

THE FUTURE OF LOGISTICS AI ADOPTION FOR OPERATIONAL EXCELLENCE



Honeywell



THE SUPPLY CHAIN EVOLVED

Traditionally, supply chains were viewed as linear in nature – a series of companies involved in the conversion of materials into a product that is ultimately delivered to an end user. However, in today's world, they are a dynamic, complex, and sophisticated network of global suppliers designed to create differentiation and competitive advantage at every touchpoint. Their performance is dependent on an agile logistics network that delivers on the effective and efficient movement of goods.

THE TRANSFORMATIVE IMPACT OF AI

As the logistical challenges of operating global supply chains becomes more complex, there is a growing need for more sophisticated tools to provide the operational orchestration required.

Artificial intelligence (AI) emerges as a transformative force that promises to redefine logistics by replacing antiquated practices with intelligent, data-driven strategies. This technological evolution hinges on the ability to harness diverse data types – structured, unstructured, and contextual – to cultivate actionable insights that boost decision-making speed and quality across the supply chain. By leveraging AI, organizations can not only streamline their operations but also enhance overall supply chain visibility and responsiveness.

Effective AI adoption extends beyond mere implementation; it necessitates a comprehensive, strategic framework that aligns with organizational goals for the future. This process also requires fostering an inclusive culture that empowers employees to adapt to changing practices and embrace the opportunities AI presents.

This eBook outlines a roadmap for executives and logistics professionals to successfully:

- Navigate the complexities of AI integration
- Drive operational efficiencies
- Cultivate a mindset of curiosity and growth within their organizations

82% of CEOs

think AI will be an essential competitive differentiator within the next three years.¹

88% of surveyed senior executives

say their team or business function plans to increase AI-related budgets in the next 12 months due to agentic AI.²

1. <file:///C:/Users/h516640/OneDrive%20-%20Honeywell/Documents/Global%20AI%20Confessions%20Report%20-%20CEO%20Edition.pdf>

2. <https://www.pwc.com/us/en/tech-effect/ai-analytics/ai-agent-survey.html>

INDUSTRY CHALLENGES

The logistics industry is at a pivotal point, facing an array of challenges that impact operational efficiency, profitability, and agility. Recent discussions across the industry have shed light on these hurdles while underscoring the need for innovation and collaboration to move the industry forward.

Let's break down some of the key challenges faced by the logistics industry that are ripe for the adoption of artificial intelligence solutions.

FUNCTIONAL SILOS

Many companies continue to operate in siloed structures. Communication and cross functional collaboration are still very difficult to achieve. Organizational functions often prioritize their own KPIs, overlooking the effects on related stakeholders. This makes it difficult to operate with an aligned purpose across the business to deliver the best customer experience possible.

FRAGMENTED SOFTWARE AND DATA SOURCES

Companies are utilizing multiple software solutions that each have their own data relevant to business operations. Data sources may be structured, unstructured, or contextual. Often, not all relevant information can be integrated to present a complete, contextual understanding of the situation.

HIGHLY MANUAL WORKFLOWS

Logistics workflows tend to be very manual and task oriented. This setup is very people dependent and labor intensive. It makes it difficult for companies to efficiently process the information and manage any exceptions that arise throughout the process.

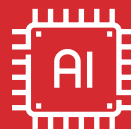
The logistics industry presents numerous opportunities for the effective implementation of AI technologies. Through the adoption of advanced tools and the promotion of collaborative work environments, the industry is well-positioned to address current challenges and achieve significant progress in both innovation and operational efficiency.



Out of 25 attributes tested for organizations of all sizes, the redesign of workflows has the biggest effect on an organization's ability to see EBIT impact from its use of gen AI.¹



50% of today's work activities could be automated between 2030 and 2060.²



45% of organizations indicated concern about data accuracy or bias as a barrier to AI adoption.³

1. <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai#/>

2. <https://www.mckinsey.com/~/media/mckinsey/business%20functions/mckinsey%20digital/our%20insights/the%20economic%20potential%20of%20generative%20ai%20the%20next%20productivity%20frontier/the-economic-potential-of-generative-ai-the-next-productivity-frontier.pdf>

3. <https://www.ibm.com/think/insights/ai-adoption-challenges#:~:text=Link%20copied-.The%205%20biggest%20AI%20adoption%20challenges%20for%202025,Making%20headway>

USE AI AS A VALUE CREATOR

Artificial intelligence (AI) is poised to become a pivotal player in the transformation of the logistics sector. It will move us into a new era where traditional methods are replaced with smarter, more efficient solutions based on advanced digitalized platforms. The ability to combine structured, unstructured, and contextual data will create significant operational intelligence that will be leveraged to improve the speed and quality of decision making throughout the supply chain.

