Contact us today](#). Let's have a conversation.®



About enVista

Company description

enVista is a leading supply chain and enterprise consulting firm, uniquely designed to optimize supply chain performance through people, processes and technology

About us

[enVista](#) is a leading supply chain and enterprise consulting firm and the premier provider of supply chain technology & strategy services, automation & robotics, Microsoft solutions and IT managed services. With 20+ years of unmatched domain expertise and a portfolio of innovative solutions, enVista serves thousands of leading brands across the globe. enVista's unique ability to consult, implement and operation across supply chain, IT and enterprise technology solutions allows mid-market and Fortune 100/5000 companies to leverage enVista as a trusted advisor across their enterprises.

We take the guesswork out of warehouse management software selection and implementation. With unparalleled WMS expertise, proven methodology and a vendor agnostic approach, hundreds of leading brands leverage enVista's experts to streamline their WMS implementations and selections.

[Contact us today. Let's have a conversation.®](#)

Follow enVista on [LinkedIn](#) for industry news and updates.

Authors



Dan Avila

Vice President of Sales,
Consulting & Automation

[LinkedIn](#)



Scott Antoun

Sr. Sales Director

[LinkedIn](#)



Cal Petty

Sr. Sales Director

[LinkedIn](#)



The evolution of Warehouse Control Systems:

**Adapting to modern
supply chain challenges**

The evolution of Warehouse Control Systems: Adapting to modern supply chain challenges

Introduction

Warehouse Control Systems (WCSs) have maintained their core purpose over the past few decades, but their application and integration within the realm of distribution centers (DCs), fulfillment centers, and warehouses have evolved significantly. In today's dynamic supply chain landscape, advanced Warehouse Management Systems (WMSs) and Warehouse Execution Systems (WESs) have transformed how WCSs are utilized. This article explores the changing role of the WCS, the integration of functionality within a WMS, and the imperative for WCS adoption in the context of modern supply chain automation and efficiency.

The shifting landscape of the WCS

While the fundamental principles of WCSs remain consistent, their implementation and synergy with other technologies have undergone profound changes. Today's WCSs provide comprehensive visibility tools, event monitoring, and notifications, allowing for real-time assessment of operational health. Additionally, WCSs offer advanced functionalities such as load and lane balancing, mechanical optimization, exposed APIs, and data-sharing capabilities to facilitate seamless integration and configuration within distribution centers.

WMS-WCS synergy

The integration of WCS functionality into WMS solutions is a notable development. As the demand for WCS grew alongside WMS adoption, several WMS Vendors/Providers recognized the benefits of incorporating WCS features into their offerings. This integration enhances overall capabilities and simplifies discussions about interoperability and integration. Since integration challenges often pose project hurdles, merging WCS functionality into core applications streamlines the implementation process and ensures smoother execution.

Catalysts for WCS adoption

The decision to adopt a WCS arises when a distribution center faces challenges related to capacity constraints, exceeding outbound sales orders, and meeting Service Level Agreements (SLAs). Rather than solely resorting to expanding the workforce, considering a WCS becomes crucial. However, this decision necessitates careful consideration of the automation it will drive—whether it involves conveyors, ASRS, G2P, AutoStore, or other automated systems. In this era of workforce scarcity, automation has gained prominence as an efficiency-

enhancing solution and WCS functionality is critical to getting the most out of your investment in automation.

The role of a WCS in the modern supply chain

Many distribution centers incorporate various material handling subsystems, often managed through ERP systems or WMS. While these systems aid in order planning and inventory control, they have limitations in optimizing work allocation and balancing across different facility areas. The current market demands deeper visibility and productivity insights, which many ERP and WMS solutions struggle to provide. This gap is where a WCS steps in, offering enhanced management tools and enabling better resource allocation.

