

**DSCI**  
DIGITAL SUPPLY CHAIN INSTITUTE



THE CENTER FOR  
GLOBAL ENTERPRISE

Digital Supply Chain Institute Catalyst Program

**DATA TRADING AS A CATALYST FOR  
DIGITAL SUPPLY CHAIN TRANSFORMATION**



# TABLE OF CONTENTS

<b>THE NEED FOR SPEED</b>	<b>1</b>
<b>BENEFITS OF THE DIGITAL SUPPLY CHAIN</b>	<b>4</b>
<b>TRANSFORMATION HURDLES (A.K.A. WHY ARE WE GOING SO SLOWLY)</b>	<b>6</b>
OVERALL HURDLES	6
DEMAND HURDLES	10
PEOPLE HURDLES	11
TECHNOLOGY HURDLES	12
RISK HURDLES	13
<b>TRANSFORMATION CATALYST (A.K.A. ACCELERATING THE TRANSFORMATION)</b>	<b>14</b>
DIGITAL SUPPLY CHAIN INSTITUTE CATALYST PROGRAM	15
Step 1: Measure & Focus	18
Step 2: Collaborate with a Purpose	21
Step 3: Commit to the Goal	22
Step 4: Ignite and Sprint	25
Step 5: Victory Celebration	27
<b>DSCI DATA TRADING FRAMEWORK: A CRITICAL ROLE IN THE CATALYST PROGRAM</b>	<b>28</b>
Prepare	31
Negotiate	32
Monitor Governance	33
GETTING STARTED WITH DATA TRADING – PREPARATION WORKSHEET	34
JUMP START DATA TRADING WITH A TARGETED CATALYST PROJECT	36
<b>GET MOVING</b>	<b>37</b>
<b>APPENDIX: WHAT GOOD LOOKS LIKE</b>	<b>38</b>
DEMAND	38
PEOPLE	38
TECHNOLOGY	39
RISK	40
<b>REFERENCES</b>	<b>41</b>
<b>ACKNOWLEDGMENTS</b>	<b>42</b>
<b>ABOUT THE CENTER FOR GLOBAL ENTERPRISE</b>	<b>47</b>
<b>ABOUT THE DIGITAL SUPPLY CHAIN INSTITUTE</b>	<b>47</b>

# 1

## CHAPTER 1: The Need for Speed

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You know you need to change. But change is hard, and transforming your supply chain while you run it is really hard. In this paper, we provide a proven way to accelerate change and apply it to your Digital Supply Chain transformation through the DSCI Catalyst program. Digital Supply Chain transformation has unique challenges, such as obtaining critical new data from customers and suppliers. To address this challenge, we have developed and integrated a new Data Trading Framework into the Catalyst program to help you obtain the data you need to unlock the potential benefits of the Digital Supply Chain.

Our research shows that companies are frustrated with the pace of their supply chain transformation. To transform to a Digital Supply Chain and reap the benefits, companies need to transform in four distinct, but interrelated areas: Demand, People, Technology, and Risk.

Here are a few statistics from a survey DSCI conducted in April 2018 of senior supply executives that illustrate the need for speed.

- 11% say “Supply chain is fully integrated into a cross-functional working group whose purpose is to drive corporate strategy and digital supply chain performance.”
- 22% say, “Supply chain is fully integrated into a cross-functional demand stimulation program, with product development and marketing/sales.”
- 5% say they “collaborate with our suppliers and customers to utilize new technologies to share risk data to predict and address potential business and compliance risks.”

“Many benefits of digitalization in supply chains are still untapped, because crucial organizational transformations and their management are often neglected or postponed.”

**Büyükoçkan & Göçer<sup>1</sup>**

Too often companies know they need to transform, but they can't get started or they intentionally put it off until there is a crisis. The Catalyst program breaks this cycle of inaction by bringing proven change methodologies to the Digital Supply Chain transformation. By adopting the Catalyst approach, instead of heavy top-down organizational change methods, companies can realize the benefits of the Digital Supply Chain faster. The short-term, measurable Catalyst projects can be strategically orchestrated to make large scale change happen. The Catalyst program promotes attributes of a digital culture: speed, agility, more action and less planning.

The lack of effective collaboration between departments and with customers and suppliers is a fundamental hurdle. But too often even when companies do "collaborate" it means more committees and working groups. More talk and more planning. But what companies need is more action and what we call "collaboration with a purpose." You need to break down internal departmental silos and find ways to collaborate with customers and suppliers. One of the significant challenges companies face in transforming to a digital supply chain is the ability to get very specific, critical data from customers and suppliers.

In this paper, we provide you with an integrated method to accelerate "collaboration with a purpose":

- the DSCI Catalyst Program accelerates your transformation through improved collaboration internally and with third parties to meet measurable, short-term goals
- the Catalyst's unique, new Data Trading Framework helps you identify, value and obtain the critical data you need.

The DSCI Catalyst Program is a step-by-step method for accelerating change through short-term measurable improvement projects that force collaboration. The program starts with a transformation maturity assessment (TMA) to help you measure where you are now in Demand, People, Technology and Risk. The Program helps you identify new digital supply chain performance metrics to supplement or even replace your current supply chain performance metrics. It brings together a cross-functional team to set a challenging short-term goal that will improve performance and breakdown silos. Too often broad change management initiatives flounder. They often reinforce silos and can have the unintended consequence of creating a "work-around" culture as people continue to do what they did, despite the new ways introduced in the change initiative. The DSCI Catalyst Program orchestrates a cross-functional team to meet a common short-term goal. It helps to prioritize what data is needed and develop an action plan for how to get it.

**"Most companies still don't realize the value of their data. It's kept in silos. Companies need to breakdown the silos and realize that their data is an asset that they can monetize and barter."**

**Deana Denton, Director of IT,  
GSM, Corning**

As we highlight in this paper, companies are seeking to get more data from customers and suppliers, yet they are struggling to do so. One of the reasons is that they are not specific about what data they are seeking - and what data they are willing to give in exchange. To address this, we have developed a unique Data Trading Framework that allows you to provide a value to specific data you want and to what you can offer in exchange.

Accelerating transformation to a Digital Supply Chain is an enormous challenge for every company. Take a moment to think about your company's transformation. Is there cross-functional "collaboration with a purpose?" Are there very specific pieces of customer or supplier data you wish you had? Do you need to speed up your transformation to stay ahead of the competition? The companies that figure out how to increase the speed of their transformation will win. It is clear that companies need to transform or they will fade away. We provide specific actions you can take to accelerate your transformation – to become a catalyst for change.

# 2

## CHAPTER 2 Benefits of the Digital Supply Chain

The Digital Supply Chain is here. It is not going away. Platform business models are showing up in industry after industry. The line between B2B and B2C is blurring. Companies that sold products are now selling subscription services, or even guaranteed performance. Several companies we talk to now have “digital transformation” departments.

There are several key considerations in transforming your supply chain to a Digital Supply Chain. First and foremost is understanding your direct customer and the end consumer in a more sophisticated way by utilizing data analytics, algorithms, and advanced technologies.

Production will be driven by consumer demand, personalization and not manufacturing efficiencies. This will lead to improved inventory management while better meeting consumer needs.

Instead of being a back-office function, supply chain will move into an integrated role alongside sales, marketing and product development in the stimulation of demand. This will require an increase in collaboration both internally and with key supply chain partners. Data analytics and advanced technologies will enable companies to have greater visibility into supply chain risks and better prevent or mitigate negative impacts.



A Digital Supply Chain is defined as a customer-centric platform model that captures and maximizes utilization of real-time data coming from a variety of sources. It enables demand stimulation, matching, sensing and management to optimize performance and minimize risk.

We surveyed hundreds of leading supply chain practitioners from around the world and these conversations have led us to conclude that the adoption of a customer-centric Digital Supply Chain can reduce procurement costs for all purchases of goods and services by 20%, and reduce supply chain process costs by 50%.<sup>2</sup> In addition to decreased costs, the transformation to a Digital Supply Chain can increase revenue 10% by creating a better customer experience and new routes to market.<sup>2</sup> Dramatic improvements in customer satisfaction are coming as companies integrate new data sources and use advanced analytics to predict consumer needs. Risk management will be increasingly important, driving a profound shift in risk management from reactive to proactive and preventative. In addition, there are benefits such as increased enterprise agility, improved end-to-end supply chain visibility through real-time awareness. All of this adds up to an exciting “opportunity phase” for senior management.

