



*The Ferrari Consulting and Research Group LLC Point-of-View Market Research Advisory*

## ***Research Advisory Report***

### ***New Rules for Supply Chain Insights, Collaboration and Overall Resiliency***

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#### ***Introduction and Purpose***

The COVID-19 global pandemic coupled with heightened geo-political trade tensions has laid naked many supply chain processes and response capabilities. While multi-industry supply chain management teams have risen to the challenge, more is expected.

In some cases, events have been a shocking wake-up call for many businesses particularly in regard to managing, sustaining, and enhancing business process capabilities for product demand and supply network response. The mission critical importance of supply chain capabilities are more visible all the way up to board room levels. As a mid-July 2020 Bloomberg published report has noted: “Now chief executive officers are looking to those same (supply chain management) managers for more strategic vision and ways to shockproof supply chains for corporate survival.”

Operations and supply chain management teams now, more than ever, need to be prepared for a post-pandemic industry and business environment where change and disruption will likely be a constant, driven by other geopolitical tensions, unforeseen events, or the increasing effects of climate change. In order to successfully move forward, the opportunity presented is to accelerate digital process adoption in critical areas. Businesses can then be prepared to return to growth, as well as having enhanced ability to mitigate ongoing disruptive risk.

In this *Technology Focused Research Advisory*, *The Ferrari Consulting and Research Group* will address new rules and associated capabilities directed at enhancing supply chain insights, broader collaboration and overall resiliency. We will specifically address three important specific capability areas that we deem essential for supply chain management and their supporting IT teams to assess and prioritize.

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### ***Background-Multi-Industry Supply Chains Put to the Test***

Product demand or supply chain disruption are nothing new for supply chain management teams. They are an everyday occurrence. Yet, the frequency and scope of such disruptions have been on the rise. While many never expected it, the *COVID-19* global pandemic coupled with heightened geo-political trade tensions and climate change risks has tested many supply chain business and decision-making processes.

Simultaneous shocks in both product demand and supply are new occurrences, and in many cases, events have been an alarming wake-up call for many businesses particularly in regard to managing, sustaining and enhancing business process capabilities for product demand and supply network response. Regional and global supply chains continue to be tested and the fissures and cracks must be continuously identified and corrected. In the *COVID-19* disruption, it has been the dedicated and innovative efforts of people and teams leveraging digital-technologies and methods that have made a discernable difference.

Moving on to whatever may be termed the “*new normal*”, businesses and their respective functional and supply chain management teams must be able to better leverage a digital backbone of capabilities supported by more appropriate technologies. Steve Phillpott, the *CIO* of global data storage infrastructure and manufacturer *Western Digital* describes such capability as enabling his company to make: “quick pivots” to remain flexible and agile during the pandemic and other types of crises.”

The business and population disruptions brought forward by the pandemic have required many businesses to adopt new ways of conducting business, managing resources and supply chain response capability needs. They have exposed business process areas that require both assessment and likely augmentation in order to be prepared for future disruption. In many cases, approaches must support more agile and resilience-based planning, sensing and responding to customer or business needs and unforeseen events. They will require a rethinking of sensing and response capability, broader and deeper levels of overall product demand and supply network visibility and more intelligence-laden and predictive based decision-making processes.

Businesses, governments, services and healthcare providers were required to leverage digital-technologies to design products in record-time, share process innovation, or re-deploy product supply or distribution sourcing. As response actions become more clearly understood, businesses and supply management teams will discover that organizations that made investments in digital advanced technologies are better capable of managing and responding. In many cases, multiple uses of spreadsheets, existing legacy on-premise systems and applications are not up to the challenge, and that is further requiring businesses to consider accelerating digital platform deployment among deemed key business processes.

Trust and product traceability is a further requirement as businesses are forced to seek out new sources of product supply. Notions of replenishment planning, backlog or channel



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customer fulfillment and revenue management now require re-thinking in the context of added agility.

The mission critical importance of supply chain capabilities is now far more visible. The new reality is multi-industry supply chains must be better prepared with strategies that can adapt to continuous changes and volatility, and more readily realign business processes when required. All of this must be supported by a reinvestment in training people to be more digitally savvy, and more prepared to enable supply chain agility and resilience.

Without such added attention, businesses run the risk of struggling with disconnected applications or siloed data and not presenting a consistent reality among cross-functional business teams as well as external suppliers and value-chain partners. Collaboration now, more than ever, takes on regional and global dimensions involving product design, supply network, logistics and other trading partners.

