



# AI in Supply Chain:

How Leaders are Driving Breakthrough ROI

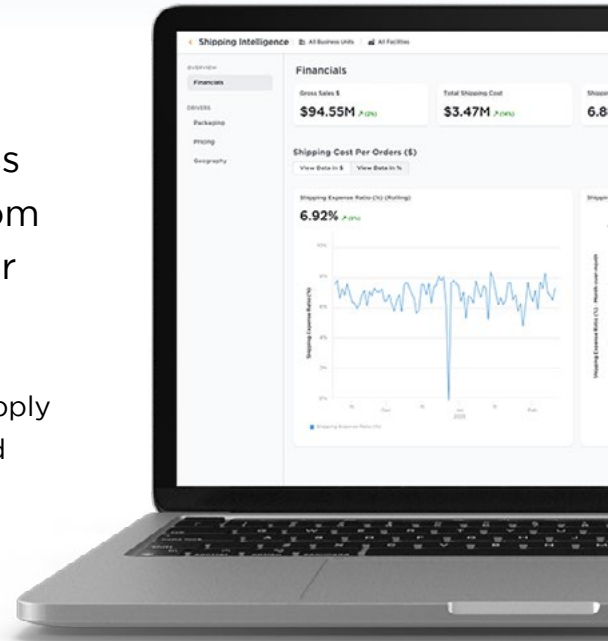


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The real power of AI-driven supply chain technology isn't in the algorithms—it's in the ability to turn complex data into actionable, game-changing insights that drive your business forward. Those who crack the code will shift from data overload to incredible ROI through smarter decisions, automation, and time savings.

To gain a deeper understanding of AI's adoption, impact on supply chain operations, and business value drivers, Deposco surveyed supply chain leaders from multiple industries including retail, ecommerce, 3PL, wholesale, and Consumer Packaged Goods.



## CHAPTER 1

# Where AI is Delivering Value

AI is rapidly transforming from hype to a competitive necessity. As forward-thinking organizations harness its power to redesign their supply chain operations, our comprehensive research reveals exactly how leaders are achieving breakthrough ROI—and offers a roadmap for successful AI implementation.

Our research survey of supply chain leaders highlights the areas where intelligent AI-driven supply chain solutions can transform your operations.

## Top Areas Benefiting from AI



Logistics & Transportation

**39%**



Demand Forecasting

**26%**



Inventory Optimization

**21%**



Workforce Planning

**18%**



Supplier Management

**13%**

## Logistics and Transportation: The Clear Front-Runner

Logistics and transportation emerged as the headline performer in our survey, with almost 40% of respondents saying they have seen benefits in that area from AI. This isn't surprising when you look at the potential ROI impact of AI:

- ✓ Reduce transportation costs by 5-10%
- ✓ Improve delivery reliability by up to 20%
- ✓ Deliver a 15% reduction in logistics costs
- ✓ Achieve a 35% reduction in inventory
- ✓ Eliminate 65% of lost sales due to inventory challenges

These figures, drawn from research by McKinsey & Company, underscore why logistics and transportation remain such fertile ground for AI-driven enhancements.

## Other Areas of Opportunity

Demand forecasting, inventory optimization, workforce planning, and supplier management are other areas where businesses have a huge opportunity to jump ahead of competitors with the untapped value of AI.

One such example is a demand forecasting solution that uses AI to predict not only the overall demand but also where products should be optimally allocated across different distribution centers. By combining historical sales data, real-time trends, and external factors, businesses determine the perfect placement of inventory to capture demand effectively. In fact, [McKinsey & Company](#) reports that AI-driven demand forecasting can reduce inventory levels by 30%.

## Newer Forms of AI Are Having an Impact as Well

As the [Harvard Business Review notes](#), “Recent advances in large language models (LLMs), a type of generative AI (GenAI), are reducing the time to make decisions from days and weeks to minutes and hours and dramatically increasing planners’ and executives’ productivity and impact.”

Moreover, GenAI brings a suite of capabilities that can further optimize and streamline supply chain operations. According to a [recent article](#), GenAI offers four primary benefits for supply chains:

### 1. **Enhancing the Data Backbone:**

GenAI can continuously clean and augment master datasets, such as bills of materials, and improve how organizations search and utilize supplier information.

### 2. **Augmenting Supply Chain Analytics:**

By extracting meaningful attributes from unstructured data (e.g., customer behavior and product features), GenAI can run a wide range of “what-if” scenarios to forecast product demand more accurately and anticipate potential disruptions.