A key benefit of the Digital Supply Chain is improved demand matching, sending and stimulation. Companies that transform to a Digital Supply Chain will gain a competitive advantage. So, what are you waiting for?

Here is an example of one enormous problem that could be improved through the transformation to a digital supply chain. According to an IHL Group Report<sup>3</sup> released in June 2018, retailers lost \$1.4 trillion in sales in 2017 due to supply chain issues. That’s a big number, but even more attention getting is this:

- **\$686 billion was lost because items were *out of stock*.**
- **\$675 billion was lost because of *overstock which resulted in markdowns*.**

Reflect on that for a moment from the supply chain perspective. A lot of money was lost because of the inability to accurately match supply and demand, and to sense customer desires. The most frustrating part of it is that half-the-time money was lost from not having enough product and half-the-time money was lost from having too much product.

# 3

## CHAPTER 3: Transformation Hurdles (a.k.a. Why Are We Going So Slowly)

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### OVERALL HURDLES

A 2018 DSCI survey<sup>4</sup> of 132 senior supply chain executives found that 49% say their transformation is going “slower” or “much slower” than anticipated. Although 32% say their pace of transformation is going “as anticipated,” we learned through interviews that there is a significant gap between the “anticipated” pace and the “desired” pace. Many that say that the transformation is going “as anticipated” assumed it would be a slow go. In almost all instances, transformation is going slower than needed to improve market competitiveness.

Why are things going slower than needed? What are the hurdles? The DSCI survey shines an interesting light on the challenges. Here’s a look at the top five issues cited as a “challenge” or a “big challenge” in speeding the DSC transformation.



## Top Five Hurdles to Speeding the Digital Supply Chain Transformation



Source: 2018 DSCI survey of 132 senior supply chain executives<sup>4</sup>

Look at the hurdles. Three of the top five revolve around people. In our extensive literature review of over 100 articles, the collective view from the articles confirms our belief that digital transformation has not yet been fully enabled due to organizational and management issues, not due to technology limitations.

Interestingly, only 18% of the survey respondents think that senior management support is “low” or “extremely low” for DSC transformation. So, if senior management support is not the issue, what is the issue?

One of the things we heard in interviews with supply chain executives is that “senior management’s stated support is strong but...” It’s one thing for senior management to state they believe in digitalization, but they must also actively drive the implementation. Senior management needs to take action to remove the hurdles and accelerate change.

A BCG study of 40 digital transformations in 2018 found that companies that focused on culture were five times more likely to achieve breakthrough performance than companies that neglected culture.

Source: BCG, How to Drive a Digital Transformation: Culture is Key, 2018

Senior management needs to help supply chain break out of the procurement and logistics mindset to speed-up the transformation. Getting buy-in at senior and middle management levels in the organization is critical for transformation and very difficult. This may involve changing the organizational structure and reporting lines. It will certainly involve changing job performance metrics and compensation. It will also mean increasing budgets for change and holding people accountable for results. As we see later in this paper, there are specific ways to become a catalyst to accelerate the transformation from the top down.

While companies say that senior management supports the Digital Supply Chain transformation, many of the same senior managers have allocated almost nothing to achieving it. They are not backing up the stated desire by providing supply chain leaders with the needed budget and authority. In addition, few have changed the performance metrics that assess progress and results. For example, very few companies have given the head of the Supply Chain any revenue related targets.

As we said earlier, the Digital Supply Chain is a customer-centric model that captures and maximizes the utilization of real-time data coming from a variety of sources. One of the critical elements of the doing [The Frontside Flip](#) is access to and utilization of new data. However, there is tension between having a lot of data and having the right data.

On one hand, companies say they can't process and effectively use all the data they have now. But on the other hand, they are eagerly clamoring for more data to make critical business decisions. More data from customers. More data from the customer's customer. More data from suppliers. More data from the supplier's suppliers. While data is ubiquitous, the data required for improved decision making and bottom-line results is frequently out of reach.

We hear how critical it is to get the "right" new data in interview after interview. Yet, it's not happening. One of the major hurdles to accelerating Digital Supply Chain transformation is collaboration and information sharing with companies in the end-to-end value chain. Only 5% of the DSCI survey respondents say, "We have an ongoing active collaboration with our key customers in our Digital Supply Chain transformation." Equally telling, 45% either have "asked key customers to be involved, but they are not really involved at this point" or "have not asked key customers to be involved at this point."

Only 5% of the DSCI survey respondents say, "we have ongoing active collaboration with our key customers in our Digital Supply Chain transformation."

Only 4% have "ongoing active collaboration with our key suppliers in our Digital Supply Chain transformation."

Source: 2018 DSCI survey of 132 senior supply chain executives<sup>4</sup>

If we look at the supply-side, we see a similar situation. Only 4% have “ongoing active collaboration with our key suppliers in our Digital Supply Chain transformation.” And, 51% either have “asked key suppliers to be involved, but they are not really involved at this point” or “have not asked key suppliers to be involved at this point.”

“Every company has a digital ambition. However, there is a bifurcation between new entrants and some legacy businesses that have established an edge, and then the rest of the competition which tends to stumble and fail in their efforts. The reality is sobering, 70% of digital transformations stagnate or fail to take off for various reasons: Big digital bets do not pay off quickly enough; bureaucracy in established businesses can prove remarkably resilient to change and rush headlong into new technologies because of a fear of missing out.”

**DSCI Member Company**

So, if we start to put the pieces of the puzzle together, it becomes clear that the keys to accelerating transformation are buried in the murky issues around people and collaboration. It’s not as easy as buying more technology. To accelerate your transformation, you need to figure out ways to engage the right people in your company, break down internal silos and collaborate with customers and suppliers.

Companies know they need to change. They know that the transformation needs to gain velocity. They know the hurdles. What’s missing is knowing what to do to get over, under or around the hurdles. That’s where the DSCI Catalyst Program comes in. The Catalyst Program provides you with a step-by-step method for breaking down silos to define and address a shared goal. One of the things that makes the Catalyst Program so effective is its focus on rapid, short term results. Programmers are now using the Agile method of systems development. The Agile approach is all about breaking down a large task into small, executable chunks. Progress happens as results are achieved, area by area. The Catalyst Program takes a similar approach to the massive change required to transition to a Digital Supply Chain. Transformation happens, but it happens by taking many focused, rapid steps, not by attempting to make one giant leap forward.

We advocate that companies need to measure and manage the Digital Supply Chain in four critical areas: Demand, People, Technology and Risk.

Let’s take a look at the common hurdles that we see and hear about in each of these four areas. You’ll see how they fall into the broader hurdles discussed above.

## DEMAND HURDLES:



“We struggle to get the cooperation we need to transform our supply chain and to play a more valuable role in demand management.” **DSCI Member Company**

- Data is in silos internally
- Getting data from other departments is a slow process
- Legacy systems that don't communicate
- Reluctance to share data with customers and suppliers, which of course leads to a reluctance of them to share data
- Old-fashioned view of the supply chain role
- Turf issues and attitude - demand is a sales/marketing job and there's no need to involve the supply chain department

Buyers and suppliers can achieve high levels of performance by building a dynamic knowledge integration capability, grounded upon two underlying learning mechanisms: joint sense-making and joint decision-making.

Revilla, E. And Knoppen, D 2015<sup>5</sup>

## PEOPLE HURDLES:



“It’s really a mix of needing some new people with new skills and helping the people we have embrace change and understand that collaboration is central to the Digital Supply Chain.” **DSCI Member Company**

- People being people
  - Fear of becoming obsolete
  - What’s in it for me?
  - The old way is fine
- New skills needed, but lacking:
  - Analytical, data-driven decision making,
  - Building and managing collaborative teams
- Corporate culture reinforces departmental silos
- Struggle to find a common purpose for collaboration
- Initiative fatigue
- Misalignment of performance incentives between departments
- Turf battles and power struggles (see above)
- No sense of urgency by senior management – easy to say it’s a priority, but it is different to create the sense of “do or die” urgency

“There’s no algorithm or formula that says technology will do X, so Y is sure to happen. Technology doesn’t work on its own. It’s just a tool. You are the ones who harness its power.”

