



**THE MODERNIZATION GAP:  
DIGITAL INNOVATION AND  
TRANSFORMATION IN SUPPLY  
CHAIN & LOGISTICS**

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# Introduction

In supply chain and logistics, there are a few companies that clearly rise above the rest when it comes to digital maturity. The most notable Goliath is Amazon, which is blazing a trail for the industry. For the majority of supply chain professionals, however, the reality on the ground is a very different story. Historically, those in the supply chain have focused on process and physical objects or logistics, rather than software and applications. There is a general lack of appetite for digital technologies that has led to a wide chasm between the digital innovators and those that still rely on more traditional, manpower-based approaches to optimizing their operations.

We surveyed 98 middle and senior-level managers in the supply chain industry to learn about their organizations' attitudes and progress when it comes to digital technologies and digital transformation. The findings reveal a deeply divided field where culture is the biggest factor holding businesses back from pursuing new technologies. However, it also reveals an open door to new opportunities for those companies willing to embrace change.

## An Industry Lagging in Digital Maturity

Assessing digital maturity is an interesting challenge in the supply chain and logistics field. When asked whether they'd rate their company's digital maturity as ahead of the curve, behind the curve, or somewhere in between, respondents were surprisingly conservative. While about a third (29.6 percent) recognized that they were lagging behind, 55.1 percent believed they were average—leaving just 15.3 percent confident of their market leadership when it comes to implementing digital technologies.



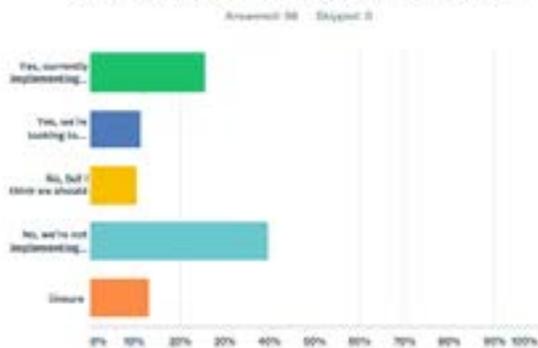
**30%**  
SAY THEIR  
COMPANY IS  
LAGGING IN  
DIGITAL MATURITY.

It's unsurprising that most supply chain and logistics professionals see their organizations as average or lagging. In our work with companies across a broad range of horizontal and vertical industries we've found that on average, supply chain and logistics are behind the curve compared to other industries. Part of the reason behind this is that it is not naturally a digital business—supply chain and logistics professionals' core aptitude has historically been around very concrete and physical objects such as packages and vehicles, rather than digital technology.

Exacerbating this “laggard” mentality is the clear dominance of certain well-known companies such as Amazon and Coca-Cola that have already undergone their digital transition and consistently push the boundaries of what's possible. While supply chain and logistics professionals recognize the market leadership of these industry giants, they should equally recognize the importance of working to catch up—the reality is that this wide gap makes beginning digital transformation now more important than ever. Digitally mature companies reap benefits in efficiency, customer service, and other areas. Laggards need to move quickly or risk losing market share over time.

When it comes to implementing new digital technologies, there's a big gulf between supply chain and logistics professionals. The largest group—50 percent of the total respondents—report that they aren't implementing any new technologies. Considering that a whopping 84.7 percent also believe they're average to behind the curve (as seen in the previous graph), this indicates a strong resistance to change. Only about 1 in 5 of those reporting that their companies aren't implementing new technologies believe that this stagnation is the wrong move.

Is your organization currently working to implement new digital technologies around supply chain & logistics?



**50%**  
ARE NOT  
WORKING TO  
IMPLEMENT NEW  
TECHNOLOGY.

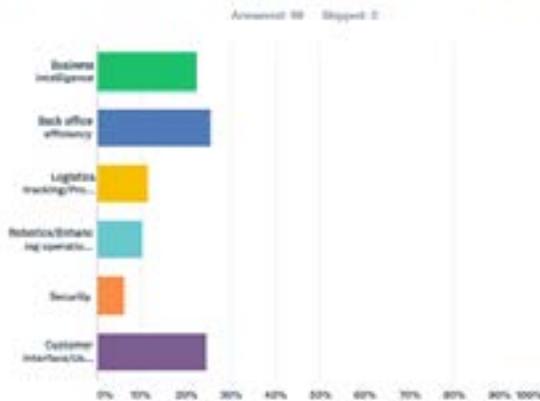
On the other side of the spectrum, a little more than a third (36.7 percent) of respondents say their companies are looking to implement new technologies. And more than two-thirds (69.4 percent) of those companies looking to implement new technology report that their organization has already started its digital transformation. This is consistent with what we've seen in working with supply chain and logistics professionals. Companies often delay change, but once they get started they'll shoot forward along the path to digital maturity.

