It's Not Just Silicon Valley: Digital Transformation for the Whole World

XII

Digital Strength by HELLOSIGN

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I. About the Digital Strength Program

The pace of change is increasing and every organization faces existential threats from new and existing competitors. This program is crafted to give everyone within an organization – from the C-Suite to the production line – an understanding of what digital transformation is and some guidance to begin the digital transformation journey within their own organization.

We will cover an explanation of what digital transformation is, the roles and responsibilities around digital transformation, as well as the cultural aspects of a digital change. Over the course of the program we will detail tips and tricks, potential barriers, the ideation approach and the move towards seeing digital as an ongoing process.

No matter whether you are just beginning the journey of transformation or are well on your way, the guidance in this program will be useful to you. Early adopters, those mid-way on the transformation journey, or those yet to begin will all find something of value from this program.

Welcome to the future!

II. Introduction

This is the final course in the Digital Strength program. We've come a long way! During this course, we'll look back at how far we've come while also looking forward to a future where innovation and agility are an integral part of the organizations you're all involved with.

Over Digital Strength's sessions, we've moved from seeing digital as an individual initiative to seeing digital as the core operating model of the organization. Now it's time to look at digital as a way of doing business at even the most traditional of industries.

Oftentimes, the approach towards digital transformation is seen as something that only technology companies can leverage. But in this modern day, that can't be further from the truth.

In this final course of the Digital Strength program, we discuss how digital plays out in the physical world and how organizations that are in more traditional markets can introduce digital transformation into their operation. We'll also take a closer look at manufacturing businesses and discuss ways these businesses, seemingly constrained by the physical nature of their operation, can introduce digital into their operations.

III. Digital in the Physical World

Digital transformation for an organization that's knowledge-based is a relatively easy thing. Sure, there are technology constraints around legacy platforms and the usual human issues around change. But generally speaking, organizations focused around knowledge work make great digital transformation candidates.

But what happens when we're talking about an organization that performs some or all of what it does in the physical world? Digitizing a process for, say, accountants or lawyers is one thing; digitizing a product that exists as something like manufacturing is another thing altogether.

It's worth looking at both the internal benefits that digitization can bring to manufacturing companies and the like, as well as the external ones.

IV. Internal Applications – Driving Manufacturing Efficiency

Manufacturing companies are facing huge challenges as global supply chains, shortened product development and life cycles, and more difficult economic conditions all conspire to make their world more difficult. Faced with these challenges, manufacturers are looking to connected machinery to drive themselves a competitive edge.

By connecting machinery via the Internet of Things (IoT), manufacturers can gain real time feedback and alerts of defects in either manufacturing machinery, or the products it creates. The net result of this connectivity can be reduced product defects and plant outages.

Take these connected machines a step further, however, and add a dose of analytics and we can create a manufacturing paradigm where the machines become "intelligent" – and, at least in part, capable of making autonomous decisions.

Another benefit of moving to automated manufacturing is that it often enables shorter lead times and higher levels of customization – fundamentally, digitizing the manufacturing process allows organizations to break free of Adam Smith's job-specialization theories which have been the norm in the industry for well over a century.

MOVING UP THE VALUE CHAIN

The first applications of robotics in manufacturing saw machines used to replace humans for repetitive or dangerous tasks. But while the first generation of robotic manufacturing was primarily concerned with hygiene factors, the second generation is all about higher-level advantages.

Robots today are being built with more human-like traits both external (dexterity) and internal (memory). These modern robots are far more trainable and even "collaborate" with their peers. A good example would be robotic vehicles used in mining and agricultural applications. While the first generations of these machines were simple remote-controlled units, the more recent applications are far smarter – able to "think" about the best way to do a job, to react to changing situation, and able to prioritize from a wide array of tasks.

Modern robots are also being used to sense, ingest, and analyze information. They're built to "talk" to central systems and thus creating a robotic form of continuous improvement.

DRIVING SUPPLIER OUTCOMES

In Henry Ford's day, there were essentially no pesky external suppliers to deal with. Ford's model was to own the entire sourcing and manufacturing process – from tires to chassis and from upholstery to electrical. The Ford approach certainly ensured command and control of his process, but did little to drive agility for the organization.

Modern manufacturing, by contrast, is a study in collaboration and networks. Modern automobile manufacturers (as well as manufacturers of apparel, electronics, and houses) rely on a huge array of third party suppliers, all of whom specialize in their particular area. And while networking manufacturing certainly delivers cost and efficiency savings, it can sometimes be a drag on agility.

