THE 2023 Digital Transformation REPORT

Disclaimer: Third Stage Consulting is an independent digital transformation consulting firm. Third Stage has no financial ties to ERP, HCM, CRM, supply chain management, or digital transformation technology vendors. Accordingly, the below analysis is completely technology-agnostic and 100% free of vendor bias.

TABLE OF CONTENTS

INTRODUCTION

Over the last decade, our team has conducted annual research of the ERP, HCM, CRM, supply chain, and digital transformation markets. This research and corresponding reports are intended to provide benchmarks and an understanding of industry trends related to enterprise implementations and digital transformations.

This report reflects our findings from our most recent study of organizations implementing enterprise technologies as part of their overarching business transformations.

WHAT IS DIGITAL TRANSFORMATION?

With new technologies such as artificial intelligence, robotics, machine learning, predictive analytics, blockchain, cloud computing, and other buzzwords filling the conversation, the focus often falls too much on technology and too little on people and processes.

The difference between an ERP implementation and digital transformation is the holistic, full-scope essence that comes with evolving as an organization. Everything from effective organizational change management plans, business process management, and other people and process aspects of a projects are much more important than the technology. Your project can succeed with subpar technology, but it cannot succeed without strong business processes and people enablement.

This report has been designed to encompass strategies to provide insights on all three pillars of digital transformation: **people, processes, and technology.**

QUANTITATIVE
METRICS AND FINDINGS

The following key quantitative metrics were found to be of most interest to executives and project teams engaging in digital transformations. Rather than providing single average numbers for each of the areas below, the study provides ranges that most organizations fall into.

IMPLEMENTATION TIME AND COST

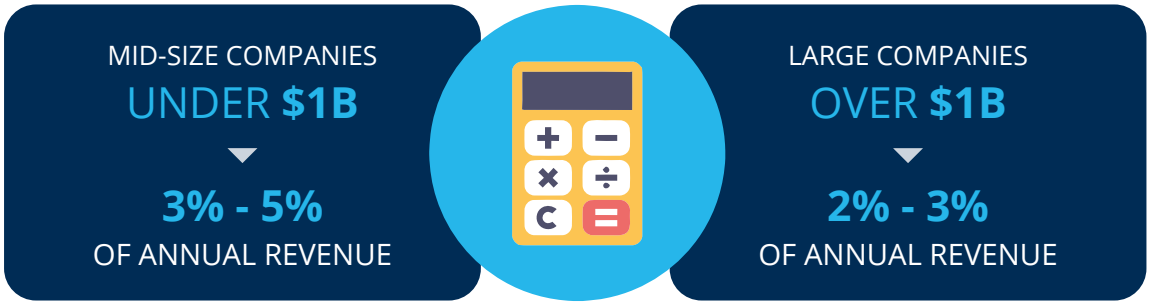
The two most important metrics that CXOs and project managers use to measure success are implementation time and cost. Our study finds that although there are a number of variables that impact actual time and cost, these metrics are fairly consistent among companies of similar size and complexity.

Implementation duration

- For mid-size companies ranging from $50M to $1B in annual revenue, most implementations require 14 to 16 months.
- For companies larger than $1B, most implementations require 31 to 34 months.
- It is important to note that these figures are trending higher in the last two years, largely because the major vendors are concurrently releasing newer, less proven, and less mature flagship ERP products in the market. This is creating additional complexities and difficulties during their customers' implementations.

Implementation cost

- Actual implementation budgets are largely irrelevant since this number varies wildly based on company size. For this reason, we normalize implementation costs to be expressed as a percentage of company revenue.
- Mid-size companies with revenue under $1B realize a total cost of ownership of 3% to 5% of their annual revenue.
- Companies with revenue over $1B fall in the range of 2% to 3% of annual revenue.
- The numbers are smaller for larger organizations largely because they have more economies of scale on their transformations. In other words, there is a minimum cost that must be spent on any transformation regardless of size, so larger organizations experience lower costs when expressed as a percentage of revenue.



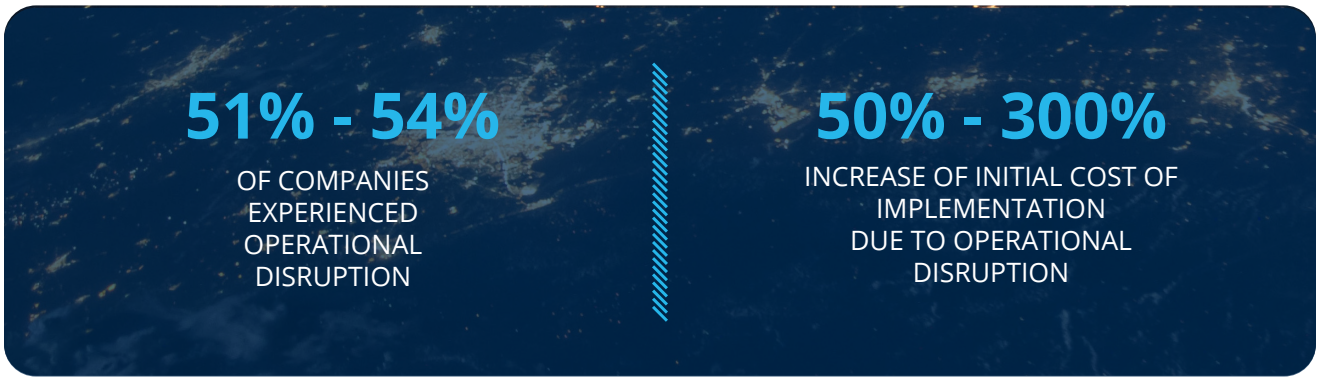
Variables with strongest impact on implementation time & cost