**Eric Schmidt,  
Executive Chairman, Google**



## TECHNOLOGY HURDLES:

“There’s an attraction to new technology – the shiny new toy that’s going to solve our problems with the push of a button. But that’s a fantasy.” **DSCI Member Company**

- IT department and supply chain department are not strategically aligned
- Dated view of supply chain’s role and what technology is needed to do it
- People are attracted to new technology whether or not it delivers the promised value
- Legacy systems and incompatible systems – department to department, in subsidiaries, with acquisitions, with third parties, etc.
- Too much data to deal with
- Cleaning data is time-consuming
- Too many competing priorities for IT dollars and attention
- Overwhelmed by vendor options leading to “paralysis by analysis” involving too many internal decision-makers

“Companies have introduced costly, complicated initiatives designed to deploy digital tools and approaches organization-wide, only to see such programs fall short of their potential or stall completely. The evidence? Rich data sets are accessible only to a few groups of privileged users. Innovative processes used in one business unit are never shared across the company, and the impact of digitization remains small and isolated.”

**Toward an integrated technology operating model Oct. 2018, McKinsey Digital**

## RISK HURDLES:



“We’re excited about the potential to use predictive analytics to reduce risk, but right now I’m losing sleep over the new risks we’re facing from cybersecurity and the potential loss of intellectual property.” **DSCI Member Company**

- No established risk tolerance level
- Risk management often broken into departmental silos
  - Supplier compliance risk in the compliance department
  - Supplier business performance risk in the supply chain department
  - Cyber risk in the IT department
  - IP/trade secret risk in the legal department
- Big difference in implementing policies between HQ and other locations
- Struggle to establish appropriate level of verification with third parties
- Lack of supply chain visibility - especially beyond direct suppliers
- Constant “fire-fighting” in response to external factors (supplier compliance, regulations, etc.)
- Lack of vision about which risks to manage at an acceptable level and where to truly excel to gain a competitive advantage

“The proliferation of data moving across platforms and among parties requires a new and different kind of umbrella of trust, one that enables increased agility and performance. But how is this trust built and maintained? And how does one not only trust but verify? These are a few of the management challenges that lie ahead, and they exist in an environment marked by escalating cybersecurity risk.”

**Cybersecurity In The Digital Supply Chain: Managing Third-Party Risk Through Verified Trust,**  
*D!gitalist Magazine, March 2017*

# 4

## CHAPTER 4

# Transformation Catalyst (a.k.a. Accelerating the Transformation)

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“I’ve been in the supply chain department for 30 years. It was called the ‘Logistics Department’ when I got here. It took 20 years to change the name to ‘Supply Chain Department.’ We just launched a digital innovation center to try and speed things up. We don’t have 20 years. We’ve got more like 2 years.”

**DSCI Member Company**

The transformation to a Digital Supply Chain may be one of the biggest management challenges of our time. There are significant internal challenges as traditional functional departments are broken down and new models of collaboration are formed. There is the

need to effectively collaborate in new ways with customers and suppliers – and customer’s customers and supplier’s suppliers. There is wave after wave of disruptive technologies – 3D printing, Blockchain, IoT sensors, Artificial Intelligence and Machine Learning. There are enormous new risks around cybersecurity and data protection.

You know you need to transform. You’ve got an idea of where you want to go. You’re also realizing there are a lot of hurdles. You need it to go faster.

Changing culture is a slow process. But there are new ways to speed the transformation to a Digital Supply Chain. DSCI has blended proven change management methods with a new data trading framework to create a digital transformation catalyst. Culture change requires a sense of excitement and fear.

“Engaging functional leaders is critical. We need to keep pushing to change the culture and the mindset to a more iterative approach. We all need to understand that transformation is never-ending. You’re never done.”

**DSCI Member Company**

Define a clear path. Break it into small steps. Cross-departmental collaboration is critical to the transformation. And don't fall into the "low-hanging fruit" trap. You need short-term measurable projects that are challenging. Achieving a challenging goal in 16-week time frame forces new ways of collaboration. It breaks down silos and drives innovation. Too often "low-hanging fruit" projects solidify the existing culture and silos as people try to do the same old thing – just a little faster.

A key element of running a Digital Supply Chain is thinking and operating like a digital native. The Agile development approach is embraced by digital natives. It is fast, flexible and short-term goal-oriented. The DSCI Catalyst program uses a similar approach to guide cross-functional teams to define and achieve measurable short-term goals. Senior management's role is to sponsor the projects and integrate the individual Catalyst projects into the overall strategic direction.

**"You have the power to accelerate your transformation. Define a clear direction, but break the journey into small time-bound steps. Make sure that each step has a specific measurable goal. Remember, you can't improve what you don't measure. Pull together a cross-functional team. Let them experiment about how to achieve the goal, but keep them laser-focused on measuring their progress toward achieving the goal. Help them go over, under, through or around the hurdles. Whatever it takes. Pause to celebrate the victory and formalize any process improvements. Then get going again."**

**Craig Moss, Director and  
George Bailey, Managing Director, DSCI**

# Digital Supply Chain Institute Catalyst Program

DSCI has developed its Catalyst Program to help you accelerate your transformation, break down silos and strategically access critical new data. The DSCI Catalyst Program is a step-by-step method for accelerating change through short-term measurable improvement projects. It orchestrates a cross-functional team to define and meet a common short-term goal. It helps to prioritize what data is needed and develop an action plan for how to get it.

Typically, the Catalyst Project will involve a core team of 5-9 people from different departments. Each Catalyst Project lasts 16 weeks. The time commitment for each team member varies depending on the goal, but typically it is not a full-time commitment for anyone.

The DSCI Catalyst Program consists of five steps:



On the following pages, we provide a diagram of the Catalyst Program, details on each of the five steps and links to additional resources.

## Three ways to use the DSCI Catalyst Program

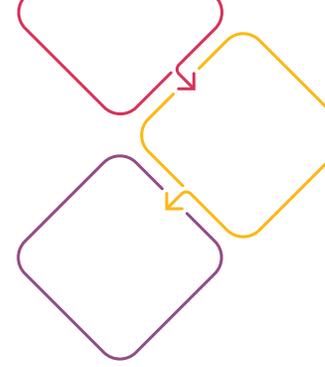
- 1. Do-it-yourself:** Use this guide and the DSCI tools on your own
- 2. Engage DSCI Virtual Support:** Get remote support from DSCI experts who share their experiences and best practices from other companies with you
- 3. Engage the DSCI Catalyst Team:** DSCI experts work along-side you, at every step, to facilitate and guide your Catalyst Project

# DIGITAL SUPPLY CHAIN INSTITUTE CATALYST PROGRAM





## STEP 1: MEASURE & FOCUS



Transformation is essential, and speed is critical. Measure & Focus is the foundational step for setting the strategic direction of the 16-week Catalyst Project. In this step, you need to measure the progress of your current Digital Supply Chain transformation and then identify a general focus area for the Catalyst Project.

Measuring the maturity of where you are now in the four pillars – Demand, People, Technology and Risk - and assessing your gaps allows you to allocate resources strategically. It helps to define the path and prioritize the initial focus area. As you view the results of the initial measurement, think about the broad areas that are most important for quick improvements. You will refine this into a specific goal later, but it is good to have a general idea at this point of what the areas to focus on. For example, based on an initial assessment you may see that your transformation is slower in Demand and People. This will help you decide to focus on a Catalyst Project that will accelerate the transformation in these areas. It is also important to establish a general baseline measurement so you can assess the overall improvement at the end of the project.

Share the measurement results with senior management so you can start to build awareness of where you are and support for accelerating your transformation in the targeted focus area. Senior management support that is clearly communicated to relevant parties will be critical throughout the project. As you target the right focus area, think about where you'll be able to get senior management support and how the Catalyst Project can enhance and accelerate other initiatives already underway.

Example Catalyst focus areas to get you started.

