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Digital Transformation Primer for the Post-Sale Supply Chain

WHITE PAPER



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The business world is abuzz with talk of digital transformation. Becoming a digital business has massive appeal because of the efficiencies, agility, savings and revenue gains it enables by fundamentally changing enterprise-wide functions, including the supply chain.

In fact, a recent Supply Chain Digest survey found that 80 percent of companies believe supply chain digitization will deliver great competitive advantage and 77 percent have instituted some sort a digitization initiative.[1] And Gartner says 85 percent of executives expect their companies to be a digital business by 2020.[2]

The Most to Gain

So what exactly is digital transformation? OnProcess defines it as leveraging data to intelligently alter and automate operations, and surface new insights that drive high-impact outcomes.

When it comes to the post-sale, or service, supply chain, the benefits of digital transformation cannot be overstated. Traditionally one of the least-automated aspects of business, as well as one of the most complex and fragmented, the service supply chain has perhaps the most to gain. Its core functions—from help desk and parts management to field service and product returns/repair—are highly interdependent. Yet, they operate as loosely stitched-together, manually-driven silos, where hand-offs lead to intelligence gaps, major delays and unnecessarily high costs.

The typical service supply chain is also extremely reactive. Because there's limited or no visibility into existing and potential issues, you're often not aware of them until they become tangible problems, like replacement parts that don't arrive when needed, inventory stockouts, ultra-costly transportation that kills profits, and more.

When properly and fully digitized, the post-sale supply chain transforms into a proactive, transparent, end-to-end operation. It eliminates inefficiencies and breakage points, and delivers dramatic cost savings and customer experience improvements.

However, with 78% of businesses not having a clear supply chain digitization strategy[3], the question becomes, what is truly needed for digital transformation?

78% of businesses don't have a clear supply chain digitization strategy

The Underlying Principle

The first thing to understand is that digital transformation is not something that can be done quickly, partially or in the background. It's a major undertaking that encompasses a variety of business components and many stakeholders, including third parties. To succeed, it requires a cooperative, integrated approach, a long-term commitment and firm executive sponsorship.

Technology—for collecting, processing and analyzing data—is the driving force behind digital transformation, but supply chain methodologies, customer experience and corporate culture are equally important components. To achieve a truly digital post-sale supply chain, you can't invest in just one or two components. You need to focus on all of them simultaneously and wholeheartedly.



Key Technology Components

Internet of Things

IoT is a critical enabler of digital business transformation. Using data collected from connected products in the field provides new insights for streamlining operations and enhancing triage, service events, repair and spare parts inventory.

When building an IoT strategy, keep these considerations top-of-mind:

- Customer buy-in: Before gathering data from the products customers use, you have to get customers on board. To be willing participants, they need to know how allowing your company to collect that data will benefit them. Develop a closed-loop process so they can clearly see the benefits coming back to them.
- Data tsunami: Pulling in massive volumes of machine data cannot only clog the network and slow everything down, it can also overwhelm your ability to make sense of the data. To keep this from happening, use IoT technology that moves logic closer to the edge, where the sensor is, so you can capture and pre-process specific data. This will speed delivery and refine the data stream so that it can be more effectively leveraged.
- Two-way street: Data shouldn't just go in one direction – from the customer's product to you. Plan how to build a digital path back to that same product. For instance, you might push signals to the product to reset the sensor, or to turn off a sensor that's working intermittently or sending too many false positives until a service technician can fix it.

Data Processing and Manipulation

With IoT and edge consolidation enabling you to easily access and selectively identify machine data to capture, it's now time to figure out how to process the data. The big focus here should not be which hardware and systems to use – they're pretty much commodity. Plus, as you'll see in the next section, it's best to use cloud services to cost-effectively handle massive volumes.

Instead, focus on the data scientists and skills needed to work with diverse, extremely large data sets. Since you'll be gathering data that are at various levels of maturity and cleanliness, from many different systems (IoT, ERP, Voice of Customer, etc.), you need people who are expert at tasks such as mapping data to derive a baseline system of record, handling missing and conflicting data, doing data definitions, wrapping process around the data and assigning metrics to it.

Assuming the data is global, the data scientists also need to be well-versed in international data requirements, making sure data resides in the right place and is ultra-secure, as well as compliance requirements for particular industries such as financial and medical.