Maturation of WCS functionality

Over the years, WCSs have matured considerably. Initially, they were crafted as custom software solutions by professionals with expertise in material handling. These bespoke solutions eventually evolved into standardized, versatile systems capable of adapting to various industries and material handling solutions. The iterative development process, fueled by project requirements, led to the emergence of robust, saleable WCS solutions that cater to a broad spectrum of industries. One such solution is Körber's Unified Control System (UCS) which was developed for the requirements of automated warehouses. This UCS provides a single, vendor-neutral point of management and control for AMR and other automation technologies, in conjunction with the people that operate them. It can integrate with any WMS to access required stock and order information and automatically assign fulfillment tasks to the available resources, depending on suitability and current workload.

Conclusion

Warehouse Control Systems have maintained their core essence while adapting to the ever-evolving demands of the modern supply chain landscape. Their integration with WMS solutions, the increasing reliance on automation, and the enhancement of management tools have propelled the WCS to play a pivotal role in optimizing distribution centers and warehouses. As supply chain complexities continue to grow, the synergy between a WCS, automation, and advanced management solutions remains essential for maintaining competitiveness and efficiency. A Unified Control System (UCS) enables you to unlock the potential of highly automated warehouses.

The evolution of Warehouse Control Systems: Adapting to modern supply chain challenges

Businesses with mixed technology portfolios can experience the following challenges:

- Integrating multiple systems separately increases deployment duration and requires different skill sets
- Pinpointing root causes of bottlenecks and process improvements across the different systems is tedious and time consuming
- If issues cannot be resolved, customers are left to chase down their resolution across multiple technology vendors
- Performing upgrades and software maintenance for each system individually is risky and time consuming

For more about Alpine, this topic and others, visit alpinesupplychain.com, or [contact us](#) to set up a consultation.



About Alpine Supply Chain Solutions

Company description

[Alpine Supply Chain Solutions](#) are dedicated experts with a commitment to implementing supply chain solutions that offer a measurable ROI. Our core focus lies in optimizing space, equipment, labor, and systems within the four walls of the warehouse to boost productivity, cut costs, and elevate quality. We think out of the box, harness every opportunity to enhance your operations, and push the limits of what can be achieved. This is why we were named Körber 2023 Breakthrough Partner of the Year.

Alpine specializes in the implementation and optimization of Körber's WMS solutions, including Warehouse Edge and Warehouse Advantage. We use a unique data-centric approach and decades of experience to ensure WMS success. By combining the power of Körber's industry leading WMS solutions and Alpine's deep system implementation experience, you get a strong partnership that yields a powerful supply chain transformation.

For more about Alpine, this topic and others, visit us [HERE](#); click on the [Contact Us](#) link to set up a consultation.

Key capabilities:

- Requirements Definition
- System Justification
- System Selection
- System Implementation, Upgrade & Expansion (Client-side Responsibilities)
- Work Instruction & SOP Development
- Remote/Onsite System Training
- Leadership Development
- Organizational Change Management

Core industries

- Retail and e-commerce
- Wholesale Distribution
- Food and beverage
- Grocery
- Manufacturing
- 3PL

Referenceable customers

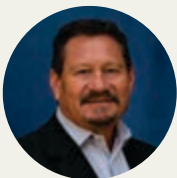
- [HJI Supply Chain Solutions \(HJI\)](#)
- [Southern Maryland Electric Coop \(SMECO\)](#)
- Good Eggs
- [Raymour & Flanigan](#)

Customer Testimonial

"Alpine proved to be the right partner at the right time. They quickly assessed our situation and got our Körber implementation on track. In the end, they helped us maximize the investment we had already made in our supply chain technology – saving us both time and money."

