



# Busting Digital Transformation Barriers: Three DX Projects for Rapid ROI

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Nearly every business has made plans for Digital Transformation but few have realized its value. What if manufacturers found previously unconsidered shortcuts around the barriers holding them back?

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# BUSTING DIGITAL TRANSFORMATION BARRIERS: THREE DX PROJECTS FOR RAPID ROI

## DX'S PROMISES AND BARRIERS

A considerable majority of the world's manufacturers have not meaningfully started executing on their Digital Transformation (DX) plans. Of the 93 percent of organizations pursuing a digital business strategy, less than one quarter (24%) are in the execution stage, according to IDG.<sup>1</sup>

Executives at these companies naturally feel pressure to shorten the time frame to deliver on the promise and realize the value of DX. Whether the goal is revenue growth -- cited by the C-suite as the top motivator<sup>2</sup> -- or increased agility, speed to market and/or cost reduction, DX plans will not yield benefits or competitive advantage until they are implemented.

What's holding manufacturers back? Why have efforts stalled? Despite the best laid plans, there are several barriers executives face moving toward the future-state of a digitally transformed business. Unsurprisingly, the larger the enterprise the more numerous and higher the hurdles, which typically fall into four areas: Strategy, prioritization, change management and resources (financial and human capital). The most prevalent across all businesses<sup>3</sup> include:

- Lack of vision at the top
- Waiting for executive priorities to align
- Too many technology choices (AI, AR, blockchain, etc.)
- Waiting for change management consultant's report
- Difficulties or delays in changing operating model
- Waiting for the results from a "digital readiness assessment"
- Organizational or geographical silos
- Legacy staff resistant to change

- Shortage of digital talent needed to scale
- Insufficient budget

These barriers are particularly painful for those in charge of driving transformation; the board expects you to live up to mutually agreed upon strategic plans to accelerate growth, margins and profitability. Is your executive committee confronting the organization's barriers or is it paralyzed by caution and indecision?

Despite the slow progress towards DX, the C-suite remains optimistic. The majority believe that companies that began their DX journey later than others still have a chance to beat their competition.<sup>4</sup> But how long can you wait? Is there a more rapid approach? A shortcut?

## THE FAST PATH OF SPEED-TO-VALUE

The shortcut approach does not, by any means, advocate the skipping of strategy, change management or resource allocation. Those pursuits are necessary for long-term operational and financial excellence and survival in manufacturing's ever-increasingly disruptive world. The shortcut approach, rather, offers manufacturers a way of jump-starting their DX execution while enjoying substantial near term benefits. The right kind of digital projects can realize up to 30 percent return on invested capital within a calendar year in several critical areas, while energizing the organization's DX momentum.

Such tightly scoped projects begin moving the enterprise beyond continuous improvement to true step change advancement. The rapid ROI of conservatively scoped projects not only has immediate payback but can stimulate the organization to tear down the barriers and move forward more quickly with its broader DX plans.

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## OPPORTUNITIES HIDDEN IN PLAIN SIGHT

Manufacturing technology trends over the last several cycles have focused on back-office productivity, improved planning and plant-level automation. Little has been done, however, to optimize collaboration between business-level systems (IT) and operations-level systems (OT).

The friction points between systems are almost always attractive opportunities for true digital transformation. For example, poor collaboration between the planning and operation disciplines restricts a manufacturer's ability to meet customers' demands. Manufacturers often lack timely and accurate insight into the operational status of planned production. This lack of insight interferes with production's ability to respond effectively to unpredictable disruptions such as inventory shortages, equipment failures and supply chain interruptions.

Better coordination between the planning and execution side of manufacturing will likely be the biggest near-term winner of DX investments. Filling IT-OT gaps with spreadsheets may feel like progress but spreadsheets actually inhibit real progress. Spreadsheet gap-fillers are customizations that fly under the radar, do not foster true coordination between planning and operations and lead to data integrity problems; excellent data quality is an absolute requirement for successful DX.

Do you know to what extent your operations relies on spreadsheets and other manual workarounds? Doesn't automation of these weak links seem like a great place to jump-start your business with data-driven decisions and metrics?

There is good news on the DX front that can help all kinds of manufacturers, regardless of where they stand in terms of transformation. Given the maturing nature of the available DX-related technologies and solutions, there are several successful projects and business use cases that offer a fast ROI and that don't require large investment. Most of these projects take place at the juncture of IT and OT. When planning and operational organizations collaborate on a common understanding of priorities and on-going progress, the result is actionable insight that drives better decisions, higher efficiency, lower costs, happier customers and healthier margins.

Here are **three examples of short duration DX projects** that deliver real benefits rapidly and can jump-start manufacturers on their respective roads to DX.

### **1. Coordinated Digital Material Management and Warehousing: To the Shop Floor and Back Again**

Disjointed material planning and related inventory management and warehousing execution systems inherently increase costs. The lack of coordination requires compensation approaches using hedges and safety stock. Ironically, even with hedging strategies, manufacturers lacking DX-style automation remain prone to outages due to information barriers caused by bulky operational and planning integration.