Cloud Services

Cloud services are essential for digital transformation. For one thing, cloud makes it much easier to manage partner ecosystems, which are critical in multi-partner supply chains. And as we all know, cloud enables you to continually and quickly innovate, with minimal CapEx.

Having cloud-based resources at the ready whenever you need them, makes it possible to rapidly test and prototype new post-sale supply chain models, such as propensity to return, and get quick validation. You can instantly spin up virtual machines to handle new projects and parallel data processing, and just as easily scale down when prototyping is complete.

In terms of cloud services partners, there are all types of vendors, but the best bet, particularly if your business is global, is to go with the leaders: Amazon Web Services, Microsoft Azure or Google Cloud Platform. This will enable you to meet country-specific data compliance requirements, and provide greater resiliency for any cloud services by enabling redundancy across geographically dispersed data centers.

Automation

Digital transformation is impossible without automation. It drives many of the efficiencies you're seeking to gain. Automation is employed differently at different stages of the post-sale supply chain. For instance, it's used to accelerate data ingestion, trigger the running of algorithms that predict outcomes and drive actionable insights.

It can also replace manual, repetitive tasks that slow processes and are prone to error. For example, Robotic Process Automation uses business logic to do routine tasks that an agent might otherwise perform, like the multiple keystrokes required to log into a computer at the start of a shift. Or transferring data from one computer to another so an agent who is swivel-seating doesn't have to re-enter the same keystrokes multiple times.

Machine Enablement is a variation of this type of automation. While with Robotic Process Automation the robot does the exact tasks it's programmed to do, Machine Enablement makes it possible for robotic handling of exceptions. Here, the agent's actions teach the robot what to do with non-routine tasks. It's kind of like cognitive learning for robots. When an agent enters data that varies from the typical process, the robot views it as a new pattern and labels it as such, so that in the future it knows what actions to perform when faced with certain exceptions.

Post-Sale Control Tower

Control towers provide the end-to-end, cohesive visibility that has been lacking in the siloed post-sale supply chain. Instead of using a generic control tower solution, look for one that has been specifically built to gather and intelligently expose pertinent data from all service supply chain functions, including those performed by suppliers and partners.
The right control tower will understand how the various functions integrate and flow, the attributes of a service supply value chain, and the nuances that make it work. Only then can it provide the real-time, deep visibility across and within functional areas you need, and actionable insights that enable you to achieve high-impact results.

Once you have access to volumes of critical data, scalable systems and an overarching control tower, you'll be well-positioned to take advantage of machine learning as it becomes more prevalent and feasible during the next few years.

Analytics

Without analytics, the data you're collecting and exposing has limited value. Some people take a piecemeal approach to analytics that concentrates on certain supply chain functions or analytic models. However, to get the greatest business impact, you need to operationalize and automate analytics on all the data across the post-sale supply chain.

Analytics changes the discussion from cost of transactions to business value of transactions, for instance, how to recover high-value parts faster, reduce inventory, speed customer delivery. It looks at casual-effect and enables you to anticipate and predict things, like who will return products quickly/slowly/not at all, who will activate products on their own or needs prodding to do so, who is likely/unlikely to churn, who needs a technician dispatch or can fix the product themselves, and how to avoid issues from happening in the first place.

Operationalize and automate analytics on all data across the post-sale supply chain



Because a one-size-fits-all approach to wide-ranging service supply chain challenges is costly and highly ineffective, segmentation needs to be a core part of any analytics strategy. It drives differentiated treatment for categories of end-customers, with tailored operations and processes that can deliver significantly improved outcomes.

New Models

Your existing service supply chain models may not work as well in a digital business. They could dilute the impact of digital transformation. Take time to evaluate whether the models you rely on need to be altered or enhanced. For example:

Service Parts Inventory Forecasting

Spare parts inventory planning has long been a static, historical, 'review-and-stock' endeavor. It's a time-series approach that doesn't account for variabilities resulting from failures of parts in the field. As a result, it's often inaccurate and leads to overstocking, which is expensive for business, and under-stocking, which hurts customers. By using real-time IoT data to predict machine failures, and incorporating that data into your inventory modeling, you can reduce costly spare parts inventory stock by up to 10%, which could translate into tens of millions of dollars in cost savings and improve service levels.[4]

Transportation Management for Parts Dispatch

When products fail, vendors rush to ship spare and service parts. According to general contract or business practice, parts are typically sent via costly Next Flight Out, Same Day or Two-Day transport. However, instead of waiting for failures to happen, you could monitor the product's log files to predict why and when a part is likely to break down. With this knowledge, you can inform the customer of the pending problem and proactively ship a replacement part via slower, less-expensive means. Not only will this reduce transportation and process management costs substantially, it will improve product uptime and, as a result, customer satisfaction.