- **Demand:** Activating a Cross-Functional team to Improve Demand Management algorithms
- **People:** Engaging Suppliers and Customers in Your Transformation
- **Technology:** Using AI/ML to Clean Data
- **Risk:** Implementing a Depth and Breadth Approach to Supplier Risk Management



## STEP 1: MEASURE & FOCUS CONTINUED

One way to do establish a baseline measurement is to use the DSCI Transformation Maturity Assessment to get a quick understanding of where your transformation is today. The [DSCI Transformation Maturity Assessment](#) measures your current transformation progress on a scale of 1-3 in the four pillars: Demand, People, Technology and Risk. The Assessment has two parts: one part for your workforce and one part for your suppliers and customers. The 'inside' look and the 'outside-in' look provide a quick way to get a holistic view and start to prioritize focus areas for improvement.

- **Inside View:** This is for you and your employees to complete. We suggest having several people complete it, so you get a broader perspective on where you stand today. Many companies find it useful to complete it as a team. It's a great way to hear different perspectives and come to a shared opinion of the current maturity.
- **Outside-In View:** This is for your customers and suppliers to complete. The more, the better. It's really quick for them to complete and invaluable for you to learn how they see you. Comparing the internal view with how your suppliers and customers see your digital supply chain maturity can be a real eye-opener.

One of our member companies had 10 employees and 30 customers/suppliers complete the assessment. It took about 30 minutes for each employee and 5 minutes for each customer/supplier.

Here's a link to the DSCI Transformation Maturity Assessment tool.

<https://www.dscinstitute.org/resources-and-tools/dsc-transformation-maturity-assessment>

In Measure & Focus, we recommend that you start to think about how data sharing or new data sources can play a role in your project. One useful action at this point is to start to inventory the algorithms relevant to the focus areas. This inventory will be very useful as you progress through the project and use the DSCI Data Trading Framework.

It is also useful for you to start to identify current metrics that relate to your focus area at this point. This can be a more general high-level look since you will be developing a very specific Catalyst Project metric in Step 3: Commit to a Goal. Ultimately, as part of your Digital Supply Chain transformation, you will need to adapt your performance metrics.



## STEP 1: MEASURE & FOCUS CONTINUED

Some of your existing metrics will still be valuable, but others will need to go. Effective digital supply chain metrics will blend traditional metrics with dynamic new metrics.

A 2017 DSCI survey of 125 supply chain executives found that 89% said that digital supply chain metrics would either be “completely new or a combination of new and traditional metrics.”

Once you’ve established general baseline metrics and gotten senior management support for the chosen focus area, you’re ready to move to Step 2: Collaborate with a Purpose.

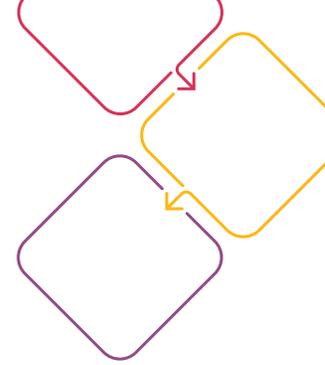
[DSCI Essential Performance Metrics](https://www.dscinstitute.org/applied-research/performance-metrics) consist of new metrics that are specifically applicable to a Digital Supply Chain. DSCI has developed a list of Essential Digital Supply Chain Metrics, which are categorized into the four key management areas – Demand, People, Technology, and Risk. There are output and process metrics to choose from in each of the four pillars: Demand, People, Technology, and Risk.

Here is a link:

<https://www.dscinstitute.org/applied-research/performance-metrics>



## STEP 2: COLLABORATE WITH A PURPOSE



Based on the improvement area you want to focus on, pull together a core Catalyst Project team. Describe the focus area, the level of senior management support and the short-term nature of the Catalyst Project. Help them understand that this will be collaboration with a purpose – to define and meet an important 16-week goal. This is not another committee. There will be more action and less planning. The short, measurable Catalyst Project breaks-down silos and lessens resistance to cross-functional collaboration.

Reach out beyond your supply chain department and get other departments involved. You will want to form a core cross-functional team and add people based on the specifics of the Catalyst project. You'll probably need to involve supply chain, marketing/sales, IT and product development. You may also consider involving HR, finance and enterprise risk management. The ideal team size is 5-9 people. This is large enough to get a range of opinions and small enough to be able to efficiently make decisions.

As you think about which departments to involve, also think about the algorithms and data that they have that may be useful based on your focus area. Now is a good time to become familiar with the DSCI Data Trading Framework. It will play a key role as you progress through the project by helping you identify and value what new data will help you meet your goal. More on using the framework in the next section where we provide details on the DSCI Data Trading Framework.

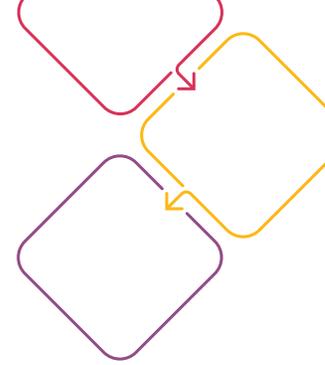
Remember, the purpose of the team is to achieve a short-term goal, so the commitment to the team only lasts 16-weeks. Cross-functional involvement is critical as you proceed to goal setting, so the goal solves a problem that spans multiple departments. Once you've decided on the departments to involve and senior management has endorsed the focus area from Step 1, it's time to get the right people from each department. In selecting the right people, interest, enthusiasm and a problem-solving attitude are critical attributes.

The Catalyst Project Team will be responsible for setting the goal and managing the project to meet the goal. Forming the team drives the collaboration. Setting the goal gives them a purpose. The Catalyst Project accelerates "collaboration with a purpose."

Once you've formed the core team, you're ready to move to Step 3: Commit to the Goal.



## STEP 3: COMMIT TO THE GOAL



In this step, you will pull the team together for the goal-setting. It's best to get them together face-to-face with no distractions. You want complete focus without phones and emails. As you facilitate the meeting, keep in mind that you want to define your Catalyst Project to force collaboration around meeting a measurable short-term goal and to utilize new data sources. This is how you turn collaboration into collaboration with a purpose. This is how you accelerate your Digital Supply Chain transformation.

Getting the goal right is a critical step. The goal needs to be measurable, challenging and time-bound – 16 weeks. Remember, no low-hanging fruit. The goal needs to create a sense of excitement and urgency in the team – and beyond that – in the company.

In preparation for the goal-setting, ask each team member to review and update the algorithm inventory in light of the focus area. They can also use the Data Trading Framework to sketch out initial ideas of what data would help them solve problems in the focus area.

In the meeting, one technique for producing an effective goal statement is to have each team member list a few problems they are trying to solve in their department. Then identify the common problems that span departments that could be addressed through the Catalyst Project. Also, review your maturity assessment and think about the hurdles in your company that are slowing you down.

An effective goal statement is one sentence that clearly defines what will change, how much it will change and when it is due (16 weeks). It is essential to get input from each member of your Catalyst Project Team and to identify a goal that benefits each department. If desired, DSCI can facilitate Catalyst workshops to help you through the goal setting process.

As part of the goal setting, collectively use the Data Trading Framework to identify new data that would be helpful. As you work on this, ask each department to identify the data they have that could contribute to the cross-functional effort.

It is important that the entire Catalyst Team agrees to the exact wording of the goal statement. Keep working on refining the goal statement until there is unanimous and enthusiastic approval. It can be useful to use a qualified facilitator for this process.

Once you've agreed on a goal statement, break the goal down into key milestones. It is useful to break the milestones into tasks and assign the tasks to project team members.

