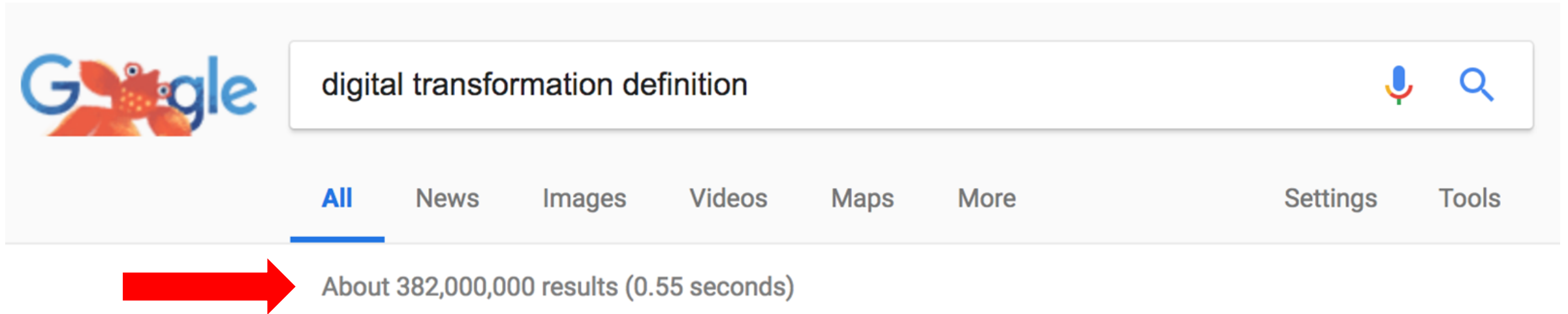# The Digital Supply Chain Journey:
A Practical Guide to Getting Started

65th Annual Food Shippers of America Conference
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What is Digital Transformation?

Digital transformation is the application of digital technologies to fundamentally impact all aspects of business and society (Source: InfoWorld)

Digital Transformation is application of digital capabilities to processes, products, and assets to improve efficiency, enhance customer value, manage risk, and uncover new monetization opportunities. (Source: CIO)

A More Practical Definition

Digital transformation is taking action to:

1. **Eliminate waste from the value chain**, which includes eliminating manual and paper-based business processes;
2. **Break down the silos between functional groups and IT systems** and enable true collaboration and intelligence sharing between them;
3. **Integrate electronically with all trading partners**, preferably in a cloud- and network-based platform, using modern technologies such as APIs and web services;
4. **Treat data as an asset** and develop processes and a governance structure to manage data quality;
5. **Leverage network-based business intelligence, optimization, and analytics tools** to convert data into actionable intelligence.

Multiple Forces of Disruption

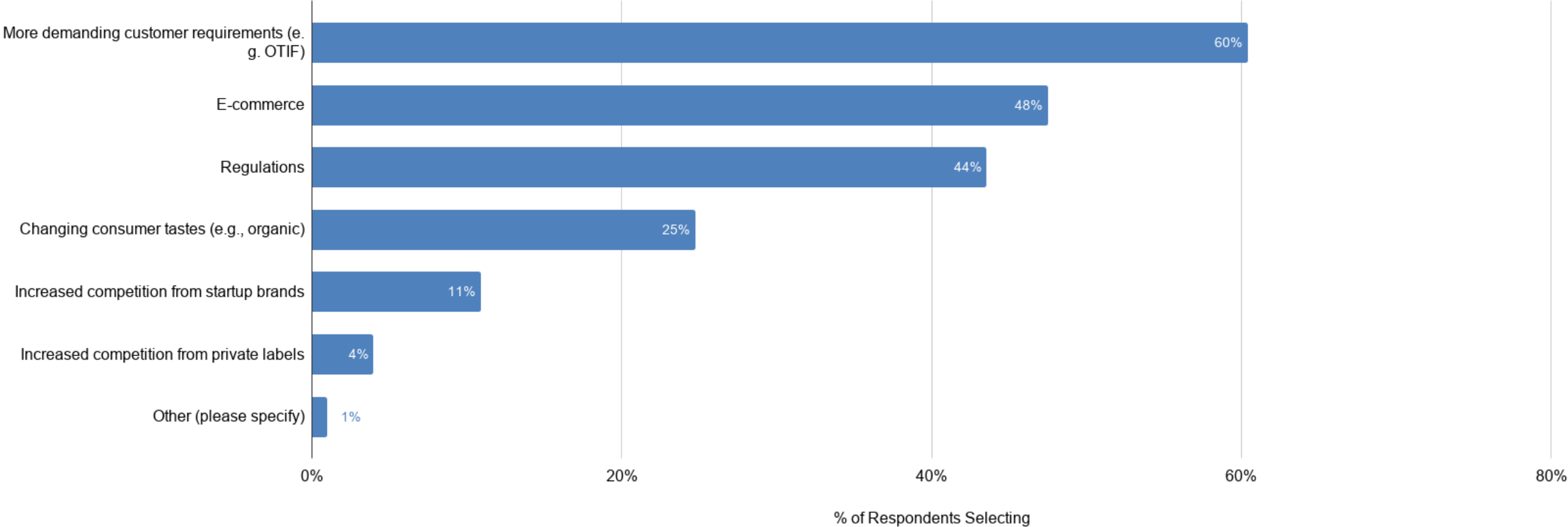Source: "Disrupting CPG," CB Insights presentation
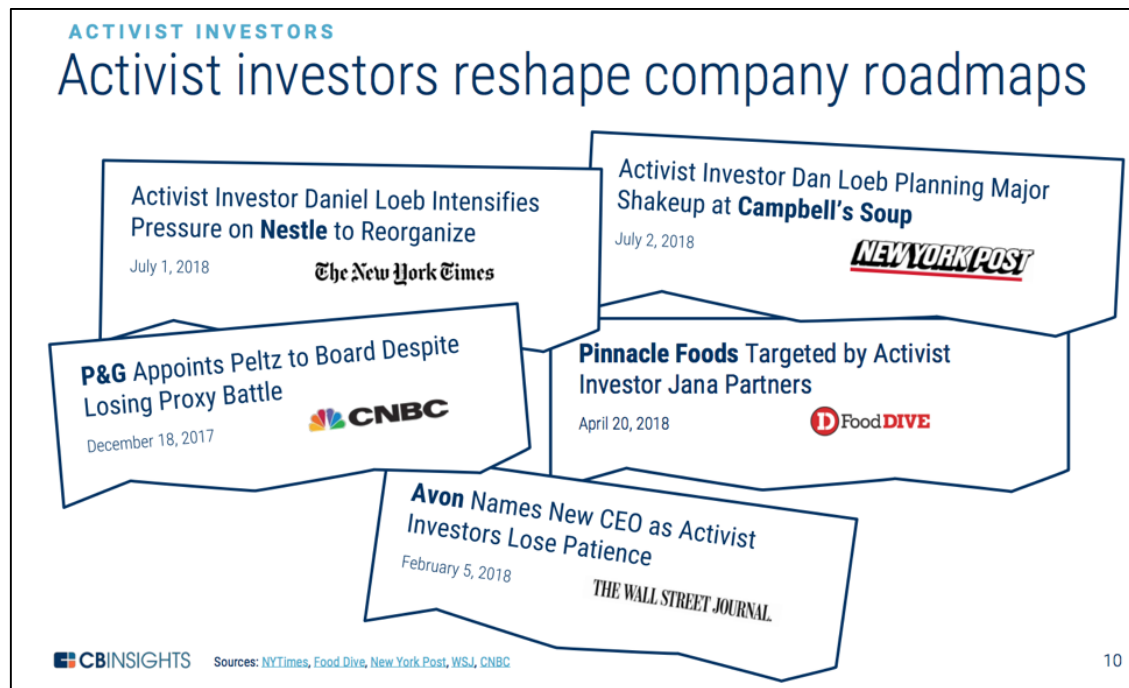
- E-commerce and other new distribution channels

