

Manufacturing in a Connected World - Part 3:

Implementing a Digital Transformation Strategy



We Live in a World More Interconnected Than Ever Before

The trading of goods and services across many borders is relatively seamless for most businesses. And with that, the competition for customers has never been so fierce on the global stage. For most companies, staying as lean and efficient as possible is necessary for their very survival. So, they are always on the lookout for opportunities to improve their competitiveness while enhancing their customers' experiences. Adopting a digital transformation strategy is one of those opportunities.

That said, planning, developing and implementing a digital transformation strategy isn't something that can be done at the drop of a hat. It takes a great deal of planning, cultural buy-in, investment in the necessary equipment and software, and training of one's employees to help ensure a strategy is effective in the end.

Unfortunately, many companies have attempted to implement different digital transformation strategies only to find out they did not get the results they desired. According to a recent study by McKinsey, only **17 percent of respondents claimed that their organizations' digital strategies led to improved performance and the ability "to sustain changes in the long term."** While this varied across different industry sectors, none showed fantastic results. The more "digitally savvy" industries, including tech, media and telecom, reported success rates of 26 percent, while "traditional industries" such as automotive, oil and gas, infrastructure and pharmaceuticals showed success rates that ranged from four to 11 percent.

Some of the key reasons for these disappointing results will be reviewed in this white paper—the third and final instalment of a three-part series—to help you avoid the same mistakes and ensure your digital transformation initiatives succeed.

In the first part of this series, ***Manufacturing in a Connected World: Part 1 - Getting Started with Your Digital Transformation Journey***, we reviewed the history of Industry 4.0; the components of an Industry 4.0 smart factory; top Industry 4.0 business goals; and the internal foundation required for preparing to implement Industry 4.0 initiatives. This includes assessing your organization's current needs and planning out a successful long-term transition strategy.

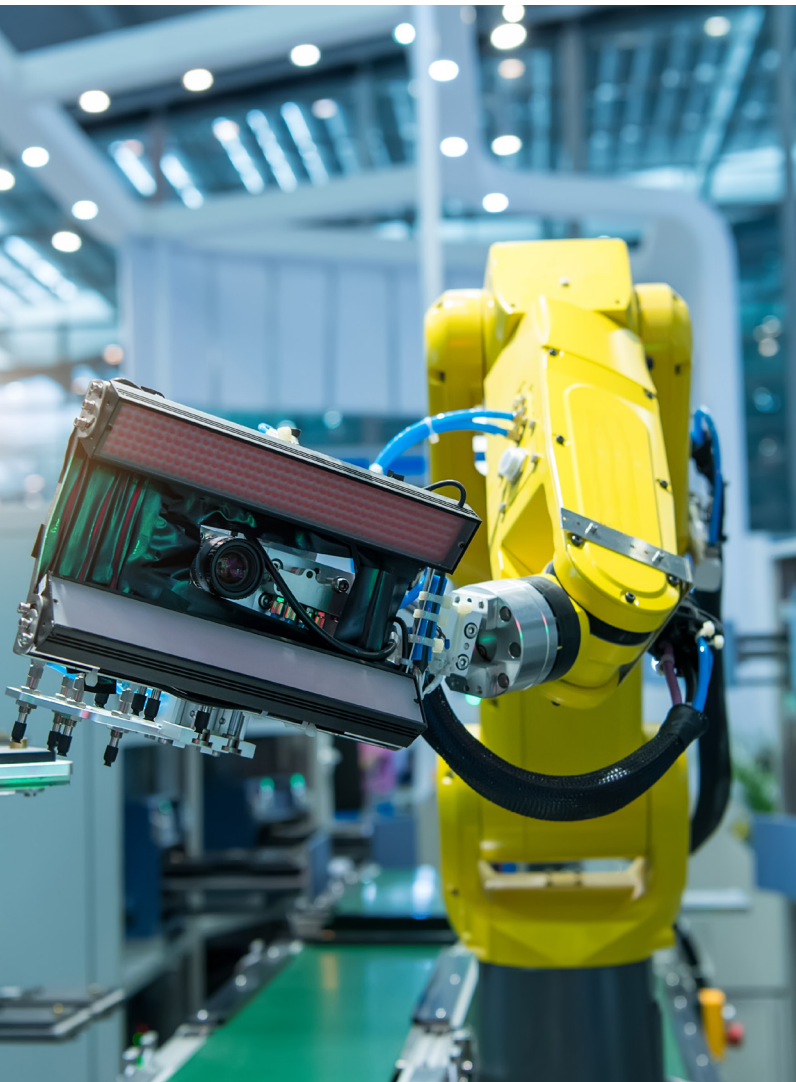
In the second part, ***Manufacturing in a Connected World: Part 2 - How to build a digital transformation strategy***, we covered how to start a digital transformation process. This includes identifying industry and competitive drivers, mapping out current technology infrastructure and potential gaps, presenting the business value for change, mapping out future business processes, building a program plan and 10-year budget, and focusing on organizational culture.