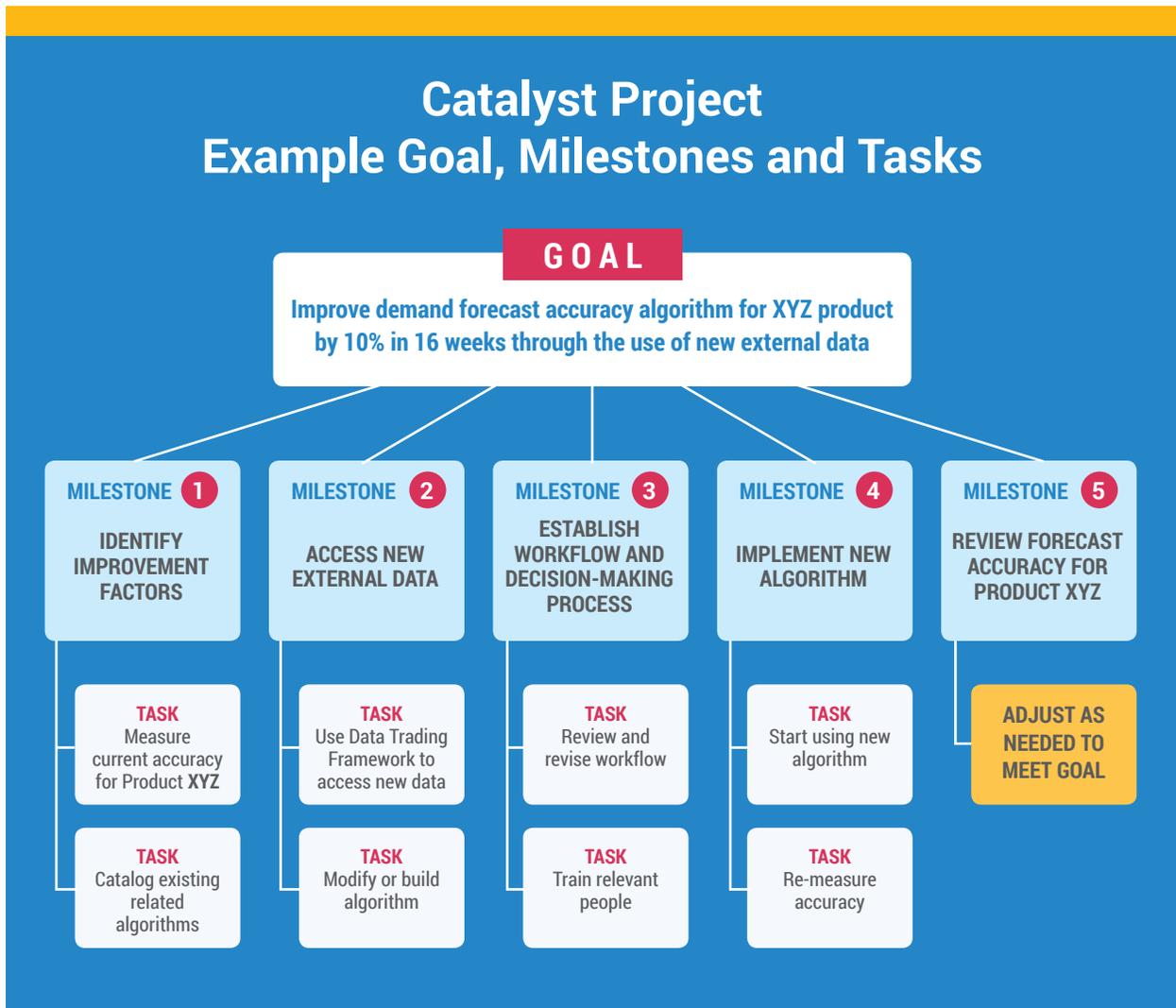


## STEP 3: COMMIT TO GOAL CONTINUED

Be careful not to make the common mistake of confusing the goal with the milestones. Remember, the goal needs to be measurable. Look at the example to see the important difference between a Catalyst Project goal and a milestone. We've added a few tasks to illustrate how you can break things down further.

**Example of a weak goal:** Improve our demand forecast accuracy using an algorithm

**Example of a strong Catalyst Project goal:** Improve our demand forecast accuracy algorithm for XYZ product by 10% in 16 weeks through the use of new external data





## STEP 3: COMMIT TO GOAL CONTINUED

Based on the specific goal, select a Team Leader or Co-Leaders. Select the leader(s) based on their awareness of how the project fits into strategic objectives and their ability to work across departments. Also consider their project management skills and enthusiasm for the project. The leader(s) does not necessarily need to be from the supply chain department.

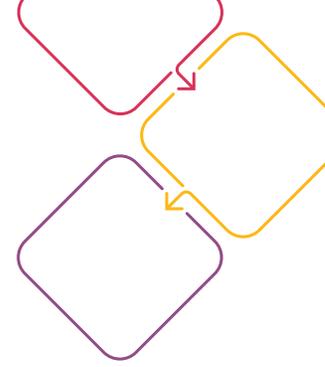
### **A few tips and questions to ask during the goal setting session:**

- Define a goal that can be accomplished through the better use of people and process – not one that requires a large capital expenditure.
- Define a goal within the focus area that you think will get senior management support quickly.
- Define a goal that is aligned with or can accelerate existing strategic initiatives
- Does the goal solve a problem that spans departments?
- Analyze the current decision-making structure – will it need to change to meet the goal?
- Do you need new metrics to establish a specific baseline for the goal?
- Will data collection, sharing or utilization need to change?
- How can data sharing between departments be improved to meet the goal?
- How can new data from customers and suppliers be obtained and integrated?
- Will you need to involve others in the Catalyst Project team?

Once the goal has been embraced by the team and approved by senior management, you're ready to move to Step 4: Ignite & Sprint.



## STEP 4: IGNITE & SPRINT



Getting the goal and milestones right is half of the battle, but you've still got to make it happen. Hopefully, the goal-setting created a spark of excitement. Now the Leader and the senior management sponsor need to ignite the team and start the sprint. Because the project is a sprint, you don't have time to go off track for long. However, don't just try to do the same thing a little faster, or a little better. You will need to experiment and innovate while keeping your eye on the goal. Think about whether to break down barriers and smash silos or if it makes more sense to go around the hurdle.

Part of making it happen is keeping the cross-functional project team engaged, and part of keeping the team engaged is the ongoing interest and support from senior management. Hopefully, you intentionally designed your goal to actively involve different departments. One of the keys to success is getting the input from all departments to make sure any planned changes are practical. Too often changes are made in one department that have negative, unintended consequences for other departments. Use the Catalyst Project to create new workflows and processes between departments that can be sustained. This will help break down the silos and spread awareness in all departments.

During this step, use the DSCI Data Trading Framework as a tool to accelerate your project by systematically identifying and valuing new data that will be useful. Specifically, we recommend that you think about breaking down internal data silos to meet your goal, and strategically accessing data from external parties.

### Catalyst Project Tips

- Do a baseline measurement against your goal
- Refine the Data Trading Framework to identify key needed data
- Meet once a week – even if only for a few minutes
- Schedule a firm deadline for a half-way meeting at the 8-week mark
- Set a firm schedule to measure progress – but expect progress to go in spurts
- Keep senior management informed and engaged



## STEP 4: IGNITE & SPRINT CONTINUED

### **Here's a checklist with some tips and questions you should be thinking about in the first few weeks.**

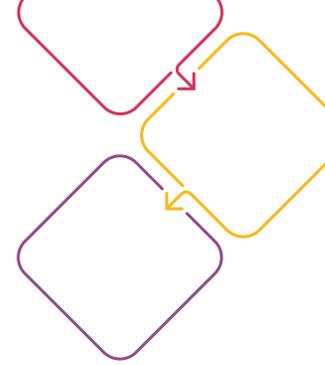
- What approvals are needed?
- What are the most likely hurdles to meeting the goal?
- How will you continue to keep senior management engaged?
- Who is going to be receptive versus who is going to be resistant?
- What training may be required?
- Which algorithms and/or metrics will be impacted?
- How can we quickly get the new data we need? What can we trade in return?
- Do we need to establish any new data governance procedures?
- How can you build awareness of and interest in the project at the right time?
- Will you need to involve others in the Catalyst Project team?

In addition to the quick weekly check-in meetings, it is important to have a formal half-way meeting. The half-way meeting is a chance to assess progress toward the goal and make any needed adjustments in the workplan. It is also a good time to begin to think about how to sustain any new processes that are working. Coming out of the half-way meeting, the team should be ready for the final sprint to reach the goal. During the last half of the sprint, we recommend measuring your progress against the goal more frequently if appropriate.

Once you've achieved your 16-week Catalyst goal, it's time for the final step.



## STEP 5: VICTORY CELEBRATION



Don't forget the final critical step – a formal “end-of-project” meeting involving senior management. At this final meeting, it is important to celebrate your success in achieving the goal and meeting the deadline. The agenda should include a review of how your team met the goal. It is important to cover what hurdles you encountered and share the details of how you overcame – or went around – the hurdles. As part of this, provide a report on any new processes or workflows that were established to help you sustain the improvements that were made to meet the goal. Many find it useful to re-take the maturity assessment at the end of the Catalyst Project to measure overall changes in maturity.