## Plentiful Opportunities for Innovation

So what aspects of the business are primed for change? Respondents see the greatest opportunity for digital transformation around back office efficiency (25.5 percent), closely followed by customer interface and user experience (24.5 percent), and business intelligence (22.5 percent).

Improvements in each of these areas have the potential to save businesses significant time and money and/or grow customer loyalty. Yet, operating within tight margins, it's understandable that supply chain professionals would be hesitant to invest in digital. Less wiggle room in the budget and timeline can make it feel like there's little space to innovate. However, the risks associated with stagnation can ultimately put the business in even more significant jeopardy.

Where do you see the greatest opportunity for digital transformation when it comes to supply chain and logistics at your organization?



ANSWER CHOICES	RESPONSES
Business intelligence	22.50% 22
Back office efficiency	25.51% 25
Logistics tracking/Product lifecycle management (PLM)	11.22% 11
Robotics/Enhancing operational efficiency	10.20% 10
Security	6.12% 6
Customer interface/User experience	24.49% 24
TOTAL	99

**26%**  
SEE BACK OFFICE EFFICIENCY AS ONE OF THE BIGGEST OPPORTUNITIES.

## The Critical Importance of Culture

Clearly there's no shortage of opportunities for digital growth in the supply chain and logistics industry. Unlike other industries, this space also has less trouble managing technical debt. Only 4.1 percent of survey respondents felt strongly that their existing technology deployments are holding them back from new innovations. A whopping 67.4 percent don't see their current technology deployments as an issue.

So, if opportunity and technologies aren't inhibiting those in the supply chain and logistics field from reaching digital maturity, then what is? Time and again, we've found that companies with lagging digital maturity around the supply chain don't have a problem with technology—their biggest roadblocks come back to cultural issues around digital transformation.



**67%**  
DON'T SEE  
THEIR CURRENT  
TECHNOLOGY AS  
AN ISSUE.

Traditionally, leaders that do well in supply chain and logistics are process-centric, as opposed to product- or technology-centric. They've been able to solve most business problems by putting human capital behind them rather than relying on technology. As we've seen working with these teams, even among those leaders that are technology savvy, their core competency is their own hardware solutions. When it comes to complex deployments or software integrations with CRM systems or other sales tools, they typically don't have the expertise or visibility across business functions to spark digital transformation. And rightfully so—those competencies lie beyond their standard purview. The culture of innovation around new digital technologies just isn't there.

These cultural obstacles came to the surface when respondents were asked about challenges their organization

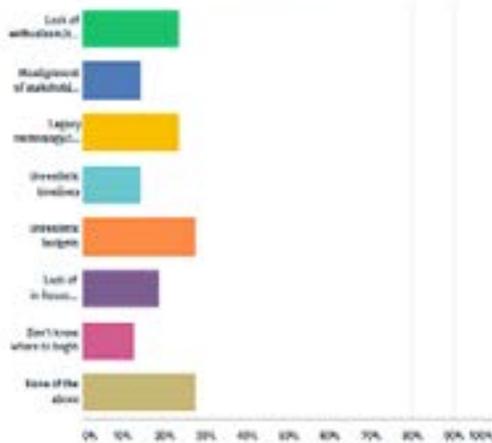
has encountered when looking to implement new technologies. A lack of enthusiasm or support for change was directly cited by 23.5 percent of respondents. Unrealistic budgets (27.6 percent) were another prominent issue cited, which points to the lack of appetite for change and even a reluctance to put resources behind it.

Interestingly, 23.5 percent of respondents indicated that they'd encountered issues with legacy technology or infrastructure when looking to implement new technologies. Contrasted with the question above, where only 4.1 percent of respondents felt their legacy technologies were holding them back from implementing new technologies, it appears that those problems with legacy infrastructure largely come to the surface *only* when digital transformation gets underway.

This challenge is likely compounded by the fact that 18.4 percent of respondents say that a lack of in-house technical skill holds them back from implementing new technologies. Although supply chain teams are often technology-savvy when it comes to their own products and hardware, they're typically not built to roll out new software deployments and the logistical tools needed to support them. This skills gap is propagated in the company culture when innovation is stagnant.