Let's look at the major areas where the further integration of AI technologies into logistics processes will unlock real value for our organizations and our customers.

ENHANCED OPERATIONAL VISIBILITY

AI systems can efficiently collect data from disparate sources to provide real-time insights into supply chain activities. The ability to combine delivery schedules with telematics data and overlaying real-time traffic and weather conditions can help optimize routes, reduce delays, and keep customers informed every

step of the way. This instantaneous access to information aids in exception management, minimizes disruption, and ensures timely communication.

INCREASED EFFICIENCY

Automation of routine tasks through the adoption of AI technologies allows logistics teams to shift their focus to high-value activities, while streamlining workflows. By automating back-office functions, organizations can redirect their human resources towards strategic initiatives, enhancing overall productivity and business performance.

PREDICTIVE ANALYTICS

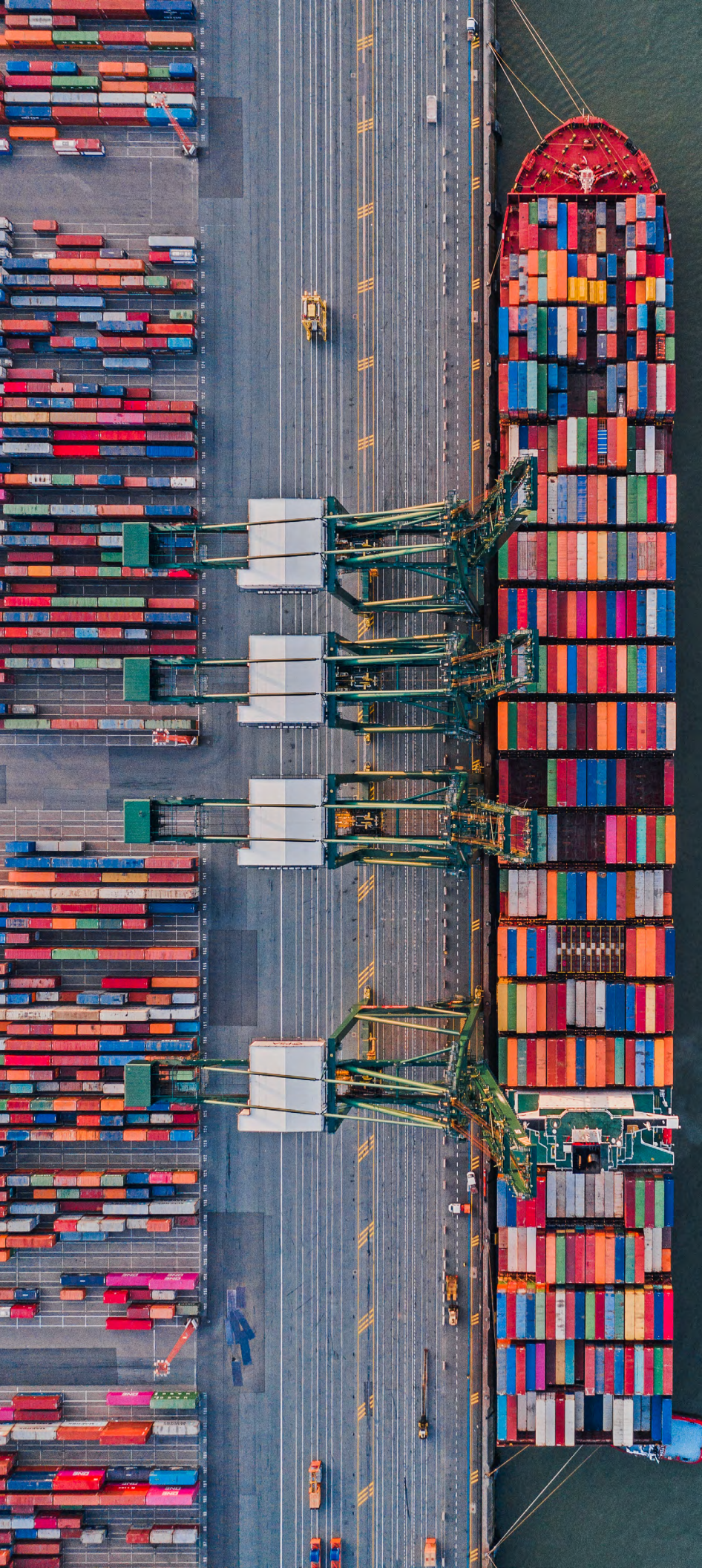
AI solutions enable better forecasting and risk management. With the capability to analyze large data sets in multiple formats, AI can identify patterns and anomalies with the potential to impact the business. This allows the businesses to anticipate market volatility and adjust resources accordingly. By being able to "out-think the markets", companies will see improved operational performance.