Shane Allgeier, VP of Operations
[HJI Supply Chain Solutions \(HJI\)](#)

Author



Greg Utter
Senior Managing Director
[LinkedIn](#)

Greg Utter is a seasoned Supply Chain Technology and Operations Professional with a focus on driving revenue through value engineering. With over 35 years of experience, Greg is an innovative leader in Supply Chain Sales, Consulting, and Implementation. He brings deep expertise in diverse supply chain technologies, including on-premise, cloud-based, and SaaS solutions, covering areas such as supply chain execution, planning, labor management, warehouse management and advanced analytics. Greg's career journey includes pivotal roles at Fleming Foods, Dallas Systems/EXE Technologies, and a 15-year tenure at Manhattan Associates. He has a track record of delivering focused solutions to Fortune 500 companies across vertical markets. Greg regularly contributes thought leadership content to industry publications including CSCMP's Supply Chain Quarterly and was named a Food Logistics 2023 Rock Star of the Supply Chain.

Section IV

Fulfillment



Carrier diversification:

**Avoiding capacity
crunches and
spiraling costs**

Carrier diversification: Avoiding capacity crunches and spiraling costs

The logistics industry is getting more and more expensive each year. Over the past year alone, U.S. logistics costs grew 19.6% year-over-year. Ouch. While some costs are unavoidable, there are ways to mitigate others. In this article, we'll explore how to ease the pain of unnecessary costs related to transportation and capacity crunch.



Unpacking the capacity crunch

Capacity crunch occurs when the demand for transportation overwhelms the available space. Seasonal shopping sprees, rapid economic shifts, and regional disruptions, such as labor strikes or natural disasters, are typical culprits.

As the capacity noose tightens, businesses often face an immediate and painful consequence: soaring transportation expenses. With limited room, companies may be compelled to pay premium rates, or even worse, resort to less efficient methods to get the job done. This is where the power of choice, offered by a multi-carrier strategy, starts to shine.

The multi-carrier approach: A game changer

By leveraging multiple carriers, businesses can anticipate and bypass potential capacity issues. The advantages of this approach are manifold. They range from increased efficiency—thanks to the ability to pivot swiftly between carriers—to geographic reach, where different carriers excel in different regions. Additionally, diverse carrier relationships can offer a comprehensive view of the volatile spot market, ensuring cost-effective decisions.

Insider tips to multi-carrier success

[Implementing a multi-carrier approach](#) does not come without challenges. Over years of working with a variety of carriers, we've produced some of the most important aspects of this process. As you build out your multi-carrier approach be sure to:

Cultivate strong relationships: Forge partnerships with key carriers to ensure that in tight situations, your business becomes their priority. Tip: Schedule quarterly meetings with each carrier to discuss performance metrics, potential challenges, and future plans. Regular communication builds trust and ensures alignment of goals.

Tailor your contractual agreements: Avoid one-size-fits-all contracts. Instead, customize each contract based on the carrier's unique strengths and offerings.

Tip: Customize payment terms based on volume, frequency, and reliability. For example, consider offering longer payment terms for carriers that provide consistent, high-volume service.

Automate your processes: Invest in a modern Transportation Management System (TMS) to select the most suitable carrier for each shipment in real-time.

Tip: Use a TMS that integrates with real-time tracking and data analytics. This ensures you're always informed and can make swift decisions based on current data.

Consider hybrid carriers: Explore carriers that specialize in both traditional freight and parcel shipping for greater flexibility.

Tip: Assess the percentage of shipments that fall between traditional freight and parcel sizes. Then, engage with carriers that can handle this "middle zone" efficiently.

Partner with regional specialists: Maximize efficiency in specific areas by collaborating with carriers known for their regional expertise.

Tip: Conduct bi-annual reviews of regional delivery performance metrics. Partnering with top-performers in each region ensures timely and efficient deliveries.

Always have backup plans: Keep a ranked list of carriers for each route or product type to ensure continuity.

Tip: Maintain an up-to-date list of at least three carriers for each route or product type, ranked based on cost, reliability, and performance.

Carrier diversification: Avoiding capacity crunches and spiraling costs

Streamline management processes: Juggling multiple carriers can increase overheads. Establish systems to manage contracts, communications, and invoices efficiently.