What challenges/roadblocks have you or your organization encountered when looking to implement new technologies? (select all that apply)

Answered 30 Skipped 3



ANSWER CHOICES	RESPONSES
Lack of enthusiasm for change	23.4% 21
Management of stakeholder expectations	14.2% 14
Legacy technology/infrastructure	23.4% 21
Unrealistic timelines	14.2% 14
Unrealistic budgets	27.6% 27
Lack of in-house technical skill	18.4% 18
Don't know where to begin	12.4% 12
None of the above	27.6% 27
Total Respondents: 33	

**24%**

CITE LACK OF SUPPORT AS AN OBSTACLE.

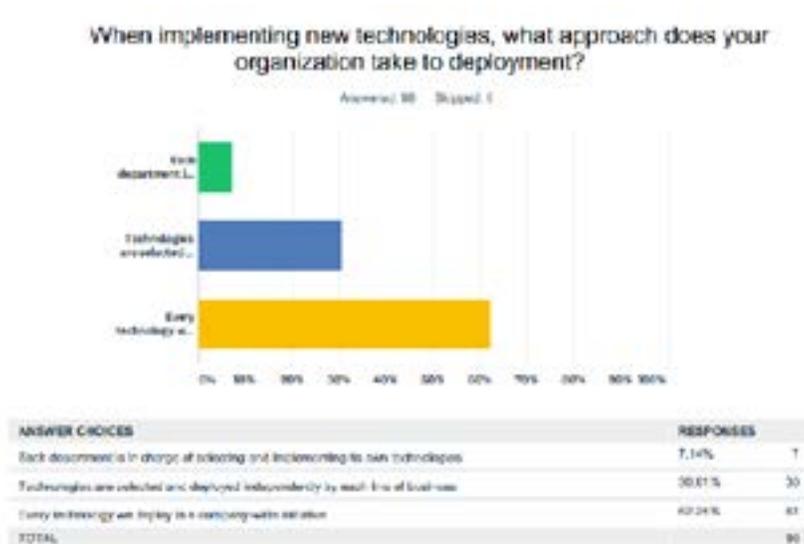
**28%**

CITE UNREALISTIC BUDGETS AS AN OBSTACLE.

Before any digital transformation can start, a culture of innovation is vital. In supply chain and logistics, already tight margins make investments in new digital technologies feel that much more risky. Inaction can feel like the safer road forward, but in reality, it's the riskiest long-term strategy a business can take. Making the decision to move forward with innovation and digital transformation is the first step towards finding stability and success.

## Taking the First Step Forward

A promising finding in this survey is that when the organizations these supply chain and logistics professionals work for *do* implement new technologies, the majority (62.2 percent) say that it is a company-wide initiative. Contrary to common belief, digital transformation is not just about technology, it's also about business process and organizational changes. Success with new technologies comes from alignment of stakeholders from across all facets of the organization. Rallying the team behind the company's innovation efforts, ensuring they're working off of the same playbook and actively finding ways to build on technologies being deployed throughout the organization, is vital.