Customer Experience

Digital business advancements have a big impact on end-customers. You want to ensure it's a positive one.

Think carefully about how you design the digital-enhanced customer experience in terms of front-end processes, expanded communications channels and service interactions. Keep in mind, for example, that five out of six millennials prefer using social media to connect with vendors.[5] And pay special attention to how customers are treated. If they feel they're not treated fairly and arbitrarily, the results can be devastating: public complaints, brand dilution, churn and even lawsuits.

These types of problems can be largely avoided by analyzing and segmenting customers, and using data-driven customer insights to create experiences customers want. You'll be able to tailor processes and scripts for interacting and servicing in ways that meet customer needs and ensure an effortless experience.

Keep customers front-and-center when designing your digital transformation

Corporate Culture

For digital supply chain transformation to fully take hold, the way your company trains, measures and compensates employees needs to be realigned to the new practices and methodologies. Otherwise, behavior won't change significantly enough and outcomes won't improve by the orders-of-magnitude that digital transformation promises.

For instance, because IoT-based intelligence, analytics and automation will help resolve routine customer problems, agents will need to take on more complex tasks. Instead of keeping to a well-defined script, quickly fixing or escalating a discrete issue and moving to the next customer, agents will take on customers whose problems aren't so black-and-white. They must be agile listeners and problem solvers – and trained and supported accordingly. The same goes for field service technicians.

And remember, organizations can't transform to digital unless people do. Make sure employees are well-trained on the latest technologies so that the impacts of going digital aren't diluted by people who aren't proficient with it.

The Role of Outsourcing

Outsourcing portions of digital supply chain transformation can accelerate the transition. The post-sale control tower is a good place to start. It's at the heart of how you interact with and solve customer problems, so getting it right is critical. Because it's so nuanced and complex, outsourcing it to post-sale supply chain experts will ensure it's not only intuitive to use, but also provides users with complete, accurate and easy to act-upon intelligence about problem sources and resolutions. This will help drive a much smoother and successful digital transition.

Outsourcing portions of digital supply chain transformation can accelerate the transition

Gartner believes supply chain outsourcing will help companies transition to digital business while dealing with the inherent complexities of the digital world. They predict an increase in the number of pure "brand companies" over the next four to five years – companies that reduce the supply chain functions and processes handled inside their core wheelhouse, and expand use of outsourcing across the supply chain. Consequently, Gartner says, even more complex ecosystems will develop, requiring robust orchestration capabilities and real-time data and visibility platforms. Complete end-to-end supply chain visibility and data security, in conjunction with trust and transparency, will be extremely critical to success as companies advance further into the digital era.[6]

The Bottom Line

Digital supply chain transformation is upon us. Although it might seem nebulous or overwhelming, if you break it down into the core components and implement them in a systematic, intelligent way, you can quickly begin to see substantial benefits and set the stage for even greater efficiencies, savings, customer experience improvements and competitive advantage.

To learn more about how to plan and implement successful digital transformation for the post-sale supply chain, contact OnProcess at **508-623-0180** or visit **www.onprocess.com**.

[1,3] 2016 SCDigest Supply Chain Digitization Benchmark survey, Supply Chain Digest.

[2] "Supply Chain Leaders Must Be Prepared To Transform in a Disruptive World: A Gartner Trend Insight Report," April 3, 2017, Gartner.

[4] "The Impact of Installed Base and Machine Failure Prediction on Spare Parts Forecasting and Inventory Planning," 2016, MIT and OnProcess Technology.

[5] "Five Truths for Future Marketers," March 19, 2014, SDL Research.

[6] "Predicts 2017: Supply Chain Trends and Innovations," November 16, 2016, Gartner.

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