



Demystifying Digital Transformation

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There's endless talk about the digital revolution and digital transformation today. But what does that really mean for the typical business? Is it enough to have implemented modern technologies in your supply chain? Is it about gathering and applying information? Should you be forming closer connections with customers, trading partners and suppliers? The answer is all of the above, and more. Digital transformation is about creating a new ecosystem based on advanced technologies, data, analytics and tight integration. And it may be easier to achieve than you think.

The business world has changed dramatically in the last decade, and truthfully, it's been hard for many businesses to keep up. The Internet of Things (IoT), data science, mobility, cloud computing, artificial intelligence (AI) and autonomy are just some of the technical advancements that continue to radically transform the way companies operate. Together, these technologies have created the digital revolution that everyone is talking about. Every business is being challenged to "go digital" or risk falling hopelessly behind.

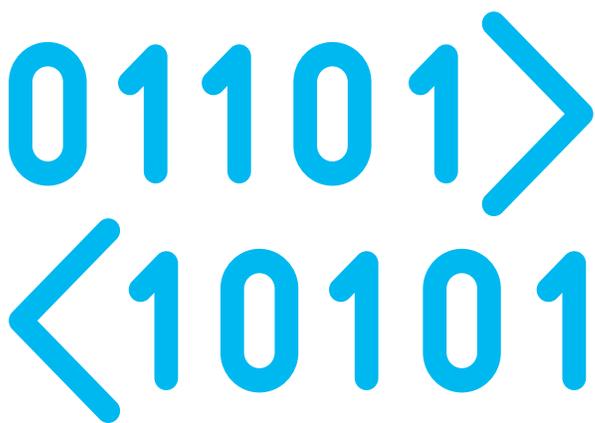
So, what does digital transformation mean? And is it an all-or-nothing proposition? Are there degrees of going digital?

The good news is that your business is probably more digital than you think. You're probably already leveraging advanced technology in your daily processes. You're most likely gathering data. You may be applying analytics and data science to get strategic value from that information. You're probably electronically connected to your trading partners to some extent.

The secret to capitalizing on the full benefits of digitalization is bringing all these separate efforts together to create a closely-knit ecosystem based on technology integration and alignment. Successful companies need to focus all their technology and data investments on shared goals and common strategic priorities. And that may actually be easier than you think.

In fact, digitalization is a fairly straightforward process that involves leveraging advanced technologies to gather real-time information, make strategic choices based on that data, enact those decisions in the fastest and most efficient way, and then repeat this cycle as conditions change.

In every one of these activities, beginning with data capture and analysis, digital technologies are the key enabler of strategic success.



The Role of Data: Better Information Leads to Better Decisions

One of the most obvious benefits of the digital revolution has been the availability of enormous volumes of business-related information. Via online shopping channels, mobile apps and other technology advancements, retailers and manufacturers have access to an incredible amount of detail about consumer behavior and preference. In the industrial sector, IoT sensors mounted on equipment are feeding back a continuous stream of manufacturing and operating data. Satellite monitoring of traffic conditions, combined with real-time weather updates, are revolutionizing transportation.

While every company has access to large volumes of information, there is one thing that separates the leaders from the followers: the ability to apply that data strategically. Advanced analytics and algorithms are proving essential to separating critical facts from trivial information, and then translating that key data into decisions that support pre-defined strategic goals. While every company is applying data in some way, the leaders of the digital revolution are leveraging it for top-level strategic impact.

For example, consumer data can be used not only to create effective short-term promotions, but personalized offers that combine attractive pricing with customized service. Consumer data can also be fed back to product development to fuel the creation of truly unique offerings. In the industrial sector, real-time feedback from machine-mounted sensors can help ensure production assets will be available to support peak demand. Similarly, forming real-time electronic connections with suppliers that involve real-time data capture can help predict materials shortages, missed deliveries and other disruptions before they interfere with customer promises.

Gathered, analyzed and applied strategically, data is the foundation of success in today's digital, connected, fast-moving business world. If your digitalization strategy isn't aimed at using real-time data to support top-level, strategic decision-making, then you are missing one of the most crucial opportunities presented by digitalization.

Leveraging Technology to Cut Time and Costs

Once strategic decisions are made and specific actions are defined, digital technologies enable these actions to occur in the most time- and cost-efficient manner possible. The digital revolution is replacing slow, expensive, manual processes with a new level of speed and responsiveness enabled by technology.