PROCESS AUGMENTATION

Utilizing generative AI in logistics can enhance human creativity and problem-solving capabilities, allowing teams to create better strategies and tactical plans based on robust intelligence. This promotes innovation and continuous improvement across logistics teams. This collaboration between machines and human expertise is likely to lead to groundbreaking solutions to operational challenges of today and tomorrow.

It is essential for leaders in the logistics sector to adopt a strategic mindset regarding AI implementation. Rather than viewing AI as just another tool, companies should treat it as a transformative approach that can revolutionize operations. This paradigm shift could enable logistics professionals to move from reactive "firefighting" scenarios to proactive operational management, revealing untapped revenue streams and optimizing existing workflows.





40%

of agentic AI projects

will be cancelled by the end of 2027,
due to escalating costs, unclear business
value or inadequate risk controls.¹

63%

of CEOs

say their boards demand
measurable AI-driven results.²

1. <https://www.gartner.com/en/newsroom/press-releases/2025-06-25-gartner-predicts-over-40-percent-of-agentic-ai-projects-will-be-canceled-by-end-of-2027>

2. file:///C:/Users/h516640/OneDrive%20-%20Honeywell/Documents/Global%20AI%20Confessions%20Report%20-%20CEO%20Edition.pdf

AI ADOPTION PITFALLS

The logistics industry is currently experiencing an exciting evolution powered by advancements in artificial intelligence (AI). As the pace at which AI development continues to speed up, companies will be tempted to move quickly to adopt this new technology across their organizations. However, transportation and logistics companies are not always great at deploying tech and getting it right.

Let's break down several critical pitfalls that can undermine their efforts to integrate AI into their operations.

DEVELOPING PROPRIETARY AI MODELS

Many organizations build their own AI models, expecting better future performance than current solutions. However, existing models are rapidly advancing and rely on massive, hard-to-replicate data sets. Companies should focus on leveraging these proven models and insights to enhance their operations, creating adaptable solutions that improve over time.

APPLYING TECHNOLOGY TO POOR PROCESSES

Implementing technology solutions on top of inefficient processes is unlikely to yield optimal outcomes. Organizations should thoroughly assess their existing workflows before introducing AI technology. If the process is found to be insufficient, it should be redesigned to optimize performance. Once the process has been improved, deploying AI technology can lead to significantly enhanced results.

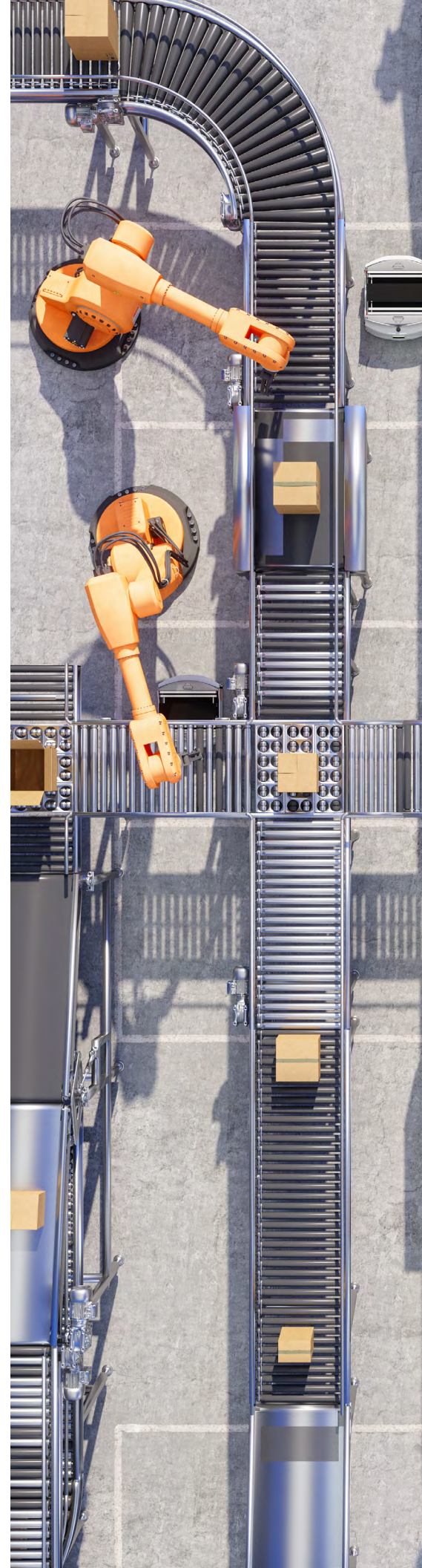
EXCEPTION MANAGEMENT

AI excels at identifying and managing exceptions. In some cases, organizations may underinvest in exception management, which could result in AI agent failures and operational interruptions that require immediate corrective actions. Allocating sufficient resources supported with well-defined contingency plans is recommended. Regularly updating models is essential to ensure that decision-making remains consistent with human judgment for both current and future applications.