Tip: Consolidate billing by using platforms or software that can collate invoices from various carriers into a single, organized report.

Address integration challenges head-on: Ensure your IT solutions seamlessly integrate all carrier services.

Tip: Implement middleware solutions that act as connectors between different IT systems, allowing for easier integration of various carrier platforms.

Maintain consistent service levels: Regularly monitor and ensure each carrier provides a consistent and satisfactory customer experience.

Tip: Develop a standardized performance scorecard for carriers. Evaluate them monthly on factors like punctuality, damage rates, and customer feedback.

Acknowledge the power of carrier loyalty: While diversifying carriers, be aware of potential bulk discounts or loyalty benefits.

Tip: If you have a preferred carrier, consider offering them exclusive access to certain high-volume routes in exchange for discounted rates.

Partner with regional specialists: Maximize efficiency in specific areas by collaborating with carriers known for their regional expertise.

Tip: Conduct bi-annual reviews of regional delivery performance metrics. Partnering with top-performers in each region ensures timely and efficient deliveries.

Always have backup plans: Keep a ranked list of carriers for each route or product type to ensure continuity.

Tip: Maintain an up-to-date list of at least three carriers for each route or product type, ranked based on cost, reliability, and performance.

Streamline management processes: Juggling multiple carriers can increase overheads. Establish systems to manage contracts, communications, and invoices efficiently.

Tip: Consolidate billing by using platforms or software that can collate invoices from various carriers into a single, organized report.

Address integration challenges head-on: Ensure your IT solutions seamlessly integrate all carrier services.

Tip: Implement middleware solutions that act as connectors between different IT systems, allowing for easier integration of various carrier platforms.

Maintain consistent service levels: Regularly monitor and ensure each carrier provides a consistent and satisfactory customer experience.

Tip: Develop a standardized performance scorecard for carriers. Evaluate them monthly on factors like punctuality, damage rates, and customer feedback.

Acknowledge the power of carrier loyalty: While diversifying carriers, be aware of potential bulk discounts or loyalty benefits.

Tip: If you have a preferred carrier, consider offering them exclusive access to certain high-volume routes in exchange for discounted rates.

By implementing these tips, you'll be well-prepared to navigate the intricacies of a multi-carrier strategy to avoid capacity crunch and cost challenges.

Want to leverage the power of multi-carrier shipping?

[**Talk to a shipping expert today.**](#)

About EasyPost

Company description

At [EasyPost](#), we're not just another shipping solutions provider. We believe in the power of technology to simplify complex logistical challenges. With access to [100+ carrier integrations](#), AI-driven analytics, and world-class customer support, we've positioned ourselves as the preferred partner for businesses aiming for logistical excellence.

EasyPost is a technology leader that builds shipping solutions to help businesses of all sizes save money, find the best carrier, and deliver parcels more reliably. The company provides a best-in-class multi-carrier shipping API that removes the technical complexities of logistics while making shipping easy, efficient, and affordable.

Want to leverage the power of multi-carrier shipping?

[Click here to talk to a shipping expert today.](#)

Author



Lori Boyer

Senior Marketing Communications Manager

[LinkedIn](#)

Lori Boyer brings a wealth of knowledge to every project she undertakes. As a Senior Marketing Communications Manager at EasyPost, she works diligently to ensure businesses harness the full potential of modern shipping solutions. Lori's insights, paired with her passion for innovation, make her a driving force behind EasyPost's success.



Focus on fulfillment optimization

Focus on fulfillment optimization

Fulfillment optimization

Today's brands, retailers, distributors and 3PLs face an increasingly discerning customer. As customer expectations evolve constantly, both B2C and B2B businesses need to optimize their order fulfillment processes, i.e., making optimal promises and fulfill those promises profitably. We (Red-Shift) examine the key levers in achieving this fulfillment optimization.