- Changing consumer tastes

- More demanding customer expectations (e.g., OTIF)

- Explosion of startups and smaller brands. Between 2012 and 2017, small CPG companies grabbed about $15 billion in sales from their larger counterparts.[1]

- Private labels

- Traditional marketing outdated

[1]"What the Fastest-Growing CPG Companies Do Differently," BCG, June 14, 2018

More Demanding Customer Expectations

Which trends/factors are causing the most disruption (and thus, the most need for transformation) in the food industry? Choose 1-3 factors.

Factor	%
More demanding customer requirements (e.g. OTIF)	60%
E-commerce	48%
Regulations	44%
Changing consumer tastes (e.g., organic)	25%
Increased competition from startup brands	11%
Increased competition from private labels	4%
Other (please specify)	1%

% of Respondents Selecting

Beyond OpX: Speed and Agility

Product reformulations to meet consumer demands for healthier diets and lifestyles
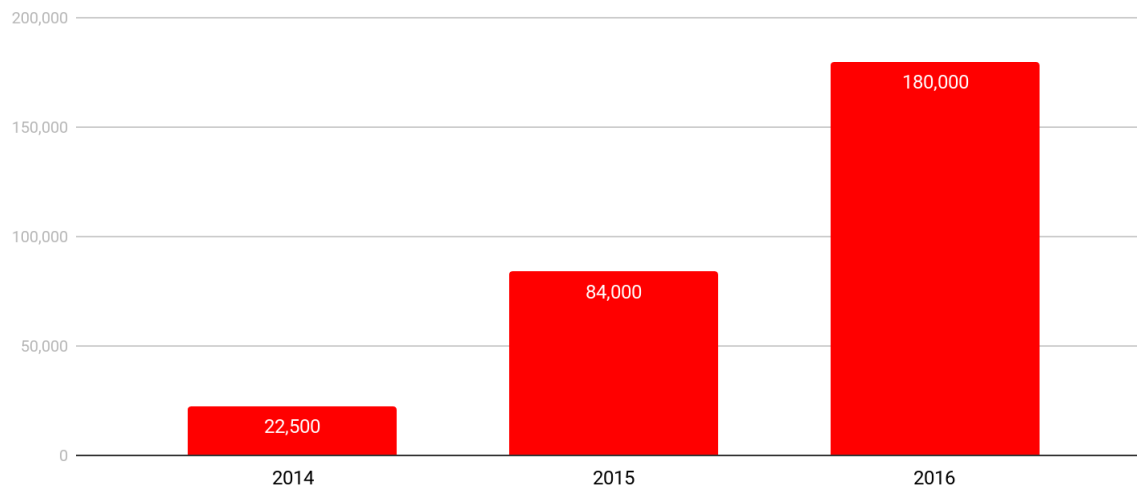
It's not uncommon for up to a quarter of a company's product portfolio to be "reformulated" within 18 months
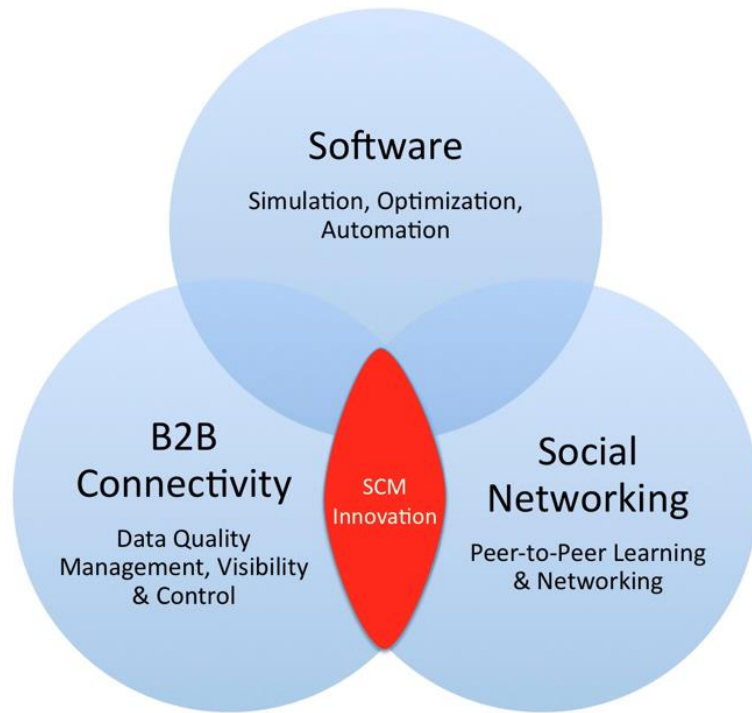
To survive and thrive in the coming decades, FMCG companies will need a new model for value creation...