How to Plan Your Implementation

Digital transformation is all about proper planning and perseverance. A successful implementation requires commitment, dedication, organization and structure, discipline, really good communication and solid documentation and tracking.

“Implementation is not magic; it’s not rocket science. Notwithstanding all the stuff you hear about failures and high failure rates, what it is, is a lot of hard work,” says Jonathan Gross, Managing Director at Pemeco Consulting—a vendor-neutral consulting firm that specializes in the delivery of transformative technology projects.



Project governance

Project governance is the first step in implementing a digital transformation strategy. This involves creating a management framework to make project decisions. Within this framework there are key components to address which include:



Stakeholder engagement involves making sure that all aspects of the project are communicated to all affected parties, including your core team, end users, employees, executives, vendors and customers. This could mean introducing vendors to a new portal for purchase orders, for example. Customers need to know if any aspect of a company’s services they depend upon could be temporarily disrupted. Employees that are being pulled out of their day jobs to support the implementation need a high level of engagement for a wide variety of reasons; from making sure they have the direction to ensure the digital transformation strategy succeeds to reassuring them that there will be a job waiting for them once the project is completed.



Risk management is all about how a company tracks, manages and prioritizes issues. This will help a team decide which issues should be considered critical and which need to be addressed before moving forward in the project, and which issues aren’t worth considering.



Project controls—to govern any project successfully, certain project controls are required. Typically, project controls are various methodologies that are used to constructively influence the cost and timing of a project. The outcomes could range from improved profitability and/or efficiencies, increased productivity, production agility, etc. Whatever the case may be, you need to define KPIs and use them to monitor progress of the implementation.

Building high-performance teams

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To build a high-performance team, governance should happen through a committee. Typically, this consists of a steering committee that is responsible for policy and strategy; a project management and solutions architecture team to monitor execution; and a core team responsible for mapping, testing, documentation and training. It is critical to identify the right members and ensure they have clearly defined roles and expectations. KPIs should be defined and training needs should be identified by conducting a skills gap analysis.

Process mapping

Once your team has been selected, you can begin process mapping to track the implementation in a tangible form. This is an important step as it will ensure that development is streamlined and that the system being created meets the goals that you have set.

Years ago, it was common for software vendors to deliver systems that were fairly unconfigured, leaving all the setup to their customers. It was then up to the company's core team to list every business process requirement, identify every data element, map it all within the system, test all scenarios thoroughly and train their end users.

That is no longer the case.

“In today's world, most vendors will come to you with implementation accelerators—out of the box, industry best practices. Those are effectively, basic pre-configurations of the system, and so, that helps shorten the implementation in many cases,” Gross explains. “The data fields may have to be updated or things have to be modified just a tad to reflect your process, but we're hoping if we can adopt best practices for a good chunk of our business as this will shorten the time.”



The first step in process re-engineering is to obtain the best practices catalogue from your vendor and do a gap analysis. You should then ask the following questions:

1

How many of the best practices apply without any type of configuration?

2

How many are going to have to be tweaked?