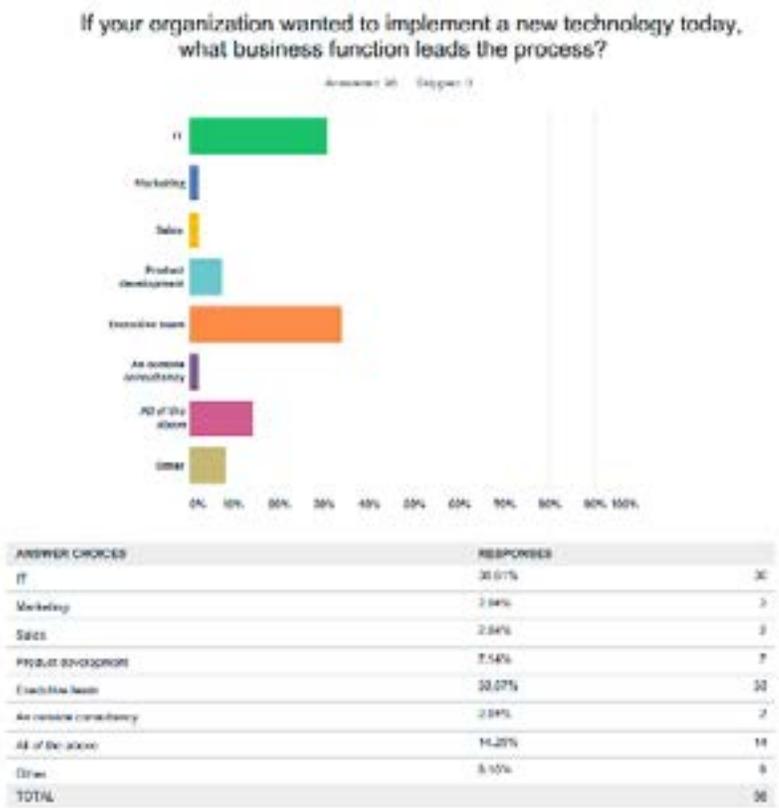


**62%**  
 SAY BUILDING NEW  
 TECHNOLOGY IS  
 A COMPANY-WIDE  
 INITIATIVE.

Unsurprisingly, the executive team (33.7 percent) and IT (30.6 percent) are the two business functions that typically lead the digital transformation process from supply chain and logistics professionals' points of view (see page 9). This finding is common across industries as executives frequently have an eye on the potential upsides of innovation for the business, and IT leaders understand what technologies are available to solve business challenges and how to implement them.

More of a surprise was the finding that only 2 percent report that outside consultancies typically lead the digital transformation process within their organizations. This may tie back to concerns over budget, but outside

consultancies can play a powerful role in helping an organization to identify the right technologies and places to deploy them within a business to foster real, measurable change, while reducing risk. Even in businesses that lack a culture and appetite for innovation, outside consultancies bring fresh thinking and hands-on experience that help stagnant organizations identify a path forward.



**34%**

OF DIGITAL INITIATIVES ARE LEAD BY THE EXEC TEAM.

**31%**

OF DIGITAL INITIATIVES ARE LEAD BY THE IT TEAM

## Mapping the Road to Success

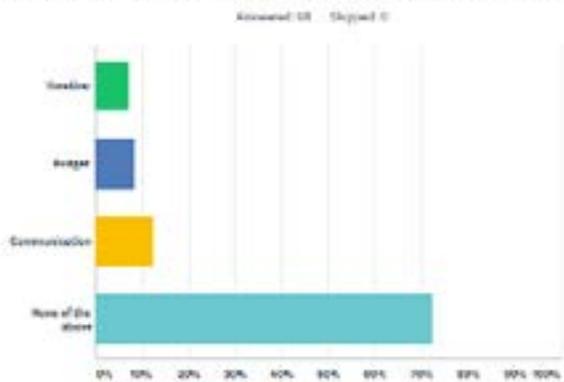
While there are many benefits to working with an outside consultancy, finding the right one is critical. Of the few respondents that had worked with a large consultancy in the past, more than a third (35.7 percent) reported encountering communication issues during their digital transformation projects (see page 10).

We at Janeiro Digital hear concerns about communication frequently when we meet with new companies. That's why we developed the [Rapid Alignment, Design and Development](#) (RADD) methodology, a whole new approach to enterprise innovation that drives success for our clients. Assumptions and vagaries can put even the best developers off track. Nearly every project that ends poorly has come back to miscommunication between and among stakeholders, and managers and developers. Having a strategy for getting everyone on the same page—internally and externally—and setting realistic expectations is crucial.

The **Rapid Alignment** approach carefully considers an organization's existing technology architecture and subsequent development needs, creating tangible documentation that incorporates product strategy, user experience and technical design. This detailed timeline clearly articulates the project goals, existing dependencies, budget and deadlines, but also helps ensure all stakeholders are being realistic about the project requirements and scope. Once the project starts, this timeline also makes it easier to see if any pieces are falling behind or going over budget, catching potential derailments before they spiral out of control and reducing risk.

The Design and Development phase of RADD is where the team executes on that plan and makes it a reality.

Did you encounter problems with any of the following when working a large consultancy on your digital transformation project(s)?



ANSWER CHOICES	RESPONSES
Timeline	7.54% 7
Budget	8.18% 8
Communication	12.24% 12
None of the above	72.04% 73
TOTAL	99

**36%**  
OF THOSE WHO WORKED WITH A LARGE CONSULTANCY, CITED FAILURE DUE TO POOR COMMUNICATION.

## Building to the Digital Future

While digital transformation can sound like a lofty goal and drastic change, the successful initiatives should feel much more gradual. True transformation begins with building blocks that culminate over time. Organizations must build towards their ultimate digital vision while salvaging value from legacy systems, and minimizing technical debt that could hold the business back down the road.

For example, components such as hardware or cloud deployments are necessary investments, but are also low on the value chain. We know these technologies and vendors will evolve, so it's important to avoid too much investment in that arena, which could result in infrastructure or vendor lock-in down the line.