Finally, this meeting is a great time to start the cycle again. Wrap-up the meeting by going back to Step 1: Measure & Focus. Start to lay the groundwork for your next Catalyst Project. It may be an expansion of the initial project or something in a related focus area.

Each Catalyst Project is a spark of change in your organization. Each spark brings together a cross-functional group in a new way to define and meet a challenging short-term goal. You can orchestrate a series of Catalyst Projects to accelerate your Digital Supply Chain Transformation.

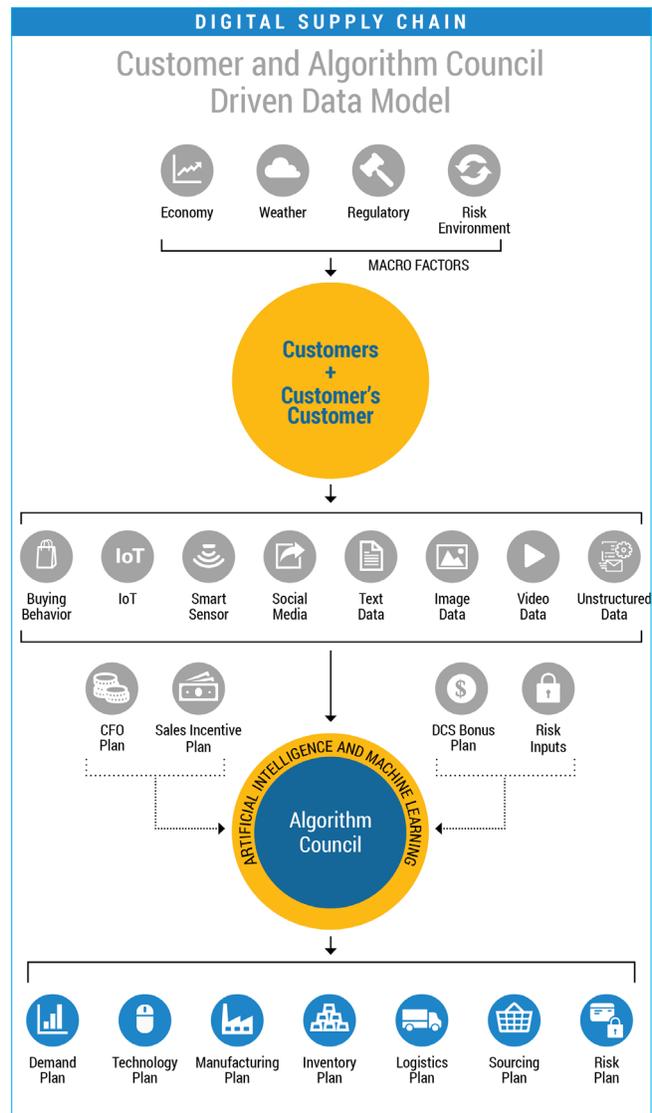
# 5

## CHAPTER 5

# DSCI Data Trading Framework: A Critical Role in the Catalyst Program

One of the major hurdles companies face in transforming to a Digital Supply Chain is their inability to get data from customers and suppliers. In addition, many supply chain executives cite the difficulty they have in getting timely accurate data from other departments in their own company. We recommend that every Catalyst Project includes the acquisition and utilization of new data. In order to assist in removing one of the major hurdles to collaboration between departments and with your customers and suppliers, we have developed the DSCI Data Trading Framework.

DSCI developed a new customer-driven Digital Supply Chain data model in our 2018 paper titled “Driving Demand In The Digital Supply Chain: Algorithms and the Untapped Power of Applying Real-Time Big Data and AI/ML.” In reviewing the model, you will see the critical importance of obtaining and integrating the right data from new sources.



Companies are aggressively utilizing artificial intelligence and machine learning (AI/ML) to gain a competitive advantage. The cross-departmental use of algorithms is a key component to effectively implementing the strategy. One of the most important aspects of the Digital Supply Chain is collaboration that extends beyond the boundaries of your organization. We hear it from all of the executives we talk to: the need for better collaboration with customers and suppliers - the need for shared performance metrics with customers and suppliers - the need for data sharing with customers and suppliers. But as we illustrated in the 'Hurdles' section, data sharing with customers and suppliers is easier said than done. Yet strategic data sharing with customers and suppliers is essential to unlocking the power of AI/ML. The critical management question is how to do it? Data trading is the answer.

In the digital economy, data is a new currency. That's nothing new. However, unlike currencies, the value of data is not universally established. It is not a transparent market. What is new is the idea of developing a data trading strategy to accelerate your Digital Supply Chain transformation.

**"Almost every company in the world realizes the importance of developing algorithms that help run their business. And most recognize that the convergence of artificial intelligence (AI)/machine learning (ML) technologies, the explosion of data from sensors and IoT devices and new information from social media, customers and other sources make it the right time to invest in a more integrated algorithm strategy."**

***DSCI, Algorithm Council: The Missing Management Piece for Today's Companies***

**"Customer engagement, supply chain visibility, and real-time collaboration has been key to driving mutual benefit. Through our digital supply chain, we are generating market insights that continually improves our competitive position. It's exciting when we find new ways to deliver a 'win-win' to our customers."**

**Laura Bissmeyer, Director - Global Supply Management, Corning**

Taking a leadership position in understanding how to value and trade data with other departments and with value chain partners will help accelerate your transformation and sustain your competitive advantage. Once you think about data like money, it becomes clear that you have to be strategic in using it. You must think of it as a currency and invest it and spend it like you would money.

Internally, data trading between departments can be the "purpose" behind "collaboration with a purpose." Think about the negotiations you have with other departments. Maybe it's about budgets and who's going to pay for something from their budget. Just like money, your supply chain department has data that may be really valuable to other departments – like your product development or sales department. And other departments certainly have data that would help supply chain to gain more visibility

“While the use of external demand signal data is becoming increasingly important as we advance our Digital Supply Chain initiative, the preparation of the data remains a pain point. Mapping and cleaning data is labor intensive. We are adding machine learning capability to the process of mapping and cleaning data to increase automation and improve speed.”

**Michael Crowe, CIO, Colgate-Palmolive**

into demand and risks. Use the idea of data sharing inside your company as a way to break down silos and drive collaboration. As you define your Catalyst Project goal integrate cross-departmental data sharing as one of the ways to meet your goal.

Although there are internal applications of the data trading concept, the real power of data trading comes from your supply chain. Just as you exchange money for goods and services, you can exchange your data for data from your suppliers and customers. This is where it gets interesting because unlike money, the value of data is relative. It depends on the context and how it fits into each company’s strategic puzzle. The value of a specific piece of data is relative based on how it fits into your strategic decision-making and algorithms.

Based on our interviews, most companies are frustrated by the lack of data sharing with their customers and suppliers. Of course, one issue is the desire to protect proprietary data and not lose a competitive advantage. But another root-cause is the vagueness of what data sharing means to each company. Let’s be realistic, no company is going to give you all of their data. And you probably don’t need it all or wouldn’t even use it.

To get things moving, you need to go from the general concept of data sharing with customers and suppliers to the specifics of exactly what data you want and what you are willing to give of value in exchange. And as with so many business relationships and business process improvements, it is more likely to happen if you start small.

That means you need to identify exactly what data would be most useful to you. For example, one consumer products brand would love to get the age and gender of the end-consumer from a major retailer. One automobile tire manufacturer would love to get the mileage and end-date of leased cars from a car company. One electronics component manufacturer would love to know the desired new product features of the end-consumer from the smartphone manufacturer. In every company there are very specific pieces of data that would help complete the puzzle. To go from talk to action, companies must move beyond talking in generalities and get very specific.

The **DSCI Data Trading Framework** takes the general concept of sharing data with customers and suppliers down to the specifics of exactly what data you want and what you are willing to give. And it provides you with a framework for assigning a value to it.