It will require **a new operating model that abandons the historic synergy focus for a truly agile approach...**

Local relevance, consumer closeness, and **speed will become** more important than consistent execution as **a driver of competitive advantage**.

Technology Enablers

Software
Simulation, Optimization, Automation

B2B Connectivity
Data Quality Management, Visibility & Control

SCM Innovation

Social Networking
Peer-to-Peer Learning & Networking
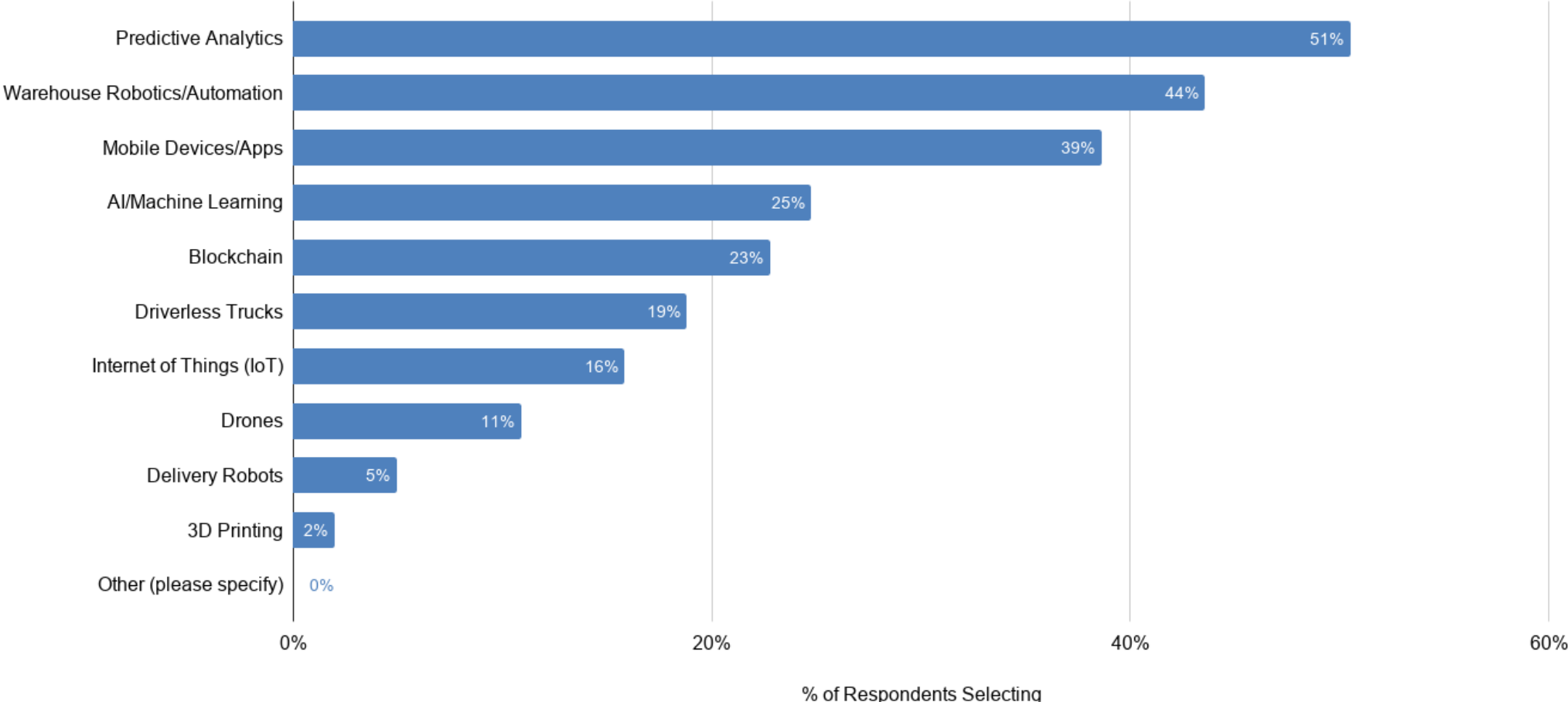
The Rise of Supply Chain Operating Networks

Cloud Computing

INTERNET OF THINGS

MACHINE LEARNING

Predictive Analytics Expected To Deliver Most Benefits

Over the next 5 years, which emerging technologies do you believe will have delivered the most supply chain benefits? Select 1-3 technologies.