Developing strategies for legacy modernization and integration means looking higher on the digital transformation value chain and architecting for sustainable innovation. Supply chain and logistics professionals should be helping their businesses to create a platform that can serve as the core or “spine” of their digital enterprise. Building new solutions based on a flexible enterprise architecture will help create building blocks that can be swapped out more easily down the road as the business evolves.

Janeiro Digital’s solution, for example, uses a flexible microservices architecture called the [XFORM](#) platform, which enables the most common and useful foundational components for a solution to be brought up quickly and efficiently, forming the basis for the work to come. Using XFORM, supply chain professionals can innovate with a shortened foundational building period, and rapidly connect new solutions to business-critical legacy systems. This translates into mitigated development risk and the enablement of future innovation.

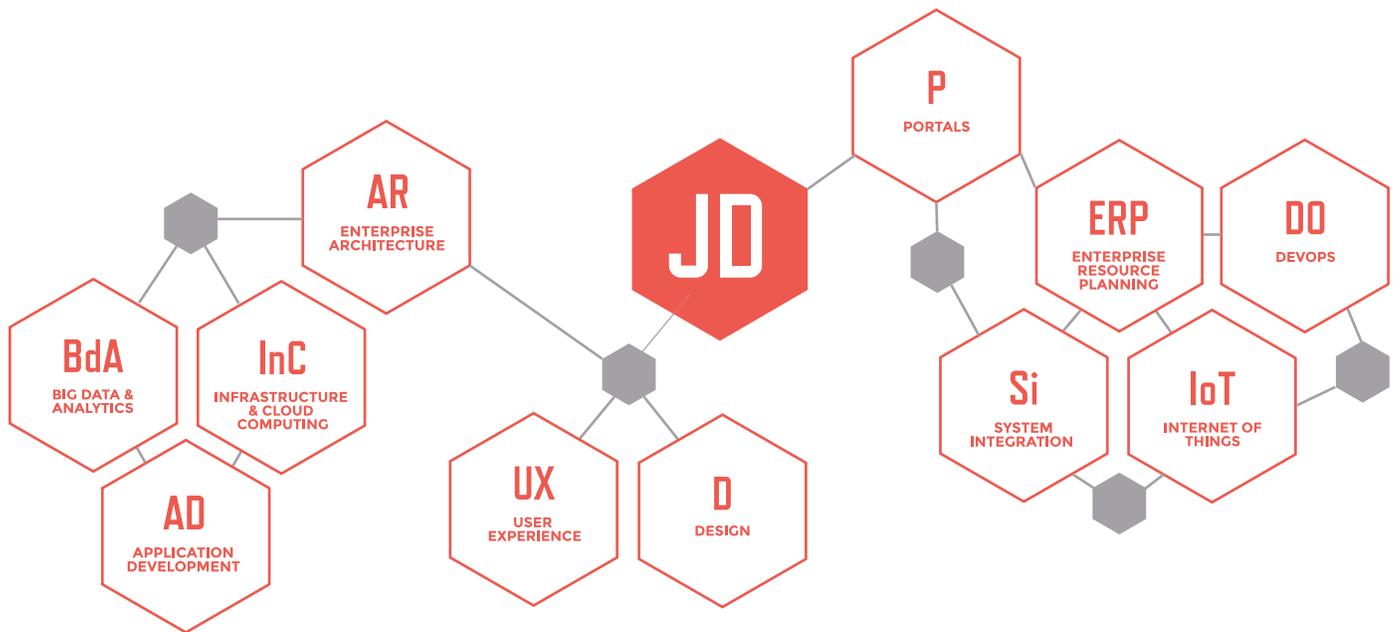
Digital maturity hasn’t been a focus for the majority of supply chain and logistics professionals, but now is the time to make digital innovation part of the industry’s culture. In the years to come, we’ll begin to see those that embrace innovation and digital transformation survive and thrive, and those that lag will fade away. While no cultural shift is ever easy, taking action and approaching technology in a practical and sustainable way will make the digital transition seamless—and beneficial—for employees at every step of the supply chain.

# ABOUT JANEIRO DIGITAL

Janeiro Digital is a digital business consulting services company. We design and build enterprise technology that fosters innovation and drives business outcomes. Utilizing technology to enable and address key digital business objectives, we don't just fix problems—we provide sustainable solutions that optimize our client's performance to better serve their customers.

Learn more at [www.janeirodigital.com](http://www.janeirodigital.com).

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