For example, robotics, mobility and automation are transforming warehouse operations. Real-time GPS navigation makes logistics and transportation faster than ever, while smart algorithms determine the most efficient, cost-effective packing and loading strategies. Retailers are using automation to produce localized assortments and space plans for thousands of stores in mere seconds. And, by closely connecting with suppliers and trading partners, manufacturers can optimize their production and inventory processes based on real-time changes in both demand and supply.

In addition to shortening delivery times and improving customer service levels, digitalization delivers staggering benefits in workforce productivity. Consider the fact that, according to the McKinsey Global Industry Report, 23% of current work hours in the United States alone may be replaced by automation by 2030. On a global scale, McKinsey estimates that manual workhours will be reduced by 15% by 2030.

Not only does digitalization significantly reduce human resource costs, but just as important, it allows employees to spend their time on more strategic, value-added tasks. They can focus more on the "why" and less on the "how." This strategic, problem-solving mindset benefits the entire organization over both the short and long term.





The Promise of Autonomy

We've established that digital transformation can enable companies to make smarter decisions and then enact those decisions in a faster, more efficient manner. But the real payoff of digitalization comes when you add autonomy and artificial intelligence to the mix. These advanced technologies can create a new organizational model in which changes are sensed, decisions are made and strategically sound corrective actions are taken, all without any human intervention.

The autonomous supply chain may seem a long way off, but in fact leading companies are already achieving autonomy today. By leveraging digitalization to connect their end-to-end supply chains and gather real-time data, they can apply artificial intelligence and machine learning (ML) to sense any disruption or deviation from plan, then automatically enact a response that makes strategic sense.

Thanks to advanced algorithms, AI can also consider third-party data such as social media trends and weather forecasts, then use this information to predict future impacts on the supply chain. The deep level of analysis supported by AI is mathematically out of reach for humans, which means companies leveraging AI have a significant marketplace advantage over organizations relying only on manual analysis.

Machine-learning sets the stage for continuous improvement. Across the end-to-end supply chain, disruptions, corrective actions and outcomes are automatically documented and analyzed by ML. The end-to-end supply chain leverages ML to become continuously better at assessing situations, making trade-offs and creating the most optimal outcomes that balance service and costs. This enables the human worker to focus more on exceptions and higher value work that may be more rewarding both personally and professionally.

The Digital Twin: A Working Model of the Supply Chain

Today's supply chains are physically vast and geographically distributed, making it difficult to identify, assess and respond quickly to changing conditions and new opportunities across the network. Innovative companies are building a digital twin of their supply chain in order to bring real-time business conditions to the forefront for corporate and field operations decision-makers. A simulated, digital replica of the supply chain's physical state and operations, the digital twin enables these decision-makers to have the full visibility and intelligent insights needed to address critical situations happening in real time.

By collecting and leveraging real-time data, a digital twin offers a clear view of what is happening at any one time in a system, organization, facility, workforce or piece of equipment. It allows executives to test the impact of their decisions across a simulated model of the entire supply chain before making any changes. By using a virtual environment to test their strategic choices, decision-makers can minimize the company's risk exposure while still taking corrective actions in a rapid manner.

A digital twin elevates the awareness of possibilities based on available assets, timing, capabilities and constraints across the entire chain. Empowered with AI and IoT, a digital twin can become a predictive engine for recommending and processing intelligent responses and resolutions to any business challenges and opportunities.

Digital Transformation: A Continuous Journey

Earlier, we posed the question: Are there degrees of digital transformation? The answer is a definitive yes. The rapid introduction and adoption of digital technologies means that nearly every company is at a different stage of maturity in leveraging them today.

And with the constant influx of new technologies and associated best practices, no company will ever truly arrive at the end of the digital journey. Even companies that have achieved the vision of the autonomous supply chain must constantly examine the accuracy of their algorithms, the relevance of their data, the speed and power of their technology assets and other factors that contribute to the success of their autonomy initiatives.

As your business strives to fully realize the promise of the digital revolution, one of the most important things to remember is that digital transformation represents a journey. If you have implemented best-in-class solutions in your supply chain, or created a data strategy, you are already on the journey.

In order to reach the level of a true digital ecosystem in which all your data and technologies are aligned, and ideally, working autonomously, consider partnering with a technology supplier that offers a full range of digital technologies, including AI and ML, that span the entire supply chain.