Technology	% of Respondents Selecting
Predictive Analytics	51%
Warehouse Robotics/Automation	44%
Mobile Devices/Apps	39%
AI/Machine Learning	25%
Blockchain	23%
Driverless Trucks	19%
Internet of Things (IoT)	16%
Drones	11%
Delivery Robots	5%
3D Printing	2%
Other (please specify)	0%

% of Respondents Selecting
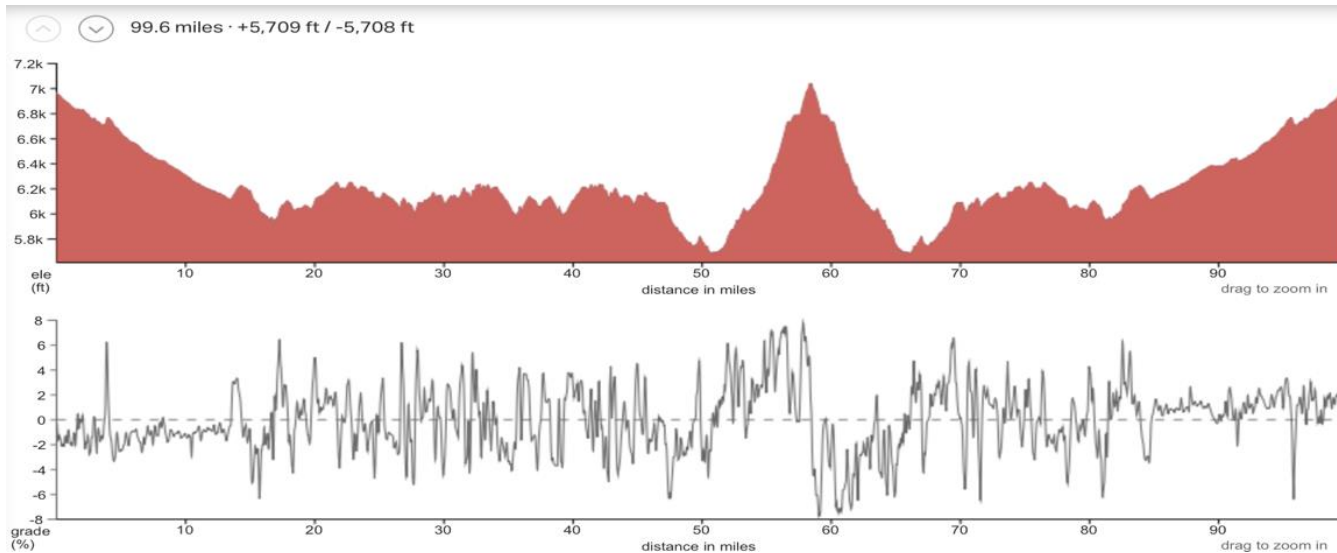
#1 Advice from Leaders

The secret of getting ahead is getting started.

- Mark Twain

"The secret of getting started is breaking your complex, overwhelming tasks into small manageable tasks, and then starting on the first one." - Mark Twain

It's Like Going on a 100-Mile Bike Ride

Source: JDRF Ride to Cure route in Santa Fe, NM

- You have to define your objectives

- You have to have the right equipment and support team

- You have to pace yourself

- There will be hills and valleys along the way

- You have to enjoy the scenery and celebrate the small successes along the way

Five Principles of Digital Transformation

1. Eliminate waste from the value chain
2. Break down the silos between functional groups and IT systems
3. Integrate electronically with all trading partners
4. Treat data as an asset
5. Leverage network-based business intelligence, optimization, and analytics tools
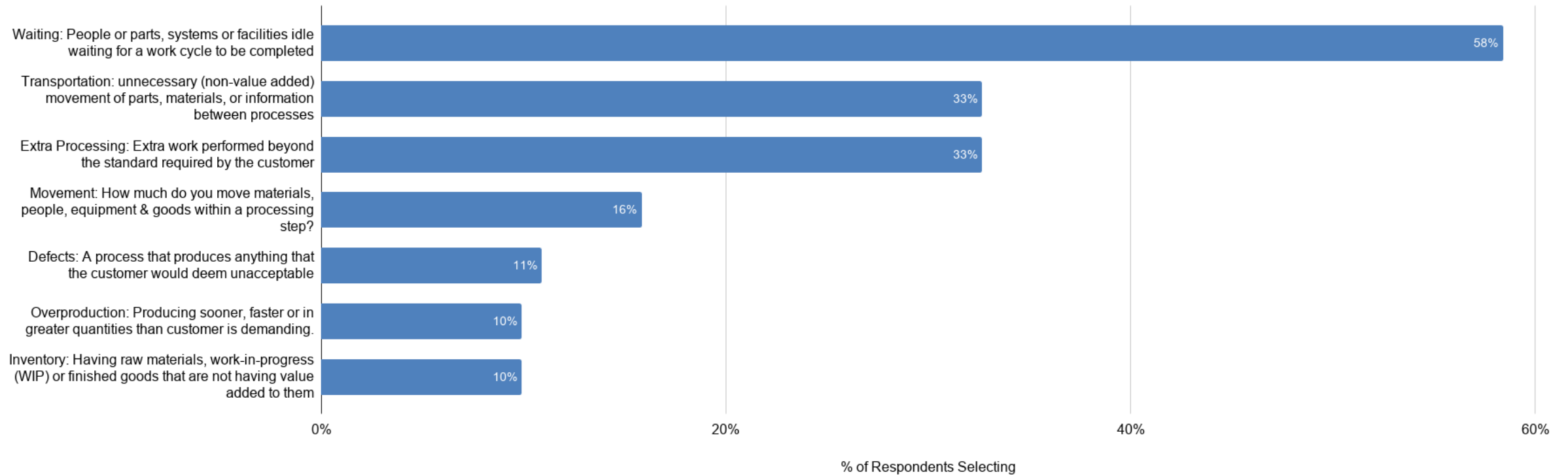
Eliminate Waste from Value Chain

- **Transportation**: unnecessary (non-value added) movement of parts, materials, or information between processes

- **Waiting**: People or parts, systems or facilities idle waiting for a work cycle to be completed

- **Overproduction**: Producing sooner, faster or in greater quantities than the customer is demanding. This includes, for example, overdesign of mixes, which drives material waste.