This is where digitalization of the supply chain comes in.

In a modern world, manufacturers need to be able to communicate and collaborate with suppliers and partners in real time no matter where in the world they may be.

What this requires is an integrated and consistent supply chain where external parties (be they designers, suppliers or sales channel partners) collaborate on core systems. By integrating the different systems that these various stakeholders use, many of the negative aspects of networks manufacturing are removed while the beneficial aspects remain.

We suggest that the relationship between supplier and manufacturers will be impacted by digital transformation in three main ways:

1. Sourcing. When supplier and customer are intrinsically linked, both sides of the equation can be equal parties when it comes to design, planning, sourcing and risk-reduction. Instead of the adversarial approaches of old where for one party to win, the other must lose, this new approach allows true symbiosis to flourish.

2. Product transparency. Providence, or where are product comes from and every step in its creation, is an increasingly important trend. Many manufacturing companies are using clear traceability and transparency as a core differentiator. This helps internally in that manufacturers can have far better visibility of constraints and potential problems, allowing them to plan earlier for issues.

3. Data gathering and analysis. When dispirited systems are integrated, it unlocks the ability to capture, ingest, and analyze information. In the manufacturing sector this means that operating metrics can be more closely, accurately, and rapidly assessed and acted upon.

V. External – Enabling Customer Centricity

Henry Ford famously said of his Model T that his customers could have any color they wanted, so long as it was black. Fast forward to today and such a prescriptive approach towards customer needs and product offerings seems impossible. The power balance has shifted and customers now have the knowledge and ability to demand an unprecedented level of personalization.

Modern-day customers desire and demand a seemingly impossible combination of traits when they purchase. Constant innovation? Check. Quicker time to market for new products? Check. Better quality? Check. Traceability and an ability to prove providence? Check. Cheaper price? Check.

In the past, these traits would have been entirely mutually exclusive. But in a modern, networked manufacturing situation, customers are often able to gain the best of all worlds. Digitization of all or part of the production process is the key to driving these benefits.

FASTER, STRONGER, BETTER – THE SIX MILLION DOLLAR MANUFACTURER

Back in the 1970's, the science fiction show "The Six Million Dollar Man" aired on television. The storyline centered around an astronaut, Steve Austin, who was given superhuman powers due to bionic implants.

The theme of the show was wrapped up by the line:

> "We have the technology. Better...stronger... faster."

While the show was science fiction and the bionic man has, in large part, not come to fruition, that theme of better, stronger, faster is eventuating in the modern manufacturing environment. Technology is being utilized to deliver customer needs more rapidly, all within the context of greater efficiency and lower costs.

Like Steve Austin's handlers, modern consumers want to have their metaphorical cake and eat it, too.

According to a large Harvard Business Review study[1] that canvassed the opinions of some 75,000 consumers, the highest priority for customers is one driven by laziness: they want their effort to be reduced. Whether it's through more simple products, better customer service, or information at hand, they demand an all-encompassing customer experience that is different from that which they have experienced in the past.

What this means for manufacturers is that they need to constantly push towards shorter product life cycles. Whereas in the past life cycles for everything from automobiles to electronic good were measured in years, customers' expectations are very different today. Driven by a hyper-dynamic virtual world, where technology offerings are iterated constantly, consumers want similar levels of dynamism in their physical goods.

In turn, design, manufacturing and supply chain processes need to become every faster. Digital platforms enable this speed.

But speed cannot come at the expense of quality. Modern consumers are far more aware of the quality of the items they consume. Here too, technology plays a part. Connected manufacturing processes, coupled with artificial intelligence and trend analysis, can identify sub-standard components or products and remedy the situation with little or no loss of efficiency.

Finally, consumers also care about the providence of their products. Increasingly manufacturers are turning to digital platforms to drive transparency across the supply chain and to answer consumers' demands for visibility.

1 https://hbr.org/2010/07/stop-trying-to-delight-your-customers

VI. The "Servitization" of Physical Products

In the old days, manufacturers sold consumers a product and, other than some post-sales customer support function, that was the end of the relationship.

- Two distinct trends, however, are changing the fundamental nature of consumption: From the customer side, consumers want the peace of mind of not having to worry about the assets they purchase.

- From the supplier side, a desire to generate ongoing revenue from customers is top of mind.