Part of accelerating your transformation is having a data acquisition strategy that includes data trading. To get started, you need to get a clear overview of the algorithms driving your Digital Supply Chain. Taking an inventory of the relevant algorithms is an important part of Catalyst Project. For many companies, it is an eye-opening exercise when you see how disconnected they can be. You need to get a good understanding of the value of the data you currently have and what data you need that would optimize the performance of current algorithms or unlock the broader power of algorithms to create a competitive advantage.

As you become more sophisticated in your data trading strategy you need to think about the value of your data to third parties. Think strategically and put yourself in their shoes. Think about what specific pieces of data might help fill a hole in their puzzle. You know what pieces to the data puzzle you're missing, and you can speculate about the pieces your customer or supplier is missing. We know that companies spend a lot of time and resources on cleaning data. What if you can provide clean data in one very specific area to a customer in exchange for getting a key piece of data that you need?

Preparation is critical to effective data trading, just like it is for other types of negotiations. We have developed a comprehensive DSCI Data Trading Framework that outlines a process you can follow to unlock the value of data sharing with your value chain partners.

## **THE DSCI DATA TRADING FRAMEWORK CONSISTS OF THREE STAGES NEEDED FOR OPTIMIZING YOUR DATA TRADING**



### **1. Prepare**

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### **2. Negotiate**

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### **3. Monitor Governance**

We will detail the three stages of data trading in our upcoming paper focused on the “DSCI Data Trading Framework.”<sup>1</sup> For the purposes of this paper and the Catalyst Program, we will focus on the first and most important step in Data Trading: Preparation. The following is a framework to prepare for data trading— a way for you to strategically identify and value the data you need and the value of what you are willing to give in exchange.



## Prepare

We've developed a worksheet to get you started with data trading and develop a data trading strategy. It's designed to help you prioritize what you need and how valuable it would be to you. It's also useful to help you think through what a customer or supplier may want. Effective data trading requires thorough preparation and cross-functional approvals. You need to make sure that you have an internal agreement about what data you can offer before entering the negotiation.



## Negotiate

Negotiation is the second stage of the Data Trading Framework. Data trading negotiations have some specific areas that need to be addressed. Many companies have an established negotiation methodology, and most executives that routinely negotiate with third parties have developed their own negotiation style. We don't intend to provide an overview of negotiation methods, nor advocate that you adopt a certain style. However, as we point out above, there are specific issues that need to be addressed in data trading negotiations. For example, when and how you get the data is one important consideration. Be realistic about your needs and actual use. Don't push to get data on a daily basis, if it would be just as useful if you got it once a month. We believe that for your company to excel at data trading it will require you to balance the desires and concerns of the legal, IT and business units. We will go into this in more detail in our next paper.

### Key Questions

- What data do you want and what is its value to you?
- What data do you have that they want and what is its value to them?
- How old can the data be?
- How often do you need it?
- At what level of the supply chain would the data exist?

### Key Questions

- How does your company's standard negotiating approach apply to data trading?
- In what form do you need the data?
- What are the regulatory or contractual restrictions on its use?
- Are there data ownership and IP issues that need to be negotiated?
- How will governance be monitored?

## Definitions

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Here are some terms to be familiar with when you talk to people. Be aware that there are not always clear-cut distinctions.

**Customer's data** – proprietary data collected by your direct customer

**Customer's customer data** – proprietary data collected by your direct customer's customer(s)

**Supplier's data** – proprietary data collected by your direct supplier

**Supplier's supplier data** – proprietary data collected by your direct supplier's supplier(s)

**Third party data** – proprietary data collected by the third parties you contract (shipping, logistics, customs clearance, etc.)

**Publicly available data** – data in the public domain



## Monitor Governance

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Monitoring the governance is the third stage of data trading. One important consideration with data trading, and with the Digital Supply Chain in general, is data governance, data protection and cybersecurity. Once data is lost or comprised, its market value is diminished or gone. There are regulatory issues about the collection, processing and sharing of certain types of data. It is critical to incorporate controls for data protection and cybersecurity

into how you ultimately structure data trading agreements with your customers and suppliers. The quality of the data you receive is also an important issue. You need to think about how to protect yourself in structuring the data trading agreement. Make sure to define the rules and responsibilities for data ownership and regulatory compliance.

### Key Questions

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- How will the ongoing trading be governed?
- How will regulatory issues be monitored and met?
- What type of verification is needed?

## GETTING STARTED WITH DATA TRADING – PREPARATION WORKSHEET

Use this worksheet to identify the data you want the most and its value to you. You can also use it to develop assumptions about what data you have that would be most valuable to others. We've provided two examples below of how the worksheet can be used.

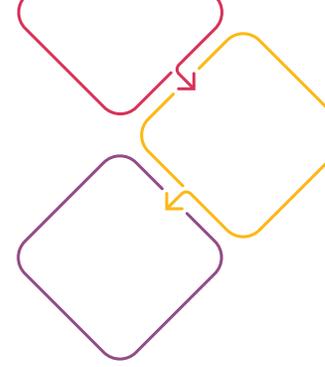
### DSCI Data Trading Worksheet: Examples

Action Categories	Business Challenge / Issue	Priority to Your Organization	Current Algorithm in Use	Current Data in Use	Needed Proprietary Data to Enhance Algorithm	Desired Data Frequency and Latency	Value of Data to Us (1-10; 10 highest)	Who Would Have the Data	Perceived Value to Them of the Data We Want	Proprietary Data We have that They would Want	Perceived Value of Our Data to Them (1-10; 10 highest)
<b>Instructions</b>	Select a specific performance metric you want to improve – ideally one that would give a unique competitive advantage	(high, medium, low)	Identify the existing algorithms in use related to the chosen performance metric	Identify all of the current data sources that feed into the algorithms	Identify proprietary data that would give you a high probability of improving performance against the selected performance metric	For the data to be valuable how often do you need it and how old can it be	Rate the value to your company of obtaining the proprietary data (10-point scale)	Identify specific organizations that would have that proprietary data and where they are in the supply chain	Rate the perceived value of the proprietary data to the organization that has it (10-point scale)	Based on your knowledge of the other organization, identify proprietary data that you have that would be valuable to the other organization	Rate the perceived value of your proprietary data to the other organization (10-point scale)
<b>Consumer Products Example</b>	Increase # of running shoes sold to females between 25-34	high	Customer segmentation algorithm	Product shipments, POS data from direct and e-com sales	Age and gender of buyers of running shoes in large retail chains	weekly	10 – because it would improve demand stimulation and matching	“Big Retail Chain” customer	6 – the value of the age and gender data increases if it is shared with a brand	Data on average time a female between 25-34 replaces a running shoe	10 – because they could proactively target their customers when shoes were likely to be replaced
<b>Industrial Products Example</b>	Reduce time to market with new high-performance touch-screen glass for smartphones	high	Product development cycle	Lab-test data, technical specification data	Breakage data by size and age of smartphone	quarterly	10 – because being first to market with new glass is critical to market share	“Big Smartphone Company” customer	7 – because it is part of customer experience, but not critical feature	Their smartphone glass breakage rate versus aggregated average	10 – because it would help them improve the pricing of their warranty program

## DSCI Data Trading Worksheet

Action Categories	Business Challenge / Issue	Priority to Your Organization	Current Algorithm in Use	Current Data in Use	Needed Proprietary Data to Enhance Algorithm	Desired Data Frequency and Latency	Value of Data to Us (1-10; 10 highest)	Who Would Have the Data	Perceived Value to Them of the Data We Want	Proprietary Data We have that They would Want	Perceived Value of Our Data to Them (1-10; 10 highest)
<b>Instructions</b>	Select a specific performance metric you want to improve – ideally one that would give a unique competitive advantage	(high, medium, low)	Identify the existing algorithms in use related to the chosen performance metric	Identify all of the current data sources that feed into the algorithms	Identify proprietary data that would give you a high probability of improving performance against the selected performance metric	For the data to be valuable how often do you need it and how old can it be	Rate the value to your company of obtaining the proprietary data (10-point scale)	Identify specific organizations that would have that proprietary data and where they are in the supply chain	Rate the perceived value of the proprietary data to the organization that has it (10-point scale)	Based on your knowledge of the other organization, identify proprietary data that you have that would be valuable to the other organization	Rate the perceived value of your proprietary data to the other organization (10-point scale)

# JUMP START DATA TRADING WITH A TARGETED CATALYST PROJECT



Data trading plays a key role in every Catalyst Project. However, you may want to go one step farther and do a Catalyst Project focused on data trading. It's a great use of the Catalyst program to build your company's strategic understanding of the Data Trading Framework, and to set a data trading project goal. The project would follow the five-step Catalyst process with the priority improvement area being developing and implementing a data trading capability. Here's a quick outline of a possible Catalyst Project focused on data trading:



**Step 1: Measure & Focus** – Take an inventory of the current algorithms in use related to managing demand and/or managing risk in the supply chain. Conduct a baseline measurement of their effectiveness or use the Transformation Maturity Assessment to establish a baseline on the maturity of data sharing. From the inventory, select a focus area and look for algorithms that could have a broader application or that would benefit from additional data. Use the Data Trading worksheet to identify the specific missing data that would provide you with a competitive advantage. Start to identify which customers or suppliers would have that data.