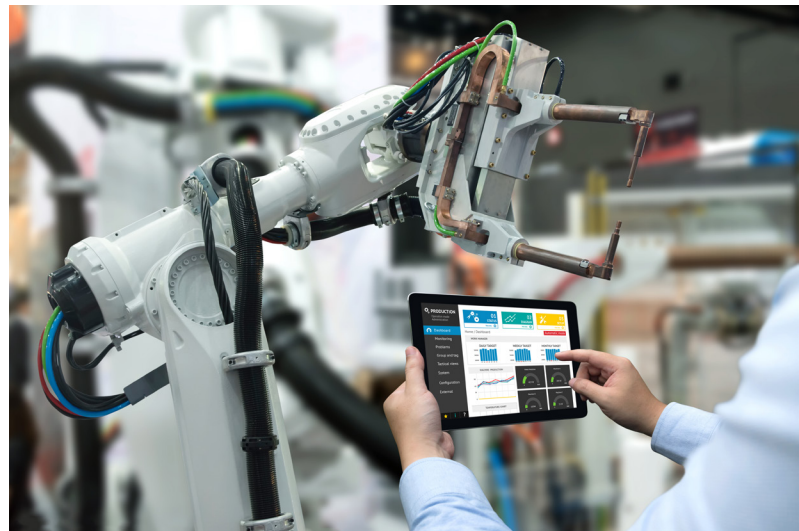
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What's missing entirely?

From there, you will list each business scenario that requires little remapping before the testing phase, those that require more significant remapping, and the scenarios that will need to be mapped from scratch. Once this is complete, the core member of the team responsible for them will present these to the other members of the core team to validate their cross-functionality and identify improvement opportunities or address any concerns.

After these processes are updated with the input from the core team, you now have a blueprint of the organization.

You can now create a master list that will show all aspects of the business that will need to be mapped and tested during the digital transformation strategy implementation, as well as the status of those items and any cross-functional impact that can take place.



This type of scenario mapping allows companies to identify “80-percent scenarios”, which are predictable scenarios that happen as a regular part of operations, as well as “20-percent scenarios”, which happen on occasion and cannot be predicted.

“We document the scenarios as 80-20s, because in the first testing phase we only want to test our high-volume, 80-percent scenarios—we want to make sure we get the foundation right. Then we can go on to retest the 80s and then the 20s in the second testing phase,” Gross explains. “For each of those scenarios we flag the cross-functional impacts. Which other departments are impacted? And that is our check to say, ‘We need validation from that other department as we go through the process.’”

From there, you will want to create test scripts and go through three testing phases: two conference room pilots and one user-acceptance phase.

Testing best practices

Many digital implementation strategies fail due to poor testing, poor training and poor data migration. Companies should plan for three piloting phases during the digital transformation process. It is recommended that small-to-mid-sized companies should budget between 20 and 30 days for each of the following testing phases:

The Conference Room Pilot 1 (CRP 1)

Companies need to ensure system tables and parameters are set up in this phase. In this stage, much of the 80-percent business scenarios can be initially tested using some of a company's basic data—such as static data, shop orders, purchase orders or warehouse orders, for example. It is recommended in this stage that testing be done departmentally, due to the vast number of scenarios.

“Go down and beat the keyboard and do your scenarios one, after another, after another, departmentally. Don't worry about the cross-functional hand-offs yet, make sure you've got the basics right,” Gross says.

The Conference Room Pilot 2 (CRP 2)

In the second phase, the CRP's static data is migrated into the testing environment. End-user training should take place during this phase. This helps ensure that the instructions make sense from the users' perspective and aids in the adoption of the new system. In addition to putting training materials to the test, end-users can offer their feedback at this stage.

All of the 80-percent scenarios should be retested during this phase to ensure nothing was missed. The initial testing of the 20-percent scenarios should also take place.