DEPLOYING POINT SOLUTIONS

Selecting technology solutions to improve specific operations is a common practice; however, point solutions can sometimes result in reduced effectiveness in other operational areas. Organizations may consider a comprehensive approach to solution deployment, focusing on integrated strategies that support overall operational efficiency. This can help ensure the use of an effective technology stack for managing operations.

For logistics organizations embarking on the journey of AI adoption, a thoughtful approach is vital. Achieving successful integration requires an awareness of common pitfalls, fostering organizational collaboration, and creating an infrastructure of continuous learning.





70% of CEOs

believe a failed AI strategy or AI-induced crisis will result in a fellow CEO being ousted by the end of 2025.¹

74% of U.S. CEOs

admit they'll lose their job within 2 years if they fail to deliver measurable AI-driven business gains.¹

1. file:///C:/Users/h516640/OneDrive%20-%20Honeywell/Documents/Global%20AI%20Confessions%20Report%20-%20CEO%20Edition.pdf

EMBRACING AI THROUGH STRUCTURED ADOPTION

With the rapid evolution of technology, stakeholders must realize that effective AI adoption is more than just deploying tools. It requires a well-defined, strategic approach that aligns the organization with the goals of the future. It must also create an inclusive culture where employees feel supported and empowered to embrace the shift in how they think, work, and deliver value. Let's take a deeper look into a framework that executives and logistics professionals can follow to harness the full potential of AI, streamline its operational integration, and create a culture of curiosity and growth.

Before you get started on your AI journey, you must first define your why. Why AI? Why now? Why is this the right solution? Having a clear understanding of your reasons for the application of AI technology will provide the foundation upon which your implementation plans will be built.

The steps below provide an implementation framework to help deliver a successful AI deployment.

DEFINE CLEAR GOALS

Base your AI initiatives on the outcomes your organization already values. This should be tied to achieving the objectives you've laid out in your current and future roadmap, as well as delivering results against the current KPIs you use to measure business success.

IDENTIFY A CHAMPION

You need a champion inside the organization that is passionate about the technology and that can advocate on behalf of the initiatives. This person needs to be able to remove roadblocks, get buy-in at all levels, and keep the momentum going amongst the teams.

CHOOSE A STARTING POINT

Identifying an appropriate first project establishes a solid foundation for the projects that will follow. You want to choose one that can have an immediate impact, is visible within the organization, can demonstrate the value of the technology, and allows for measurable improvements.

ACHIEVE QUICK WINS AND SOCIALIZE THEM

Quick wins are those that deliver tangible results in a short period – measured in weeks, not months. Develop a plan to socialize your results within the organization to build trust among your supporters and address any concerns that may exist. Treat this as an internal marketing campaign to generate awareness and excitement about the technology.

REPEAT AND SCALE

Leverage this framework and your previous successes to build momentum for new projects across the organization. Leveraging a series of incremental successes will allow you to expand AI across your organization, while further ingraining it in your company culture.

As the logistics industry increasingly embraces AI technologies, organizations taking a proactive approach can boost efficiencies and encourage innovation in their operations. By adopting clear objectives, ensuring executive buy-in, and involving users in the process, companies can unlock the groundbreaking potential AI holds for redefining the logistics industry and steer their operations towards a data-driven future.

58%

of CEOs

report having a formal roadmap for AI implementation that extends 2 to 3 years.¹

37%

of CEOs

say their companies have delayed AI initiatives due to fears about potential failure.¹

1. file:///C:/Users/h516640/OneDrive%20-%20Honeywell/Documents/Global%20AI%20Confessions%20Report%20-%20CEO%20Edition.pdf

For more information

automation.honeywell.com

Honeywell Industrial Automation

855 South Mint Street

Charlotte, NC 28202

800-582-4263

www.honeywell.com

The Future of Logistics AI Adoption for
Operational Excellence | Rev A | 11/25
© 2025 Honeywell International Inc.

Honeywell