Disruption and crisis has indeed brought forward alarm bells, but also opportunities. That includes multi-phased approaches and accompanying investments in processes and capabilities that will provide more timely and informed decision making based on the most current and pertinent data available, utilizing cognitive, analytical and broader based intelligence methods. In a *July 2020* guest blog featured on *The Modern Finance Leader* platform, Steve Phillpott, *CIO* at *Western Digital* described how the digital data solutions manufacturer used the situation to improve responsiveness: “...with all the supply chain uncertainty in the current situation, we gained the ability to more quickly and more efficiently plan and reroute supplies from one supplier to another or to one location to another based on immediate priorities.”

The opportunity presented is the ability to leverage today’s *Cloud*-based deployment technologies that can provide businesses the flexibility for managed-scope, phased process augmentation and enhanced time-to-value, without risking a rip and replace disruption.

### ***Three Important Process Capability Areas***

As noted, preparing for a new normal of continuous business and supply chain change requires some hard thinking as to the prioritization of capabilities to focus on in building such a foundation. As always, prioritizing process, people and enabling technology investments are now crucial, as is the reality that business disruption cannot be tolerated.

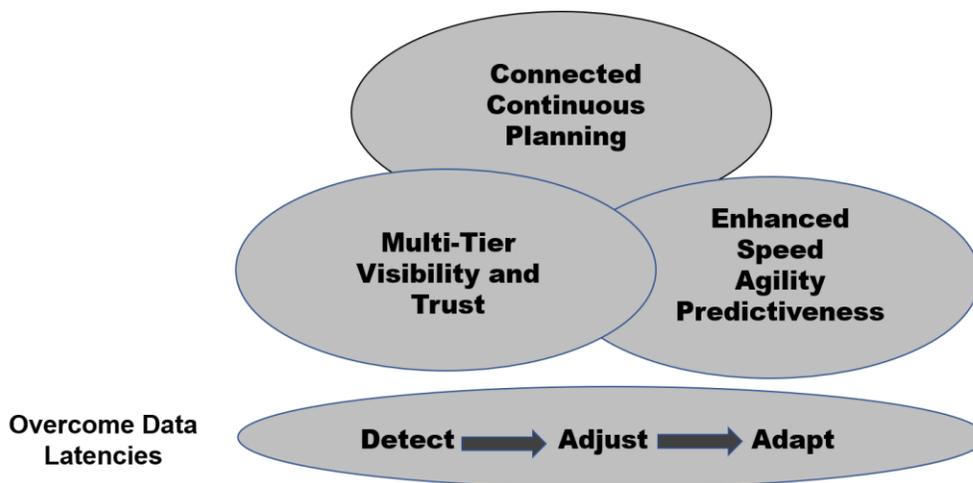
A further consideration related to today’s modern and adaptive technologies is considering the value of pre-integrated applications among various financial planning, back office and supply chain management applications including the ability to seamlessly pull in information from existing legacy and on-premise systems and applications.

*In this Advisory*, we will address what we believe will be the three rather important business process capability areas requiring the most added focus and attention. In the accompanying

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Figure 1, we provide a visual representation of such capabilities. Depending on your particular business, product lines, supply chain or existing technology profile, teams may elect to change the order of prioritization, but the focus remains on all three as central to added agility and resilience.

**Figure 1: Three Critical Process Areas for Digital Process Transformation in Integrated Business Planning and Decision-Making**



**1) Connected Planning for Decision-Making Resilience**

Integrated business planning is about being able to make more informed and context aware product demand fulfillment and supply network decisions based on near real-time, accurate and consistent data shared collectively among various line-of-business and supporting functions including finance, sales and marketing, supply chain planning and customer fulfillment support teams. The goal is to provide the most-timely information, in proper context and risk weighted to the implications for various ongoing plans and outcomes.

Different from prior approaches, the process should not be about added time trying to reconcile to a single number but rather to make more rapid, and best-informed decisions with information that best indicates where attention needs to be placed. Consider that in an environment of continuous change or unplanned disruption, time to detect and resolve is likely more important than total accuracy. It is no longer about developing one plan, but rather a continuous snapshot of planning and execution visibility and needed decision-making.

The process further takes on operational, tactical and strategic planning and execution connotations. It requires a continuous planning process that includes the most up-to-date

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financial and operational planning, customer fulfillment execution, as well as added information related to products and services.

Pertinent data and information should be automatically collected by respective software applications as well as having the capability to incorporate electronic or sensor-based data generated by *Internet-of-Things (IoT)* physical devices if needed. In many cases, data and information, either structured or un-structured, must be easily consolidated from multiple dimensions, linked together in consistent context.