Inventory

Inventory is a double-edged sword. Having the right amount of inventory at right place and time is essential for optimal order promising and fulfillment, but it is easier said than done. Having too much inventory in some locations with not enough demand, and too little at other locations is an everyday problem for organizations.

Excessive inventory leads to increased cost and risk of obsolescence. Lower inventory leads to lost sales. Unbalanced inventory in the network also leads to higher order splits and increased shipment costs.

Further, inaccurate inventory tracking results in overselling or underselling, hence leading to dissatisfied customers or lost sales. Maintaining inventory accuracy across all the systems involved in the order life cycle would ensure that the right promise is made to the customer and delivered accurately, on-time and in full (OTIF). For retail locations, this also helps to maintain optimal buffer stock levels at stores to support walk-in customers.

Maintaining optimal inventory and accurate inventory tracking requires orchestration across demand planning, supply planning, inventory optimization, order management and fulfillment solutions. They require constant calibration, planning and execution. An order management system (OMS) plays a critical role in integrating across these planning and execution systems.

Order processing and allocation

The next piece in the puzzle is a streamlined order workflow from order capture to fulfillment. Integration and automation of end-to-end order flow across various sales channels and fulfillment options reduces the scope



for errors of omission and commission. Next comes building appropriate prioritization, sourcing, and allocation rules in OMS for optimal allocation and routing to consider various factors like inventory availability, proximity to customer, shipping and handling costs, facility capacity utilization etc. Tuning parameters such as splits allowed per order based on the inventory positions and order size would help reduce the shipment cost. Increasingly, AI is playing a key role in the allocation optimization.

Fulfillment process (warehouse, store fulfillment and vendor drop-ship)

Traditionally, fulfillment used to be done through warehouses, but a big piece of optimal fulfillment in modern omni-channel world is fulfilling from stores and vendor facilities as well. Well-designed warehouse layouts with a modern WMS, streamlined operations, good inventory management processes and robotic outbound processes are essential for optimal warehouse-based fulfillment. OMS plays a critical role in optimized store fulfillment and vendor drop-ship. Bringing store and vendor inventory accuracy levels and store picking efficiencies closer to the levels of warehouses are the next frontiers in optimal order fulfillment across the network.

Focus on fulfillment optimization

Shipping and delivery optimization

Having a reliable set of parcel and local carriers, and an automated process for two-way communication process with the carriers are important parts of the fulfillment puzzle. Carrier selection should consider several factors including service levels, delivery network coverage, reliability, technology support and cost.

Technology - Microservices:

Technology plays a key role in bring all these pieces together. However, legacy monolithic ERP and WMS are too rigid to enable this transformation. A flexible architecture that allows organizations to experiment, evolve and piece together technologies is the way forward. Fortunately, several microservice-based OMS, WMS and Supply chain planning solutions are available in the market today to aid the transformation.

Technology - Data analytics:

Leveraging advanced data analytics related to order patterns, fulfillment patterns, returns, and customer insights would help with processes such as optimal placement of inventory, carrier planning and tuning the sourcing/allocation parameters.

Conclusion

With ever-increasing customer expectations, B2C and B2B organizations need to use all the available levers in optimal order promising and fulfillment, while protecting the profit margins. Inventory management, order orchestration, physical fulfillment, shipping optimization, and customer communication are some of the key levers in the overall fulfillment optimization. Investments in flexible systems – such as microservices-based OMS / WMS, analytics, AI and fulfillment robots – enable organizations to pull these levers together profitably.

For more on this and other supply chain imperatives or to schedule a complimentary consultation, please contact us at info@red-shift.us or visit www.red-shift.us.



About Red-Shift

Company description

Red-Shift specializes in Order Management and Supply Chain System integration services by partnering with industry-leading Commerce (OMS), Supply Chain Planning (Demand Planning, Supply Planning, IBP), and Execution (WMS, TMS) Product vendors. We understand how Supply Chain and Commerce digitization is driving the top-line, bottom-line and customer experience of Brands, Retailers, Distributors and Logistics organizations. Be it Strategic assessments, innovative solutioning, accelerated implementations or on-going support, our techno-functional, global teams work hand in hand with the client teams and product vendors to ensure program success.