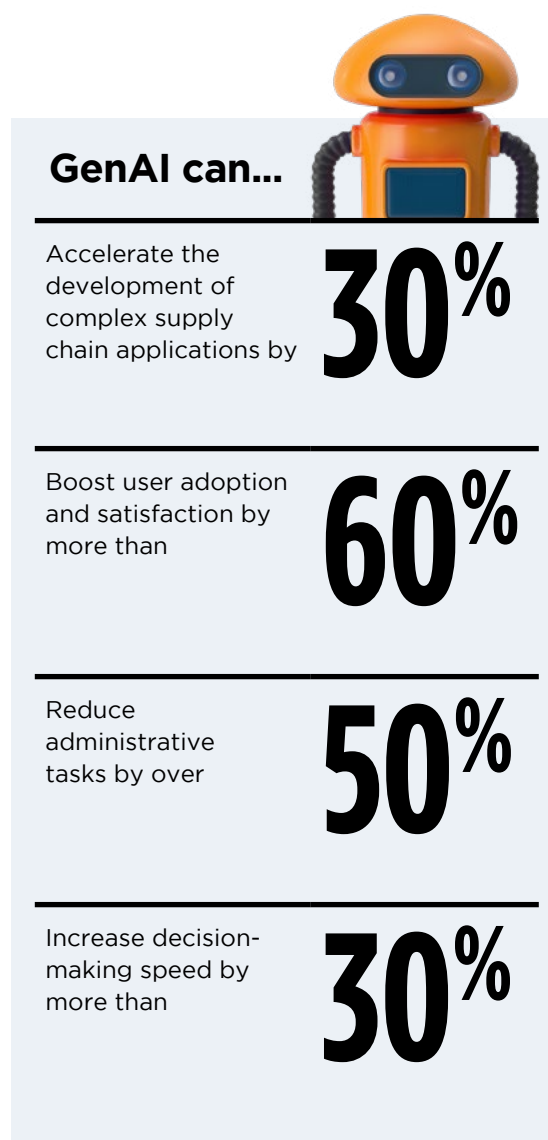
### 3. **Overhauling the User Experience:**

GenAI can simplify the use of sophisticated tools by enabling natural language interfaces—making advanced [planning solutions](#) more intuitive and encouraging broader user adoption.

### 4. **Deeply Automating Processes:**

By orchestrating multiple tools and workflows, GenAI can automate manual tasks (like data reconciliation), allowing companies to detect and address problems sooner.

These four benefits can drive significant improvements in both agility and productivity.



## CHAPTER 2

# The State of AI Adoption

Our research reveals when and where early adopters are focusing their AI adoption efforts, as well as which implementation strategies are proving most effective.

While AI is relatively new to the supply chain, our research shows 46% of organizations are already using it, with most implementations still in their early stages, using specific use cases to test value:

- 42% have been using AI for 1-2 years
- 33% started implementation less than a year ago

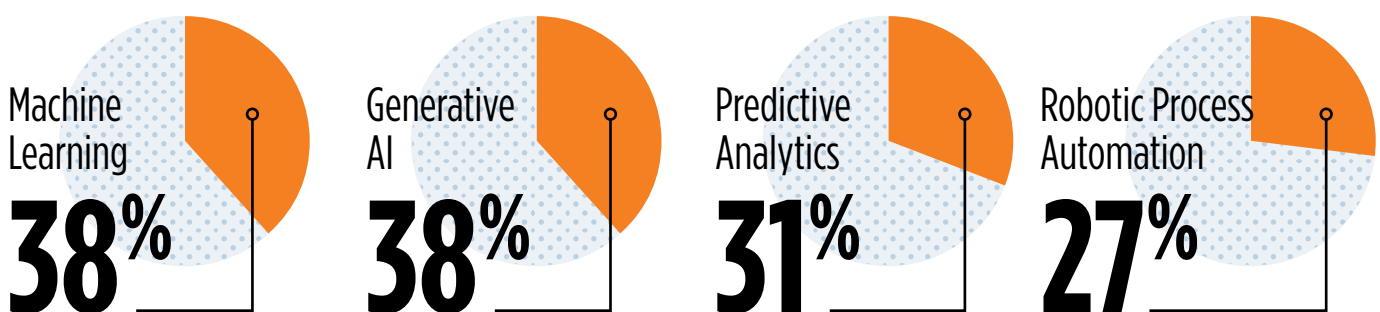
That means the opportunity for you to jump ahead is massive. Understanding what you want from AI is table stakes. A good way to model deployment is how [supply chain automation](#) is implemented.