- **Defects**: A process that produces anything that the customer would deem unacceptable

- **Inventory**: Having raw materials, work-in-progress (WIP) or finished goods that are not having value added to them

- **Movement**: How much do you move materials, people, equipment and goods within a processing step?

- **Extra Processing**: Extra work performed beyond the standard required by the customer

**Which forms of waste are the most prevalent in your organization?**

Waiting: The Biggest Form of Waste

Which forms of waste are the most prevalent in your organization? Select 1-3 factors.

Waiting: People or parts, systems or facilities idle waiting for a work cycle to be completed — 58%

Transportation: unnecessary (non-value added) movement of parts, materials, or information between processes — 33%

Extra Processing: Extra work performed beyond the standard required by the customer — 33%

Movement: How much do you move materials, people, equipment & goods within a processing step? — 16%

Defects: A process that produces anything that the customer would deem unacceptable — 11%

Overproduction: Producing sooner, faster or in greater quantities than customer is demanding. — 10%

Inventory: Having raw materials, work-in-progress (WIP) or finished goods that are not having value added to them — 10%

% of Respondents Selecting

Siloed Systems: Barrier to Innovation

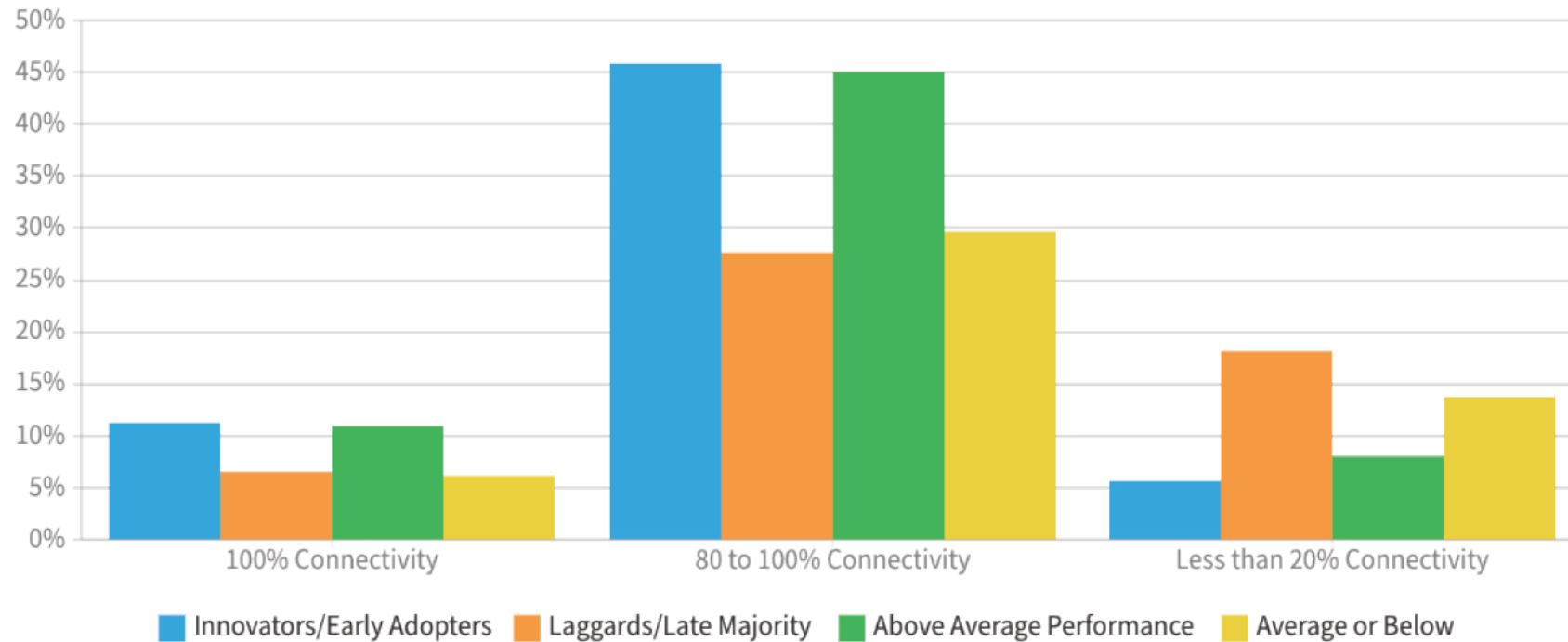What are the top three barriers to supply chain and logistics innovation at your company today?
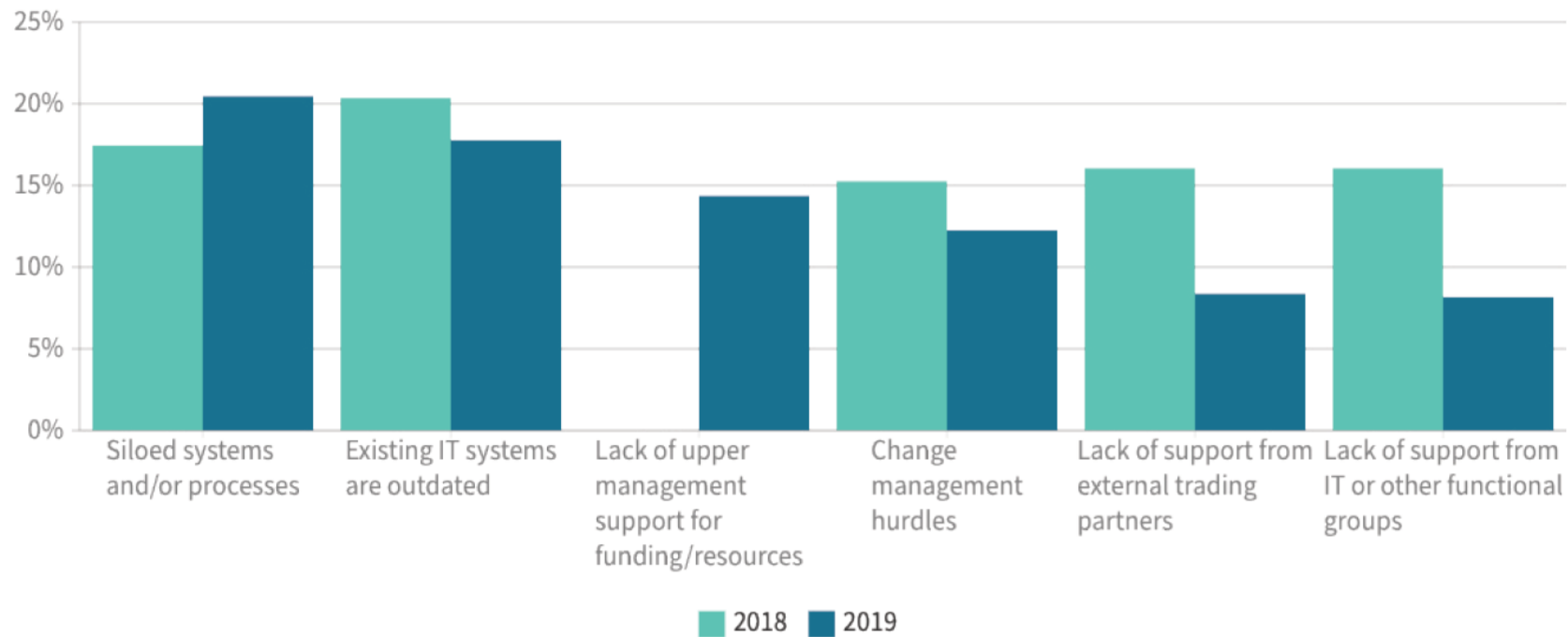
Break Down Functional/IT Silos