Leveraging today's more advanced *Artificial Intelligence* and *Machine Learning (AI/ML)* capabilities can now provide added opportunities to detect either process or operational abnormalities far sooner, identify likely root-cause analysis, assimilate both internal and external data sources in order to orchestrate needed actions or guided resolution. This can free-up time for supply chain management teams to focus on broader follow-up tactical and strategic needs. Pre-integrated and purpose-built *AI/ML* supported processes help organizations to democratize deployment, springboard faster time-to-value and minimize the need for recruiting high in-demand data scientists.

Whatever the “*new normal*” turns out to be, the rate of business change will be such that integrated business planning must take on scenario-based capabilities, allowing the ability to model or simulate different response options in order to assess their impact on key business metrics such as required customer service levels, revenues, working capital, margin performance or other important performance metrics. With information coming from multiple sources and changing constantly, sometimes hourly, spreadsheet-based tools will not suffice. Instead, consideration to persistently aware, *Cloud* based technology that can automatically sense, and context such information should be considered.

The goal is a consistently recognized plan, accessed by all pertinent decision-makers or stakeholders, supported by internal and external collaborative-based information exchange. We advocate that context should be that of product management, financial and operational planning, supporting functional and customer service entities.

Since business and supply chain volatility is now a constant, process realignment and any technology investments must not risk a disruption to mission-critical needs. Transformation and technology implementation should be positioned in a phased approach, each phase with definitive process goals and clear time-to-benefit dimensions.

## **2) Operationalized Multi-Tier Visibility and Trust Networks**

Enhanced visibility implies a requirement for multi-tiered supply network visibility not only for inventory and capacity, but much broader needs as-well. Richard Scheitler, *CIO* of the Wonderful Company describes visibility as: “*The ability to look at the organization more*

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*broadly as opposed to siloes, with better visibility to our customers and suppliers, as well as the ability to drive cost out and help the bottom-line.”*

Such visibility can be supported from a technology perspective from today’s more advanced supply chain planning and fulfillment execution response management capabilities as well as from *Cloud based B2B Supply Chain Network platforms* supplemented by pre-integrated software applications. Chris Wood, *Vice President, Business Transformation* for global package delivery and logistics services provider *FedEx* describes this type of capability as “*constantly aligning networks.*”

An environment of continuous change implies need for enhanced collaboration among ad-hoc, virtual teams to address and manage unplanned developments needing attention. Teams must have the ability to assemble experts and assess the most-timely information available, again placed in a risk context. A digital backbone, purpose built for sharing of such information related to product demand, supply or other business risk abnormalities provides the means for teams to spend less time gathering information and more time to quickly focus on needed actions, mitigation and more timely resolution. Enhanced collaboration further provides the ability for external suppliers and partners to be incorporated into necessary planning or key customer fulfillment processes. During the pandemic, such capability was essential in assessing multiple disruptions, incorporating remote worker involvement and collaborating with external groups.

Today’s supply chains generate volumes of information and transactions that need to be validated, often by time-consuming, labor-intensive efforts. Increasingly, visibility needs to factor not only planning and operational visibility, but supplier conformance and other necessary needs. *Distributed Ledger Technology (DLT)* enabled by *technologies such as Blockchain*, provide the opportunity to improve transparency, trust and product transactional traceability among different supply chain trading partners. The recording of non-disputable transactions from various supply network partners establishes trust throughout the network and frees-up existing people resources. Just as today’s *B2B* networks facilitate electronic transmission of transactional information in the form of *EDI* electronic messaging, *DLT* technology can provide support for added transparency, trust and traceability.

*Blockchain* technology can further provide support for termed *Smart Contracts* where pre-defined conditions or controls related to either product provenance (origin and counterfeit protection), or product tracking and tracing can be automatically triggered by actual events that are occurring. This helps in improving transparency and trust and reduces needs for disintermediation among contract participants. This is especially important for industry supply chains operating in governmental regulated environments. If required, *Blockchain*, deployed in combination with *Internet of Things (IoT)* enabled technology, can monitor and alert to the condition of products as they traverse global or domestic transportation and logistics processes.

### **3) Enhanced Speed, Agility and Prediction of Decision-Making**

In our *Ferrari Consulting and Research Group 2020 Predictions for Industry and Global Supply Chains Research Advisory* published in January 2020, and specifically our prediction of likely advanced technology investments, we pointed to the acceleration of the speed and context aware intelligence of overall decision making as a priority for many multi-industry business and supply chain management teams. That was before the pandemic made its extensive and far-reaching global impacts.