Take robotics for example: a subset of tasks is automated initially, then scaled if it delivers real ROI. The same approach applies to AI. Define a use case, test it internally or with a provider, and scale only after confirming risks are mitigated and ROI is achievable.

What's interesting is that 47% of organizations struggle to measure their AI investments' true value. This isn't a failure—it's an opportunity for a more sophisticated approach. Spoiler alert: isolated point solutions won't get you there.

## Technology Mix: A Diverse Toolbox

Organizations aren't betting on a single technology. Instead, they're deploying multiple AI approaches:





This diverse adoption pattern suggests companies are still experimenting to find the right tools for different challenges rather than the more strategic approach of an unified and flexible WMS foundation.

According to Gartner's Hype Cycle, "LLMs and generative AI are approaching the 'Peak of Inflated Expectations,' while established technologies like predictive analytics are entering the 'Plateau of Productivity' where they deliver consistent value." The recommendation is to balance exploration of emerging AI capabilities with implementation of proven technologies that can deliver immediate ROI.

## Overcoming Data Overload

The other obstacle keeping businesses from AI adoption is system fragmentation. One of the fundamental requirements for AI is structured data that is used to train models. 78% of executives maintain separate systems for inventory, ordering, logistics, and planning. These data silos create blind spots that undermine your ability to make strategic decisions. This is why platforms will provide better growth using AI.

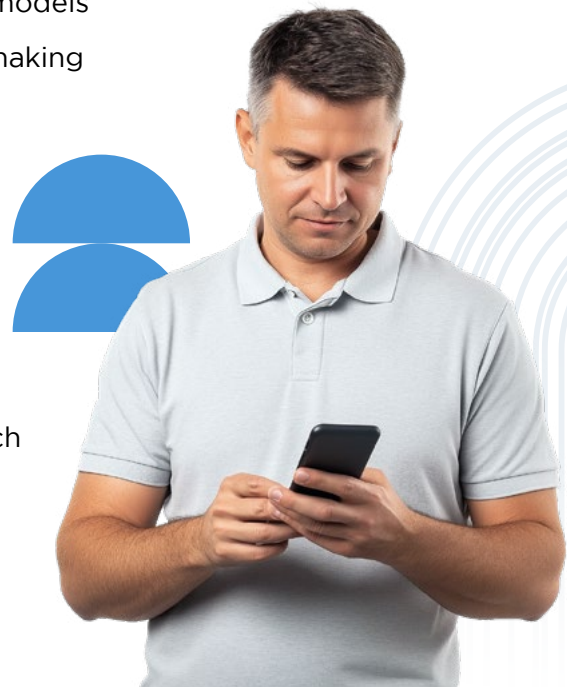
A unified platform breaks down the data silo barriers, providing:

- Consistent, validated, and contextual historical data sources to build AI on
- A single source of truth between supply chain activity, even in complex environments like multichannel models
- Executive insights that lead to optimal decision-making

### CHAPTER 3

## The ROI Equation: What Matters Most?

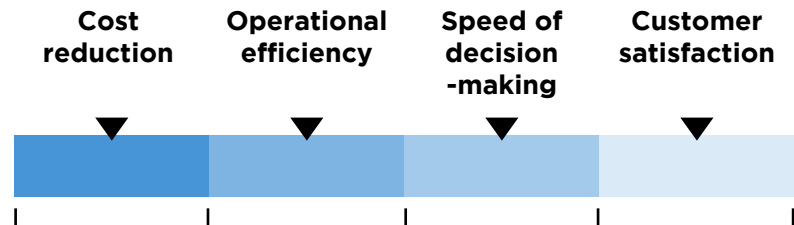
Measuring AI success requires looking beyond flashy algorithms to focus on true business impact. Our research uncovers what metrics matter most, why traditional ROI calculations often fall short, and how the right platform partnership dramatically accelerates adoption and value creation.



These priorities reveal that successful AI implementations must deliver tangible business outcomes, not just technological sophistication or hype.

Companies want solutions that directly impact the bottom line and customer experience—along with expert guidance and metrics to prove it.

*When evaluating AI investments, our research shows that organizations are focused on four key factors:*



## More Than the ‘Shiny New Thing’

Every software provider is waving the AI banner, bombarding you with promises of intelligent solutions. But let’s be clear: **a mountain of data without purpose-built insights is just noise.** True AI transformation requires more than algorithms—it demands a platform partner who understands the unique DNA of your business, turning your specific challenges into strategic advantages.

## 3x Higher Adoption Rates

The right technology partner helps you understand your unique challenges, commits to designing solutions that adapt to your specific needs, provides ongoing support and optimization, and ensures your data is as meaningful as it is easy to use.