These two trend are leading to a growing trend of service provision in the manufacturing sector. But whereas in the past service was seen as an independent, or at best, an add-on offering to the core product, services are now seen as the primary relationship between buyer and seller.

We have already extensively used the example of GE and its desire to sell its wind turbines, gas plants, and jet engines not as fixed products, but rather as service offerings. While GE has seen limited success in its digital transformation, one thing is clear – the move to selling both physical and virtual goods as a service, rather than as a product, is the way forward.

Another good example of this trend lies in the tire industry. Companies such as Goodyear are launching service-based offerings. In Goodyear's case, Goodyear Proactive Solutions offers industrial tire users (trucking firms and the like) predictive analytics that should help them better tailor their asset usage. Fundamentally Goodyear isn't selling a product, but rather a capability that gets delivered through the product.

DIGITAL DRIVES SERVITIZATION

Moving to a servitization model requires a fundamental overhaul in the back and front office systems a manufacturer uses. From a manufacturing perspective, predictive analytics, driven through IoT sensors and data analysis platforms, give them the opportunity to promise service levels. It also gives them the insights to plan maintenance on a proactive, rather than reactive, basis.

From the back-office perspective, modern digital platforms allow manufacturers to iterate on their monetization models. Subscription billing platforms, mobile applications and back-office analytics all drive the outcomes that customers demand. Instead of the traditional buying and selling approach, which sees a largely transactional interchange with little transparency for the buyer, a service approach is an ongoing relationship within which the customer can make decisions based on greater levels of information.

The sort of organizational traits that engender flexibility and agility, and which directly lead to a move to more dynamism and a service-centric model, are ones which may not exist within the organization. The skills to run an efficient mass-production facility are very different from those which drive a dynamic, connected, and collaborative one.

It is for this reason that we reiterate that this move to digitization of formerly physical organizations is one in which both technology and culture need to be given attention.

DIGITAL ALSO DRIVES MASS CUSTOMIZATION

Leveraging digital technologies also makes it more likely that a manufacturer is able to respond to customers' demands for customization.

Another impact of the shift in the balance of power between customers and suppliers is that, in many cases at least, customers are demanding far higher levels of customization over the products they consume.

Whereas purchasers of the Model T Ford could have any color they liked, so long as it is black, customers of modern automobile companies may still be acquiring a physical asset, but one which can be highly customized via digital tools. One only needs to look at Tesla's over-the-air updates of its vehicles, and the software-enabled "ludicrous mode" on its top of the line offerings as proof that digital is changing the face of physical products forever.

VII. Key Takeaways

Hopefully this final Digital Strength course has helped readers make the leap from thinking about digital transformation as something only applicable to the virtual world, to something which applies across the totality of organizational types.

Key things to reflect upon from this course include:

- Digital, when applied to manufacturing organizations, can increase overall organizational efficiency.

- Robotic manufacturing approaches, traditional performing low-value work, are increasingly moving up the value chain and both doing higher-value work, and learning from their experience.

- Digitization of manufacturing processes can help answer the critical drivers for success in an ever-changing world.

- Digitization can allow traditional organizations to fulfil a more customer-centric approach and to answer the requirements of customers who are increasingly demanding more from their suppliers.

- Digital transformation can help a manufacturing company move from product-centricity, to service-centricity.

- Digitization can also help organizations hyper-customize and hyper-personalize in their quest to deliver exactly what customers want.

VIII. About HelloSign

HelloSign is powering the future of intelligent business. The company's software platform — which includes eSignature, digital workflow and electronic fax solutions — converts process to revenue for over 60,000 companies around the world with HelloSign, HelloFax and HelloWorks.

IX. About Ben Kepes

Ben Kepes is a business leader, a technology evangelist, an entrepreneur, and a commentator. Ben covers the convergence of business and technology. His areas of interest extend to leadership development, startup activity, digital transformation, and enterprise software, as well as articulating technology simply for everyday users.

He is a globally recognized subject matter expert with an extensive following across multiple channels. His commentary has been published on Information Week, Computer World, Forbes, Wired, ReadWriteWeb, GigaOm, The Guardian and a wide variety of publications – both print and online.

Ben's insight into the business of technology, and the technology of business has helped organizations large and small, buy-side and sell-side, to navigate a challenging path to a successful future.

Ben is passionate about technology as an enabler and enjoys exploring that theme in various settings.

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