Our belief remains that the increased leveraging of *Artificial Intelligence (AI)*, *Machine Learning (ML)*, and advanced analytical capabilities will garner the most need in supporting customer fulfillment, integrated business planning, physical process and other more proactive business process decision-making needs.

In its recently undertaken financial and supply chain transformational initiative, *Western Digital* focused on unifying disparate data management platforms in order to gain more timely access to needed information. As *CIO Phillipott* put it: *“Establishing a resilient financial and supply chain platform has helped us adapt and respond to disruptive events.”*

Elements of machine-learning have already been successfully applied to supply chain planning process support where advanced analytics and process learning can provide planners with far more early warning and timely insights.

Market providers are leveraging this technology, deployed in pre-integrated packaged applications, to enhance *Integrated Business Planning* processes that bring together sales, operations, and business financial planning integration and synchronization. Likewise, technology can now be leveraged into areas of prioritized issue escalation and guided resolution, freeing-up existing teams to perform more tactical risk mitigation and strategic planning and collaboration activities.

Today, much more than before, more advanced and affordable *Cloud*-based technologies provide the means for fusing both physical and digital generated data and information sources. The physical aspects are the actual assets and machines monitoring the operational status and performance leveraging *IoT* technologies, where defined parameters or thresholds are encountered, communicated to respective digital based supply chain planning, execution and inventory and field service dispatch applications for proactive actions.

Ongoing applications include proactively managing predictive maintenance of assets and machines before actual breakdowns ever occur. In the case of product quality and performance, the automatic monitoring of production equipment, assets or operating vehicles can provide early warning to developing performance shortfalls needing quality conformance or product engineering attention.

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**Further Considerations- Overcome Data Latencies**

More agile decision-making increasingly implies bringing together customer, product, and end-to-end supply chain planning as well as customer fulfillment information among different product demand and supply networks. Data must be the timeliest available and placed in the context of associated information needed to make the most informed decision relative to consequences and outcomes.

With such importance, data management capabilities continue to be the crucial foundation to enhanced decision-making in any of these three process capability areas. Now more important than ever, in overcoming data latency. Today's available data harmonization, integration and synchronization, coupled with autonomous data management capabilities are becoming a far more foundational need in this area. As stated earlier, the new normal often does not allow a quest for 100 percent accuracy of data, but rather a continuous planning process that can provide the earliest detection of unplanned events, noted abnormalities and/or market opportunities for increased product demand. These should be workflow notions of *Detect-Adjust-Adapt* with the ability of teams to connect the dots, have context related to decision-making implications and needed outcomes.

**Summary Takeaways**

The following are the summary takeaways incorporated in this *Research Advisory*:

- While the *COVID-19* global pandemic laid naked many supply chain processes and response capabilities, such an event provides both the wake-up call and opportunity for enhancing capabilities in areas of supply chain agility, more integrated business planning, enhanced visibility, collaboration and overall speed and context of decision-making. Finance, operations and supply chain management teams now, more than ever, need to be prepared for a post-pandemic industry and business environment where change and disruption will be a constant.
- Businesses and their respective functional and supply chain management teams need to leverage a digital backbone of capabilities that include digital and physical device data and establish security and trust supporting every transaction.
- Preparing for a new normal of continuous business and supply chain change requires hard thinking as to the prioritization of which capabilities to focus on in building a digital foundation. A further determinant is considering the value of pre-integrated, pre-packaged technology with the ability to seamlessly extract and send information among existing legacy and on-premise systems.
- The opportunity presented is the ability for businesses to accelerate digital based process adoption and leverage today's *Cloud*-based deployment technologies that can provide



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businesses the flexibility for managed-scope, phased process augmentation and enhanced time-to-value, without risking a rip and replace disruption.

- Prioritizing process, people and enabling technology investments are now crucial, as is the need for effective change management. Businesses and supply chain management teams that have embarked on the digital journey indicate that today, the hardest part of the journey is helping people to understand how to leverage the technology and change prior work habits.

#### ***Call To Action- Further Information***

For further information and supplementary research and insights, please visit [our Ferrari Consulting and Research Group Research Center](#). The *Research Advisory, 2020 Predictions for Industry and Global Supply Chains* referenced in this advisory is available for complimentary downloading in our *Research Center*. Additional insights can be found by searching the [Supply Chain Matters blog website](#) for search terms supply chain decision-making, integrated business planning or supply chain technology.

Additional information related to example of the three capabilities described in this advisory can be found by clicking on the link below:

[www.oracle.com/scm/solutions/insights-collaboration](http://www.oracle.com/scm/solutions/insights-collaboration)



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