For more information

Have questions how we could help. Please reach us at info@red-shift.us or visit our website at www.red-shift.us.

Authors



Meher Vaddadi

CTO

[LinkedIn](#)

Meher is the Chief Technology Officer of Red-Shift. He is one of the sharpest brains on Order Management, Fulfillment Optimization, and modern technology architectures. He helped several US 100 retailers and brands in architecting world-class microservices-based Order Management Systems in his 20 years of professional career.

Please feel free to reach me at [LinkedIn: Meher](#).



Ram Yeleti

CEO

[LinkedIn](#)

Ram is a thought leader, entrepreneur, investor, and the CEO of Red-Shift. In his career spanning 25 years dedicated to Supply Chain Commerce, Ram has been a trusted advisor to Global 500 companies in transforming business processes and architecting technological solutions. Ram is also an evangelist of Sustainable Supply Chains. In his spare time, Ram loves helping young students in Critical Thinking Math.

Please feel free to reach me at: [LinkedIn: Ram](#)

Section V

Labor and robotics





The future of labor and robotics

The future of labor and robotics

What does the future hold for labor and robotics in supply chain technology? Before we look at the future, let's look at the present. Supply chain leaders [surveyed by MHI](#) identified hiring and retaining qualified workers and talent shortage as the top two supply chain challenges for 2023. Today's labor environment has made it challenging for supply chain leaders to hire for hourly, seasonal, and salaried roles. General managers in areas with many distribution centers have found themselves battling strong competition for hourly employees, often hiring workers only to lose them before their start date to a better offer. With these talent challenges, supply chain leaders need to look for strategies to meet the growing fulfillment demands of their customers, including robotics.

With those labor challenges as the backdrop, I think we safely predict more. More robotics. More robotics solutions. And more unique differentiators for robotics providers to solidify themselves.

More robots. At Bricz, we continue to hear from supply chain leaders looking for guidance at different stages of their automation journey. Some have no automation and want to know where to start. Others have implemented proofs of concept or small robotics use cases but are looking to take the next step. Still others have mature automation footprints in their supply chains and are looking for ways to optimize, complement, or upgrade their current portfolio.

More robotics solutions

The robotics vendor landscape remains crowded with over 400 vendors offering different kinds of solutions. Despite rising inflation, interest rates, and global economic uncertainty, established robotics vendors continue to grow with new startups continuing to enter the fray (albeit more slowly than in years past). Some have predicted consolidation in the automation sector. I think consolidation is coming, but not yet. Vendors continue to innovate to bring new solutions like automated trailer unloading to market. Vendors will need time to prove the viability and staying power of their solutions.

Additionally, the lack of platform standardization and solution interoperability among vendors will make consolidation more challenging. While robotic hardware

itself becomes more standard and moves towards commoditization, each vendor's unique technology platform presents a challenge to merge their suite of offerings with another vendor. Advances in technology will lead to more commoditization of robotics solutions which makes unique differentiators super important. In 2024, we predict fewer new vendors entering the robotics space with some established vendors consolidating (such as Ocado's acquisition of 6 River Systems), but overall, we see the automation space growing as both vendors and customers work to solidify new automation value drivers.

All of this points to the rise in even more unique differentiators for robotics solution providers. How can supply chain leaders choose the right automation solution for their unique needs? By selecting an automation solution tailored to them. As demand grows for supply chain automation, so will the need to solve specific automation challenges. Questions to consider:

- Can I automate pallet movement in my freezer area? Will this robotic arm handle my unique product?
- Will this solution be able to adapt and expand as my business grows?
- Is this solution resilient enough or will my operations come to a halt if there is a problem?
- What do maintenance and support look like? Does this automation solution fit with the others already live in my facilities?