Production   Logistics   Customer Service   Quality

- Do you use a balanced scorecard to align goals, metrics, and incentives across the organization?

- Are you managing any business processes without an IT system, relying on spreadsheets and manual tools instead? If so, why?

- How much do you spend annually on IT as a percent of revenues?

- What percent of your annual IT spend is to implement new capabilities versus to maintain current systems?

- How often do you have to manually input data from one system to another? Which systems specifically?

Trading Partner Connectivity

Approximately what percent of your trading partners (suppliers, customers, logistics service providers, etc.) are you electronically connected to?


Legend: Innovators/Early Adopters · Laggards/Late Majority · Above Average Performance · Average or Below

Categories: 100% Connectivity · 80 to 100% Connectivity · Less than 20% Connectivity

Integrate Electronically w/ Trading Partners

From chains to network effects

- What percent of your trading partners are you electronically connected with today?

- What percent of your business transactions are driven by electronic communications?

- What percent of your electronic connections are via EDI versus APIs or web services?

- How long does it take you to onboard a new trading partner?

- Who is responsible for trading partner connectivity at your company? How many people (FTE) are involved?

- What major factors have limited your ability to date to electronically connect with your trading partners?

Treat Data as an Asset


It's your fault.   No, it's your fault.
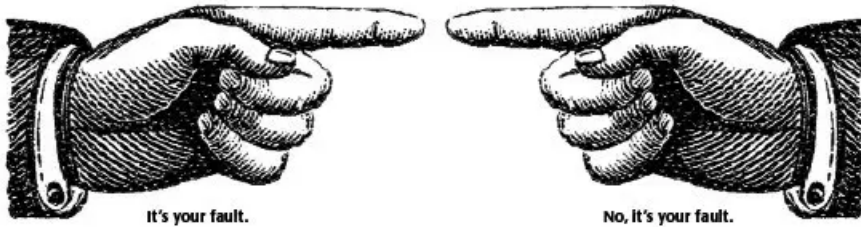
- Who is responsible for data quality management at your company?

- Do you actively measure supply chain data quality?

- Do you have processes and systems in place, both internally and with suppliers and other trading partners, to improve supply chain data quality?