**Step 2: Collaborate with a Purpose** – Based on the selected focus area, form the Catalyst Team and identify specific algorithms that would benefit from new data. In forming the team consider who would benefit, who has the skills to integrate the new data and who has the relationships with the internal departments, customers or suppliers to negotiate to get the new data.



**Step 3: Commit to the Goal** – For the Data Trading Catalyst Project, define a specific measurable goal that goes all the way from identifying the needed data, to concluding the data trading negotiation, to using the data in an algorithm, to measuring the performance change based on the improved algorithm. Identify the milestones needed to reach the goal, keeping the three stages in mind: Prepare, Negotiate, Monitor Governance. Refer back to the previous section for an example of a goal and milestones.



**Step 4: Ignite & Sprint** – Take action to complete the milestones and achieve the Catalyst Project goal. Focus on developing the internal cross-functional team to effectively prepare, negotiate and govern the data trading process.



**Step 5: Celebrate Victory** – Review the process of meeting the goal, share lessons learned about the data trading process and revise the data trading strategy as needed. Identify the next algorithm or cross-functional challenge that could be improved by the acquisition of specific missing data.

# 6

## CHAPTER 6: Get Moving

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Transformation to a Digital Supply Chain is an ongoing journey. Things will always be changing. New ways to shape demand. New technologies. New people skills needed. New risks. New data needs.

Digital Supply Chain transformation has unique challenges, such as obtaining critical new data from customers and suppliers. The Catalyst Program with the Data Trading Framework helps you obtain the data you need to unlock the potential benefits of the Digital Supply Chain. It helps to break down silos and facilitate collaboration with a purpose. It gives you a way to systematically identify, value and acquire the specific data you need.

Each Catalyst Project provides a clear path and small steps to break the transformation into manageable pieces. They help to accelerate the change in 16-week sprints. It's senior management's job to know how to orchestrate a series of Catalyst Projects to accelerate and sustain your transformation.

It's time to get moving. Remember, transform or fade away.

# Appendix: What Good Looks Like

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Here are some ideas to help you shape the longer-term direction for your transformation. This is what good looks like in each of the four pillars. Can you make these statements about your organization today? Will you be able to make them in one year? In three years?

## Demand

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- Our demand sensing and stimulation program enable us to generate additional revenue through improved demand visibility and ability to satisfy the demand.
- We have a program to review and improve our performance against Digital Supply Chain metrics and benchmarks.
- Numerous sources of real-time data are integrated into demand sensing
- Numerous sources of real-time data are integrated into demand forecasting and management
- Supply chain is fully integrated into a cross-functional team, that includes product development, marketing and sales, into our demand stimulation program.
- A cross-functional consensus demand forecast is made with the utilization of predictive analytics and visibility into constraints.
- Supply chain leaders are actively involved in creating new business models to better meet customer needs.
- We proactively anticipate customer demand and manage our supply chain capacity to prevent negative impacts.

## People

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- Senior leadership shows a clear commitment to the principles of DSC and appropriate performance metrics are fully integrated into how we hire, develop and compensate people.
- The effectiveness of cross-functional collaboration and collaboration with value-chain partners is measured. Supply chain leadership is heavily involved in corporate strategy and has appropriate decision-making authority.

- We have a fully operational program for recruiting and developing the capabilities needed for Digital Supply Chain, and our program is reviewed and revised to meet the evolving needs.
- Supply chain personnel metrics are based on end-to-end supply chain performance and closely aligned or shared with those of marketing and sales and focused on stimulating demand and meeting customer needs.
- Supply chain is fully integrated into a cross-functional working group whose purpose is to drive corporate strategy and Digital Supply Chain performance.
- The culture and behaviors that we seek to develop in supply chain personnel at all levels of the organization feature Placing the performance of the organization ahead of individual or unit performance
- People are adept at strategically determining what supply chain decisions should be data-driven, identifying, collecting and analyzing the relevant data, and making data-driven decisions.
- In our organization, the top supply chain executive(s) authority and influence in the Impact on enterprise level strategy and risk management

## Technology

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- We strategically utilize digital technology to improve supply chain performance.
- We continually evaluate the application of new technologies and data sources and integrate as appropriate. We utilize data and analytics to effectively understand past performance and predict future demand and risks.
- We have an end-to-end technology capability that enables real-time performance evaluation and decision-making support.
- We are currently impacting margins or capital efficiency from the use of the relevant technologies.
- We have a rigorous review process that analyzes the ROI on technology investments and scales those that effectively support our DSC transformation.
- Platforms are being utilized in all relevant business areas, and we are continually seeking new areas where they could be utilized.

- We have established programs that evaluate the use of our existing data to directly improve business performance and are continuously seeking to find and integrate new data sources.
- Our data governance program is continually reviewed and updated to be aligned with changing external and internal conditions and how our data strategy supports our business strategy.
- Our technology provides us with real-time visibility into value-chain partners and enables bi-directional communications with them.

## **Risk**

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- We use data to reduce business performance and compliance risk through predictive analytics, with a specific focus on cybersecurity and protection of confidential information.
- We have a risk management strategy that segments risks into those we manage and those we seek to excel to gain a competitive advantage.
- We have implemented a digital strategy for monitoring and managing all relevant business performance and compliance risks.
- We use data analytics to seek patterns in supply chain risks and related negative impacts and adjust our risk management program to reduce or prevent recurrence.
- Our risk management program prioritizes how to allocate resources to manage risks and to strategically target specific risks areas that may enable sustained competitive advantage.
- Our risk assessment specifically addresses emerging Digital Supply Chain risks and ranks their risk by likelihood and the potential negative impact.
- We currently have a program to minimize cybersecurity risk and the related loss of confidential information inside our organization.
- We currently have a program to minimize cybersecurity risk and the related loss of confidential information with companies in our supply chain.

# References

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<sup>1</sup> Büyüközkan & Göçer, Digital Supply Chain: Literature review and a proposed framework for future research Computers in Industry Volume 97, May 2018, Pages 157-177

<sup>2</sup> Frontside Flip White Paper: <https://www.dscinstitute.org/applied-research/frontside-flip>

<sup>3</sup> IHL Group Report June 2018

<sup>4</sup> DSCI 2018 Survey: <https://www.dscinstitute.org/newsroom/2018/survey-report-2018>

<sup>5</sup> Revilla, E. And Knoppen, D. Building knowledge integration in buyer-supplier relationships: The critical role of strategic supply management and trust International Journal of Operations & Production Management Volume 35, Nov 10, 2015, Pages 1408-1436

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# GLOBAL SUPPLY CHAIN COMMUNITY



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THE CENTER FOR  
GLOBAL ENTERPRISE

## About the Center for Global Enterprise (CGE)

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The Center for Global Enterprise (CGE) is a nonprofit, nonpartisan research institution devoted to the study of global management best practices, the contemporary corporation, economic integration, and their impact on society.



## About the Digital Supply Chain Institute (DSCI)

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The CGE's Digital Supply Chain Institute (DSCI) is a leading-edge research institute focused on the evolution of enterprise supply chains in the digital economy and the creation and practical application of supply chain management best practices.

The DSCI's work is fielded by CGE and the Global Experts Group (GEG), a team comprised of top supply chain executives from companies around the world. The GEG acts as the DSCI's principle mechanism in developing the research and applied management learning.

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