The way that automation vendors answer these customer questions and deliver on those answers will determine whether they can build a devoted customer base or fade into the crowded sea of other vendors.

Software itself may prove to be the key differentiator for some solutions boasting things like AI-enabled optimization, intuitive platform user interfaces, and multi-solution orchestration capabilities. These differentiators don't necessarily have to be a killer feature function, but can include speed of installation, dedicated implementation teams, or robust partnership networks. Vendors with staying power will continue to establish themselves via their differentiators to stake out their lane. With a market

The future of labor and robotics

as large as supply chain automation, solution providers don't have to be everything to everyone, but can carve out a niche to build from.

Eventually, the supply chain robotics vendor landscape will consolidate. But until then, we're going to see more robots, more vendors, and more key differentiators offering unique opportunities for supply chains moving to the next step in their automation journey.

To discuss this topic and how to navigate the complexities of labor, automation and robotics, book some time with us at info@bricz.com.

Do you have other supply chain challenges you are looking to tackle? Visit us at bricz.com or reach out to us at info@bricz.com to connect and book an introductory conversation.



About Bricz

Company description

Bricz is a supply chain consulting firm equipping its clients to deliver omnichannel excellence. Visit us at <https://bricz.com/>

About us

Bricz is a leading provider of supply chain services supporting retailers, distributors, and 3PLS. The Bricz Supply Chain Services Suite helps our customers heighten their supply chain performance by driving the right strategy, deploying or optimizing fulfillment solutions, assessing, selecting and implementing optimal automation or robotics solutions, or by implementing our Predictive Omnichannel Fulfillment Planning software solution to optimize their omnichannel network and inventory placement. With offices in the US, UK, and India, our team of supply chain experts is laser-focused on driving supply chain excellence in operations across the globe.

Solutions: <https://bricz.com/solutions/>

Case Studies: <https://bricz.com/our-clients/>

We'd love to partner with you to tackle your supply chain challenges, reach out to us at: info@bricz.com to connect.

Author



Eric Schwartz

Director, Services

[LinkedIn](#)

Eric Schwartz leads the Automation & Robotics practice at Bricz with over 16 years of consulting experience specializing in supply chain technology, automation, and business process transformation. Eric is a client focused solution expert and partner with a proven track record of supply chain transformation delivery from design through implementation. Eric is passionate about embracing business automation and building teams by coaching and mentoring consultants as they grow in their careers.



The power of gamification

The power of gamification

Low engagement as major cost driver globally

With staggering losses of US\$8.8 trillion* globally due to disengaged employees, it is evident that finding effective solutions to this problem is more crucial than ever. Recent data has revealed that a staggering 79%* of employees are not engaged. This leads to decreased low engagement and motivation, which leads to lower productivity, increased absenteeism, higher turnover rates and quality losses. Especially, in the fast-paced world of the Logistics & Supply Chain industry, one critical challenge continues to persist - employee engagement. As traditional methods of motivation and performance improvement show limitations in sparking the much-needed enthusiasm on the shop floor, there is an innovative approach that holds the promise of igniting a fire of motivation within the workforce – gamification.

The power of gamification to increase engagement

Gamification, the art of infusing game-like elements such as rewards, challenges, leaderboards, and feedback into non-game settings like the workplace, is emerging as a game-changer in the Logistics & Supply Chain industry. This innovative approach goes beyond traditional employee motivation strategies, providing a dynamic and interactive way that engages the workforce and aligns them with the company's goals and values, while directly addressing the pain points prevalent in supply chain management. Let's see how gamification effectively tackles these challenges and transforms employee engagement on the shop floor:

Enhancing engagement and motivation

Gamification excels at enhancing employee engagement and motivation by infusing work with elements of fun, competition, and accomplishment. Interactive challenges and rewards create a sense of excitement, making daily tasks feel like engaging quests. Employees become active participants in their own growth, driven by the desire to achieve recognition and progress on their personal journeys. This heightened engagement translates into a more dedicated and satisfied workforce, ready to tackle challenges with enthusiasm and a sense of purpose.