- Are you able to quantify the financial impact of poor data quality?
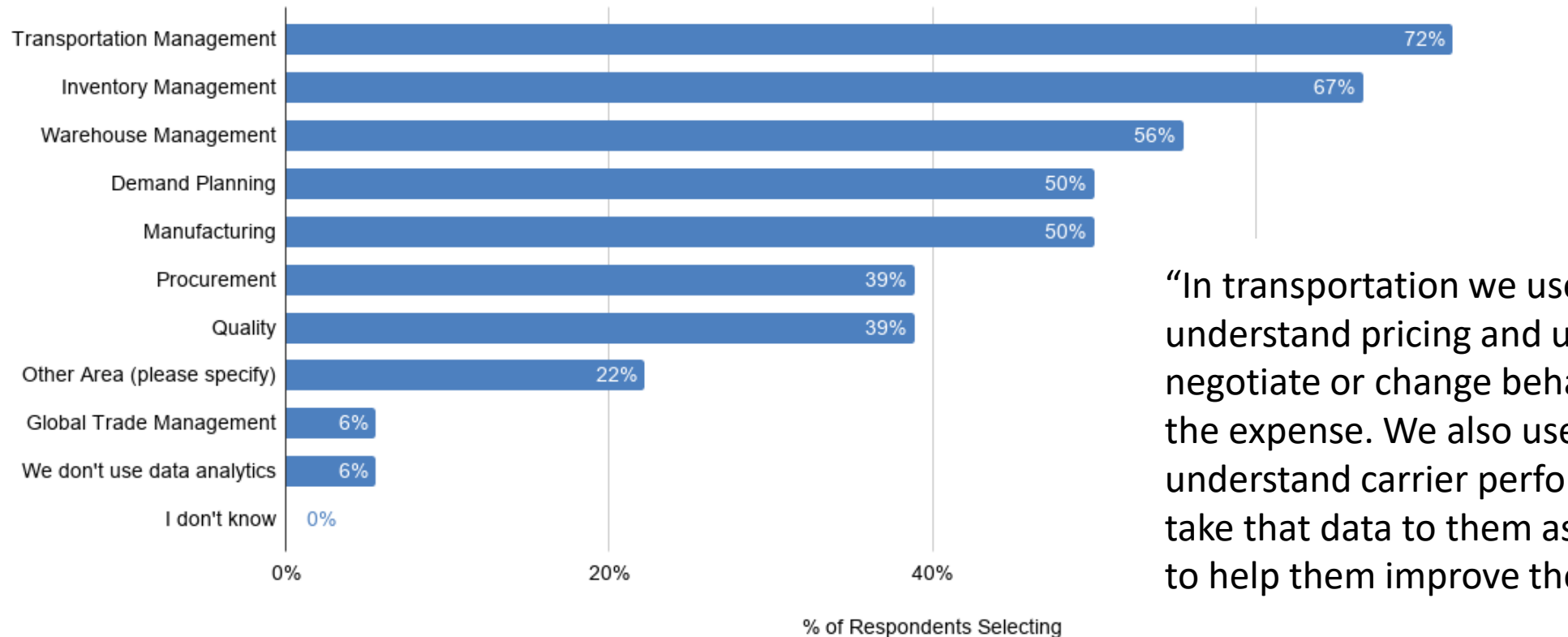
Investment Focus

Where are you focusing your supply chain investments today?

Choose three in ranked order.
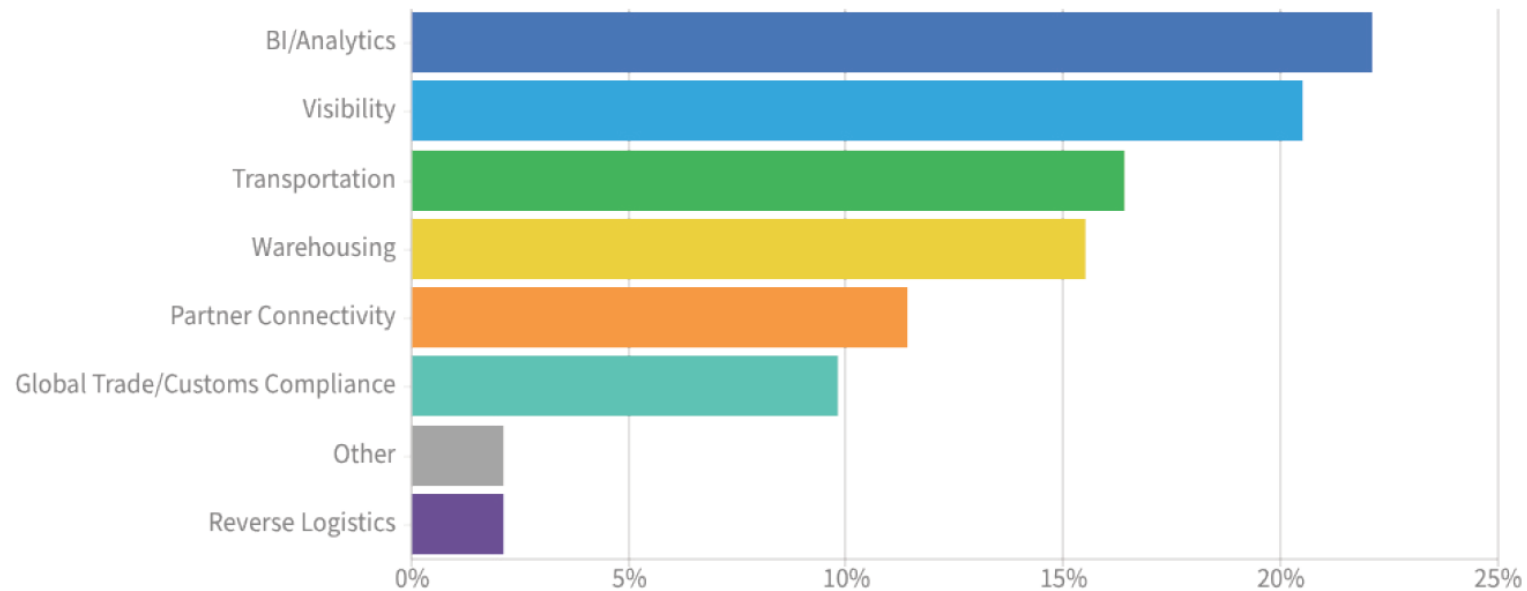
Converting Data Analytics to Value

In what supply chain or logistics areas have you been able to utilize data analytics to implement the quickest change or improvement in your organization? Please select all that apply.

Area	% of Respondents Selecting
Transportation Management	72%
Inventory Management	67%
Warehouse Management	56%
Demand Planning	50%
Manufacturing	50%
Procurement	39%
Quality	39%
Other Area (please specify)	22%
Global Trade Management	6%
We don't use data analytics	6%
I don't know	0%

"In transportation we use data analytics to understand pricing and use that data to re-negotiate or change behaviors to lessen the expense. We also use data analytics to understand carrier performance and we take that data to them as part of our QBRs to help them improve their operations."