As Bill Gibson, CEO of Deposco, puts it, expertise, onsite design, monitoring, change management, and proven implementation methodologies are the critical elements that move an organization’s data set from broken to breakthrough.

According to [Accenture’s Life Trends report](#), organizations that invest in these upskilling activities and create clear governance structures for AI see adoption rates 3.5 times higher than those focusing solely on technological capabilities.



## CHAPTER 4

# Unified Platforms Drive Better Results

The battle for AI leadership is revealing a clear winner: unified platforms over AI point solutions. Clean data integration, combined with a connected AI architecture, creates exponential value in a very short period.

Organizations pulling ahead of the competition with strong AI results aren't deploying isolated point solutions. They're taking a [unified platform](#) approach that integrates execution, intelligence, and planning capabilities—all with AI capabilities baked in.

## Execution + Intelligence + Planning

When these three critical components work together, the results are transformative:

- [Supply Chain Execution](#) **systems** (warehouse management + order management) provide the operational backbone and generate valuable data within a single source of truth.
- [Supply Chain Intelligence](#) **capabilities** transform this data into actionable insights and analytics for things like shipping intelligence and executive intelligence.
- [Supply Chain Planning](#) **tools** use these insights to optimize forecasting and inventory management decisions, ensuring product availability at a lower cost.

This integration creates a cycle where each component enhances the others, dramatically improving both operational performance and future decision-making at the most strategic level.

As Harvard Business Review points out, “LLM-based technology will transform supply chain management in the near future—enhancing its efficiency, resiliency, productivity, and accuracy. It will complement today's supply chain technologies, allowing planners to interact directly with their supply chain tools without the need for data scientists or engineers.”

McKinsey's research reinforces this integrated approach: “Companies that outperform in supply chain operations don't view AI as a series of isolated use cases. They build integrated data foundations and capabilities that span planning, execution, and analytics. This approach delivers 2–3 times greater ROI than disconnected point solutions.”

## CHAPTER 5

# Where to Start With AI

Transforming your supply chain with AI demands a strategic, proven approach—not experimental trials. Our research identifies the precise implementation sequence market leaders use to deliver rapid ROI while building a foundation for long-term competitive advantage. Let's break it down:

## 1. Build a Data Foundation

Create a single source of truth for your supply chain data:

- Consolidate information from siloed systems
- Implement data governance practices
- Choose a [supply chain platform](#) that integrates execution, intelligence, and planning

“AI within point solutions is pointless,” said Jason Franklin, Senior Director of Product Marketing, Deposco on the topic of [AI in supply chain management](#). “You can invest millions in separate AI tools for demand planning, warehouse optimization, and transportation—but if they can’t talk to each other, or operate from the most up-to-date or accurate data, you’ll be disappointed with the payoff.”

Unifying data across the supply chain goes a long way toward improving forecast accuracy, reducing inventory costs, and boosting [on-time delivery](#). When AI initiatives operate within a cohesive, real-time data framework rather than isolated tools, they consistently deliver tangible results.

## 2. Prioritize Fulfillment for Quick Wins

Our survey data indicates that 58% of organizations are seeing moderate to high benefits in this area. It's the ideal starting point for your AI journey. Ask how your supply chain software partner supports these key areas:

- [Rate shopping](#) and carrier selection optimization
- Dynamic routing based on real-time conditions
- Shipment [consolidation](#) opportunities



### 3. Develop Internal Expertise Through Partnership

The success rate of a self-guided implementation pales in comparison to implementations where there is a proven methodology, a solid AI roadmap, and a partner fully committed to being your go-to expert.

#### Industry Implementation Averages

Implementations	Self-Guided	Expert-Guided	Deposco
Success Rate	24%	76%	97%
Time to Go-Live	12 Months	6 Months	90 Days
Budget Overruns	50% exceed budget by 20%	10% exceed budget by 5%	97% on-time and on-budget
Internal Satisfaction	60%	85%	95% Customer Retention Rate
Risk of Disruption	High	Low	Managed for Minimal Risk

Close any expertise gaps by:

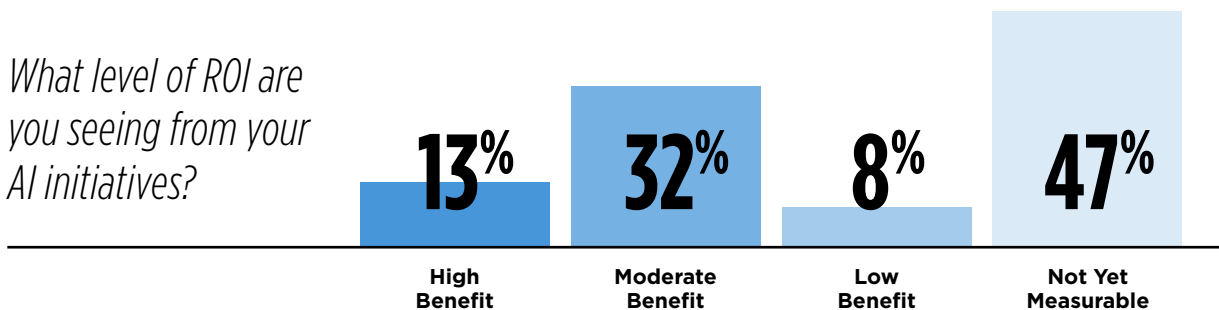
- Seeking a partner with a proven history of implementation success
- Prioritizing solutions with intuitive interfaces that make AI accessible to drive real outcomes
- Seeking out partners that ask the tough questions, so that the right capabilities can be built and taught from Day 1

Dell Technologies acknowledges this challenge. Sasha Paillet Koff, Senior Vice President at Dell, purports, “Training our workforce to ask the right questions of generative AI is proving to be more of a challenge than the technology itself.” Partnering with a software team that prioritizes developing leaders within your organization is critical to your ROI outcomes.

## 4. Measure What Matters

While there is significant ROI potential in AI, many businesses struggle to measure it effectively. This often stems from a lack of a strong partner who can act as your GPS for growth [see #3 above]. Evaluate what your partner brings to the table in terms of [intelligence solutions](#). Can their systems uncover areas of opportunity and guide your decisions toward achieving business goals? Or are they simply checking the box on AI?

*What level of ROI are you seeing from your AI initiatives?*



A good partner should align your AI initiatives to the ROI factors that drive business value:

- Define clear cost reduction targets
- Establish baseline operational efficiency metrics
- Set expectations for decision-making speed improvements
- Link AI investments to customer satisfaction improvements

The good news is, Deposco walks our own walk. Our systems are built with a wealth of intelligence designed to help customers benchmark their operations and continuously improve.



**CONCLUSION**

# The Unified Future of Supply Chain AI

Our research shows that supply chain AI is at an inflection point. Early adopters are seeing promising results, but most organizations are still wrestling with fragmented systems and hype-driven strategies.

The path forward is clear: companies that embrace unified AI will achieve significantly better outcomes than those relying on isolated point solutions. Focus AI efforts on areas delivering the most value today, but ensure you're building the foundation for tomorrow's more complex use cases. This approach transforms AI from experimental hype into a core driver of ROI and competitive advantage.

As Reid Bishop, Senior Director of Data Science at Deposco, explains, "As the adoption curve matures, AI will seamlessly evolve from data insights to full supply chain orchestration, blurring the line between the two. Companies are already using AI to effortlessly manage day-to-day operations—warehouse tasks, purchasing, routing, planning—and the ROI speaks for itself."



## ABOUT DEPOSICO



Deposco's supply chain platform maps out your success, accelerates execution, and navigates your growth journey, driving unparalleled efficiency and cost savings.

Our AI-powered unified platform delivers actionable insights across your entire supply chain—from planning to execution—adapting like a GPS to keep you on the optimal path. With the industry's most extensive collection of pre-built integrations for rapid implementation, we help over 4,000 of the world's fastest-growing retailers, 3PLs, DTC ecommerce businesses, and brands navigate nearly \$50 billion in sales and 165 million consumer orders globally.

Ready to accelerate your AI journey? Contact us to learn how Deposco's unified platform approach can help you achieve faster, more substantial returns on your AI investments.

[Contact Us Now](#)

## ABOUT FULFILLMENT IQ



Fulfillment IQ is an award-winning leader in supply chain technology, empowering D2C brands, retailers, and 3PLs with innovative software development and implementation solutions.

We transform supply chain challenges into growth opportunities, delivering unmatched efficiency and scalability.

With expertise spanning 100M+ sq. ft. of warehouse operations, 1M+ daily transactions, and 135+ successful projects across industries like CPG, Health & Beauty, Apparel, and Consumer Electronics, we've partnered with Fortune 500 leaders like Footlocker, FedEx Supply Chain, and NFI to drive \$500M in capital automation initiatives.

From startups to global enterprises, Fulfillment IQ builds the foundation for your supply chain's future.

Ready to turn your supply chain into a competitive advantage? Connect with us today.

[Connect with Fulfillment IQ Team](#)