Increasing productivity

Gamification empowers organizations to gain clear insights into employee progress and accomplishment. The gamified leadership board provides a comprehensive overview of individual and team achievements, allowing managers to identify top performers and areas for improvement. Data-driven insights empower leaders to make informed decisions and allocate resources effectively.

Reducing absenteeism and turnover rates

Absenteeism and high turnover rates can disrupt supply chain operations, leading to delays and increased costs. Gamification introduces engaging elements that make employees feel excited about coming to work and being part of a dynamic team. By incorporating challenges and rewards related to attendance, punctuality, and team collaboration, gamification fosters a feeling of teamwork and mutual encouragement. This creates a more positive work environment, which in turn helps reduce absenteeism, strengthen employee loyalty, and leads to lower turnover rates.

Improving quality control and productivity

Maintaining high-quality standards in the supply chain is crucial to customer satisfaction and brand reputation. Gamification can be utilized to encourage employees to proactively participate in quality control processes. By turning quality checks and performance assessments into interactive challenges, employees are motivated to excel and achieve recognition for their contributions. This heightened sense of accountability and achievement drives employees to strive for excellence, leading to improved productivity and a reduction in quality defects.

Unlocking the power of employee engagement with gamification

In the pursuit of stronger employee engagement on the shop floor, vaiibe works closely with Körber Business Area Supply Chain. Our solution consists of two pillars. First, a manager desktop version which can be used to define success metrics, create games and assign employees to games. Second, an app for employees to enroll in

The power of gamification

games, see leaderboards and collect coins which can be used for rewards in the digital store. vaibe integrates with WMS solutions or other systems to derive data for the respective games. Easy to use, vaibe's SaaS solution can operate on any device or platform, making it a flexible solution for companies of any size.

Curious about how vaibe can boost your employee engagement levels and drive your business to new heights?

[Book a meeting](#) with us or talk directly with your Körber Supply Chain Key Account!

*Source: [State of the Global Workplace: Gallup 2023 Report](#).

Manager view



Define games to engage workforce

- Configure metrics
- Create games
- Get reports

Employee view



Use app and turn work into fun

- Enroll in games
- See success
- Collect rewards

About vaibe

Company description

vaibe specializes in driving companies to develop highly engaged workforces through a gamified experience, success psychology and a reward & recognition system.

About us

At [vaibe](#), we understand the challenges and costs related to low employee engagement, especially in repetitive task-oriented companies. Our innovative approach increases engagement through a combination of gamified experiences, success psychology, and a reward & recognition system. We help companies to create a work environment that fosters enthusiasm, healthy competition, a sense of achievement and boosts employee satisfaction. Our solution is specifically designed to keep employees motivated on the shop floor, leading to enhanced productivity and overall company growth.

vaibe leverages data sourced from WMS solutions, making it applicable across various industries. Moreover, due to our affinities and since we belong to Körber, we have deep knowledge of supply chain and logistics & distribution.

Ready to unlock the full potential of your workforce? [Book a meeting with us](#) or talk directly with your Körber Supply Chain Key Account and discover how vaibe can boost your company's performance.

Author



Nick Retzmann

Chief Growth and
Product Officer

Nick is a driven entrepreneur and launched his first logistics startup right after completing his bachelor's degree. He later gained experience in Strategy and M&A Consulting in large international projects. Following his entrepreneurial itch, he then successfully developed and scaled multiple ventures in collaboration with renowned corporate company builders. In his previous role at Körber Business Area Digital he was responsible for the Körber group-wide Digital Innovation Process. At vaibe, he holds a pivotal position as the Chief of Growth and Product Officer.