User Acceptance Testing (UAT)

Once the 80-percent scenarios, 20-percent scenarios and the data all look good, the third phase of testing can begin—user acceptance testing (UAT). This is where you will test the system in real-world scenarios. To prepare for the UAT phase, system security, dashboards and workflows need to be checked to make sure they're set up and working properly. More end-users will be trained during this phase and data should be refreshed in the test environment.

“This is kind of like a parallel simulation. We're going to pick a few transactions and we're going to run them in our live system and in our new system that's not yet live, to see if the output makes sense and if they reconcile,” Gross says.



Managing Data Migration

Data migration can be time consuming and can delay the implementation of any project. Many organizations assume that their data is complete and accurate, however, it may be riddled with inconsistencies which must be inspected, identified and addressed before starting the migration.

Best practice is to start as early as possible. Many tasks that do not have an interdependency can be done in parallel. Gross states that an effective data migration plan should include the use of data cleansing, data conversion, static data migration, and dynamic data migration:



Data Cleansing: Performed to eliminate errors and redundancies. Data can be cleansed in the legacy IT or ERP system; in an intermediate format (e.g. Excel); and/or in the new IT or ERP application.



Static Data Migration: Refers to data that does not change frequently. This can be migrated early on so the later focus can be placed on the more challenging task of dynamic data migration.



Data Conversion: Done to ensure the data is formatted to meet the standards of the new system. This conversion can be performed manually or by using an automated program. If an automated program is used, the programmers need to make sure that the reformatted data records do not jeopardize file system integrity.



Dynamic Data Migration: Dynamic data refers to data that changes on a regular basis (also referred to as volatile data). Accounts receivable open items are an example of dynamic data. Due to its volatile nature, this data should be migrated as late as possible. This late migration helps ensure that the new system includes the most up-to-date data.

Avoiding Implementation Failure: The Seven Deadly Sins

Jonathan Gross recommends avoiding these “seven deadly implementation sins” to ensure a digital transformation project succeeds:

1

Key stakeholders resist the implementation

Proper stakeholder engagement is needed to ensure that a company has the necessary support from the top all the way down to the shop floor to ensure success.

2

You've chosen the wrong consulting partner

Make sure to take the time in the planning stages to interview multiple potential consulting partners and find the one that's right for your project.

3

Your expectations are unrealistic or ill-defined

When creating a plan for implementing a digital transformation strategy, make sure it is realistic in terms of how you can support it from a personnel perspective and makes sense from a logical, phased implementation approach.

4

Risk and change are poorly managed

From a risk management perspective, you need to be able to identify which issues are critical and need to be managed before the project can continue; and which issues can be managed at another time to avoid unnecessary delays.

5

Systems are inadequately tested

Ensure to perform all the necessary testing phases and do them as early as possible. It's far less painful to encounter and manage any potential issues during a testing phase than to learn about them after the system comes online.

6

Communication is poor

When it comes to communications with stakeholders, make sure everything is crystal clear. This will help avoid problems for vendors and customers, while giving employees clear directions on the project and reassuring them that their jobs are secure once the project is completed.

7

The implementation methodology is weak

Digital transformation strategies require thorough, detailed methodologies. If any aspect of the project in the planning stages isn't completely clear (schedule, budget, process mapping, etc.), then you probably need to dive deeper into the level of detail it has received to date.

Conclusion

Implementing a digital transformation strategy is not easy. Many companies have tried to implement one and were disappointed with the results. But with a solid vision, the right team in place, a thorough and detailed methodology, strong testing procedures and KPIs, active two-way communication and the right data migration strategies, success is certainly attainable. And with competition on the global stage only continuing to increase, effectively implementing a digital transformation strategy may give your company the edge it needs in this rapidly changing world.

Want to learn more about implementing a digital transformation strategy? ***Check out the entire three-part on-demand webinar series on digital transformation.***

About SYSPRO

SYSPRO is a global, independent provider of industry-built ERP software designed to simplify business complexity for manufacturers and distributors. Focused on delivering optimized performance and complete business visibility, SYSPRO's strengths lie in a simplified approach to technology, expertise in a range of industries, and a commitment to future-proofing customer and partner success.

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