Source: Indago survey, Oct 7, 2019 (n=18)

BI and Analytics
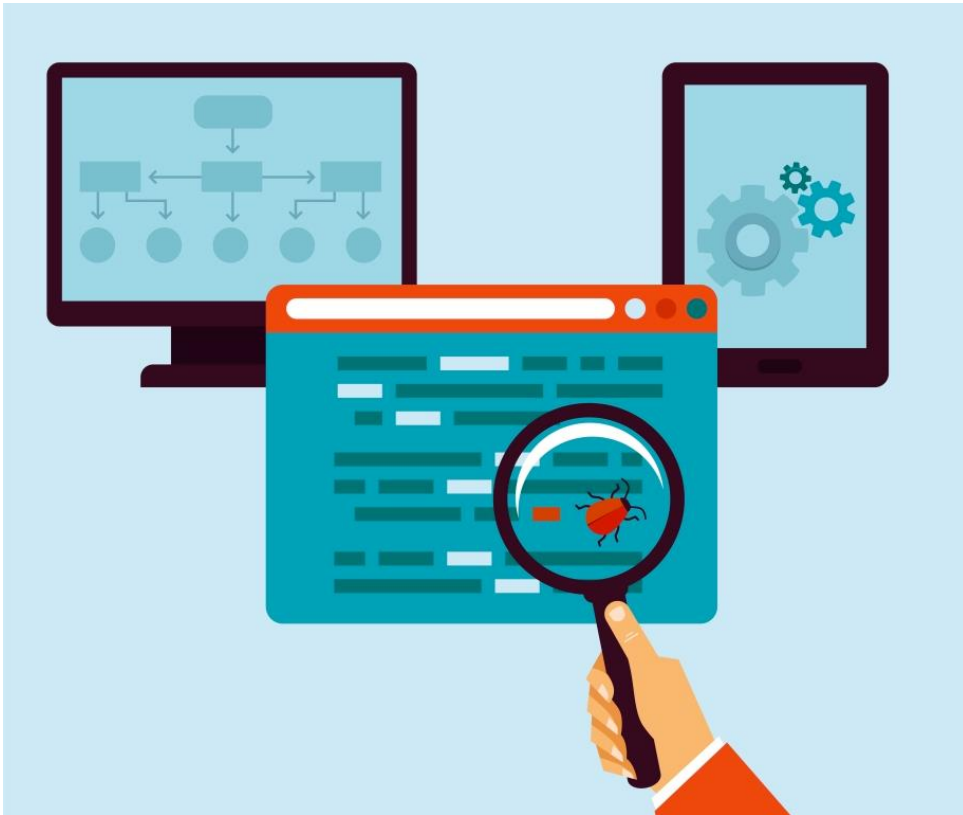
- Would you characterize your Business Intelligence approach today as mainly reactive or proactive?

- Do you have sufficient BI talent in-house – i.e., people with strong analytical skills and business acumen who can convert data into actionable insights?

- Are you able to benchmark your performance against peers in your industry?

- How many continuous improvement initiatives do you launch and complete per year based on insights derived from supply chain data analysis?

- What tools/technologies/approaches are you currently using for the BI layer in your organization?

Visibility: More than Seeing

"The enterprises we spoke with said they gained more value from using [visibility] data strategically to improve supply chain policies or management approaches over time."

- Visibility to orders, shipments, assets, and SKUs

- Optimization capabilities to replan when exceptions occur

- Collaboration capabilities to facilitate communication and the exchange of data/information between trading partners

- Embed machine learning capabilities and leverage a broader set of data sources -- including weather, traffic, location, and social networking -- to enable predictive capabilities, especially around determining more accurate Estimated Times of Arrival and automating freight matching capabilities

Real-Time Freight Visibility

THE WALL STREET JOURNAL.

"We started tracking the truck 24 hours before it's supposed to pick up at our distribution center, so we know in advance if it's going to be on-time or late," said Troy Shannan, **Kraft Heinz's** head of North America supply chain. The company's **on-time delivery rate is now between 75% and 80%, up from the mid-50s in fall 2016**, he said.

Source: "Startup FourKites Raises $35 Million to Expand Abroad, Improve Shipping-Time Prediction," Wall Street Journal, Feb 20, 2018

TALKING LOGISTICS

The data we're getting has been hugely successful. It allows us to analyze the in and out times at our shipping locations as well as our customer locations. We've embarked on a demurrage project to look at where we're having inefficiencies in our loading and delivery processes causing us to waste a truck driver's time. We're also using the data to manage our carriers. By having actual minute-by-minute arrival times for our carriers, we're able to accurately measure their on-time delivery performance, see which carriers are performing well and which ones aren't, and as a result we've awarded more business to those superior-performing carriers.

Source: "BASF Video Case Study: The Value Of Real-Time Freight Visibility," Talking Logistics, May 3, 2018

Getting Started - Recommendations

- Focus on achieving quick wins.

- Establish metrics and quantify the results.

- Identify trusted trading partners that share your vision and commitment to innovate.

- Find the right people to lead your digital transformation efforts.

- Find the right technology and logistics partners to help you innovate.

- Stay informed of technology and industry trends.

Keep Learning + Networking

A unique market research community that brings together supply chain and logistics practitioners from manufacturing, retail, and distribution companies who are committed to sharing practical knowledge and advice with each other in a trusted and confidential manner — **while giving back to charitable causes**.

To learn more and join, visit joinindago.com

Thank You!
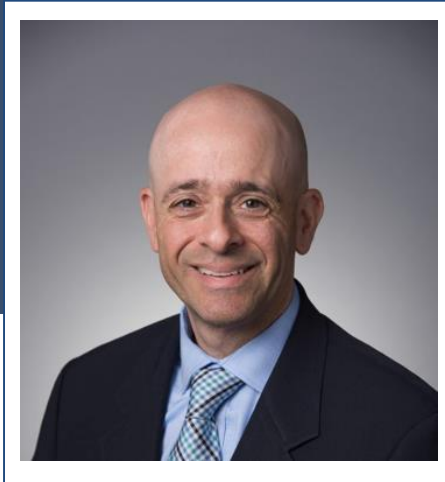
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