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Automation that coordinates delivery of material for component manufacturing, identifies and tracks the material as consumed and prints digital labels for finished goods for final delivery has become an imperative for agile manufacturing, and is a perfect example of a fast ROI DX project.

This more effective digital approach involves a data collection system that has a live view of supply, demand and inventory. The result includes full inventory visibility from inbound receipt to manufacturing and live work-in-progress and out-the-door tracking, enabled by data-driven label printing at every step. Some specific benefits include:

- Out-of-the-box scanning aligned with modern ERP and supply chain applications provide a rapid time to benefit by maximizing the manufacturer's ability to adapt to customer changes.
- Warehouse managers enjoy improved labor efficiency and space utilization by upwards of 30 percent due to the business rules that guide forklift drivers directly to the smartest put-away location, or guide them along an optimized pick-path. Constantly tracking warehouse tasks gives full visibility of current workload, along with historical views of user delivery performance.
- While operational improvements and corresponding savings in materials management provide baseline benefits, this capability is critical to the expanding need for traceability and product genealogy -- helping to ensure successful production and compliance across the value chain.

## **2. Enterprise Quality Management: Tying Together the Patchwork With Digital Thread**

Too often, the systems supporting manufacturing quality are numerous and disjointed, and have evolved as a patchwork of temporary fixes over time. When quality operations are only manually connected (spreadsheets should be considered "manual") with quality planning functions, there are huge inefficiencies in terms of quality processes and related data access.

The DX style and more integrated approach ties a digital thread between new product introduction (NPI) planning and the definition of end product delivery processes. The resulting quality planning communicates audit and inspection activities clearly and systematically to the plant floor on the highest defect(s). As a result, and this is an area of considerable cost savings, plant personnel can shift away from an "inspect everything" approach and may also deliver useful insights that strengthen product design. This approach typically results in a 10-20 percent reduction in overall inspection costs. In addition, the rate of nonconformance issues can be reduced 10-25 percent with better planning in the early phases of NPI through the elimination of repeat issues and overall knowledge sharing.

A more integrated DX approach to quality planning and quality operations yields significant benefits in reducing the manual effort across the organization, driving to true root cause analysis and transitioning quality efforts from a perceived burden to a strategic initiative of the adaptive manufacturing enterprise.

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### **3. Collaborative Production Execution: Driving Real-Time Knowledge-Based Decisions**

Often the coordination of plant-level production personnel and the planning team consists of daily or weekly production meetings that revolve around the comparison of red-lined spreadsheet printouts. The resulting lack of operational insight interferes with tactical business decisions and actions. It also indicates strategic exposure for the manufacturer in terms of waning customer satisfaction and ineffective inventory management.

Many early DX efforts revolve around automating an existing function or process, e.g., the evaluation of large volumes of ERP data that couldn't be evaluated using older technologies. These kind of point digitization efforts may actually be the necessary foundation for downstream DX projects.

One example: Production execution solutions using widely available operator-centric shop floor interfaces that capture IoT class data to deliver production-level insights. While valuable on a limited basis, the real challenge involves broadening the enterprise visibility

and data scope of these insights. Extending the production execution solution by connecting ERP data and related processes turns point benefit into enterprise benefit.

Similarly, deploying a truly integrated operational extension of the ERP planning system can have significant benefits to both the plant and the planning functions. The approach is based on rapid information sharing with released orders immediately available to the plant and progress against those orders immediately available to the planners. The plant has a deeper understanding of the most current and true priorities of the business. The planning function has the ability to adapt to the inevitable changes from the plant floor and respond to customer requirements.

This solution replaces a myriad of manual data collection systems and complex, overly rigid interfaces to MES or other shop floor solutions. Industry reports indicate that this approach results in greater than a 20 percent increase in on-time shipments and that over 80 percent of these systems pay for themselves in under a year.

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## GET ON THE FAST PATH

For the manufacturer willing to take on digitally-oriented operational/execution transformation projects, near-term ROI can be realized through data capture automation, richer data, real-time visibility, improved time to knowledge, simplified yet compelling analytics and thoughtful connectivity across the virtual enterprise. The sample projects listed herein, (1) digitally coordinating material management and warehousing, (2) deploying a data-driven enterprise quality management system and

(3) augmenting production execution capabilities with rich data from ERP, can all be accomplished in months. All offer palpable near-term ROI. They also are true DX projects that accrue in terms of employee expertise and solution architecture to better support the strategic DX imperative.

If you're ready to meaningfully move your Digital Transformation effort forward in spite of the barriers you face, QAD stands ready to offer you a complimentary workshop to evaluate and investigate where your manufacturing business can best and most quickly benefit.

1 "The Drive to Transform Powers a More Inclusive Buying Dynamic," IDG, 2019.

2 "Digital Transformation Survey: 2019," Wipro Digital, 2019

3 IDG, Wipro Digital, QAD analysis

4 Wipro Digital



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