Of the dozens of behavioral and qualitative factors we examined, our research shows that the following variables had the highest correlation with implementation time and cost:

- **SCOPE** – those with broader scopes of functional areas experienced longer durations and higher costs.
- **MAGNITUDE OF CHANGE** – those that made the biggest changes to their organizations experienced the longest durations and highest costs. Those that migrated from a mainframe-based system to a modern solution, for example, were much more likely to experience longer implementation durations and higher costs than those with more incremental changes.
- **COMPLEXITY OF OPERATIONS** – those with more business units, operations in more countries, and other complexities in their business models experienced the longest durations and highest costs.

- **LEVEL OF ORGANIZATIONAL CHANGE SUPPORT** – those that invested the most in organizational change experienced shorter duration and lower costs.
- **LEVEL OF SOFTWARE CUSTOMIZATION** – those with more customization experienced longer durations and higher costs.

The above areas are the variables that had the strongest correlation and linkage to implementation duration and cost.



OPERATIONAL DISRUPTION

One of the greatest risks, and potential costs, for any digital transformation is operational disruption after go-live. These costs and risks can be difficult to predict and mitigate without the proper expertise. Of all the metrics we quantified in this study, this one had the highest degree of consistency over the 1,000 digital transformations studied.

Definition of operational disruption

Operational disruption is defined as a "material" disruption to operations as a result of the transformation. For example, being unable to ship product or close the books are the two most common operational disruptions. This metric does not include smaller and more common disruptions, such as employee frustration, short-term inefficiencies, and other relatively minor disruptions.

Of all companies in the study, 51% to 54% experienced a material operational disruption at the time of go live. The duration of disruptions varied greatly, ranging from a few weeks to several months. In addition, the costs of these disruptions increased the initial cost of the implementation from anywhere between 50% and 300% of the cost to implement the transformation.

Variables with the strongest impact on operational disruption

The below variables had the strongest and most direct impact on the level of operational disruption that organizations experienced:

- **CLARITY OF DEFINED BUSINESS PROCESSES** – those that spent more time defining clear business processes prior to or early in their transformations were less likely to experience disruption.
- **INVESTMENT IN ORGANIZATIONAL CHANGE AND TRAINING** – those that implemented more complete and effective change strategies were less likely to experience disruption.
- **LEVEL OF EXECUTIVE ALIGNMENT AMONG KEY STAKEHOLDERS AND THE TRANSFORMATION PROJECT TEAM** – those that rated higher in executive, stakeholder, and project team alignment were less likely to experience disruption.
- **TIME AND EFFORT SPENT DURING USER ACCEPTANCE TESTING AND CONFERENCE ROOM PILOTS** – the more thoroughly a company tested its processes and systems, the less likely they were to experience disruption.

Companies that excelled in these four areas were the most likely to experience successful digital transformations with the least amount of operational disruption.

Areas with low correlations with implementation duration, cost, and operational disruption

The following variables had the lowest impact – positive or negative – on the metrics outlined above:

- **TYPE OF SOFTWARE IMPLEMENTED** – though SAP and Oracle implementations tend to have longer implementation durations and higher costs, this statistically appears to be more of a function of the size and complexities of the organizations that implement them rather than the technology itself.
- **SPECIFIC SYSTEM INTEGRATOR USED TO IMPLEMENT THE SOFTWARE** – there is little to no impact on the specific SI partner, as they operate and support projects in a standardized fashion.

In other words, these variables statistically have very little impact on the outcome of digital transformations. They are relatively neutral to transformation success or failure.

THE 5 CIO PRIORITIES

WHERE TO FOCUS EFFORTS IN THE NEW DIGITAL ECONOMY

In a recent study we surveyed CIOs for their top priorities in 2022 and beyond. A cluster analysis of their open-ended responses showed themes revolving around business process improvements, digital transformation/modernization, security, and supporting revenue growth/ recovery. We took it one step further to outline the top 5 distinct focuses that all leaders in the tech space are keeping top of mind.

#1 REDUCE FRICTION IN THE HYBRID OPERATING MODEL

With recent years impacting how our workforces operate, there is a greater focus on delivering solutions that create equity between remote workers and office workers. The goal? Driving collaboration and maintaining company culture across various workspace landscapes.

#5 PREPARE TO REPORT ON NEW ENVIRONMENTAL, SOCIAL AND GOVERNANCE METRICS

Today's political climate requires companies to be ready to either lead or support initiatives that meet the criteria of new ESG reporting mandates and work toward disclosure reporting solutions.

#2 IMPROVE RANSOMWARE READINESS

With cyber attacks at an all-time high, business leaders are actively looking for ways to mitigate the damage of successful ransomware intrusions and make recovery as painless as possible.

#4 DESIGN AN AUTOMATION PLATFORM

The ever-evolving and expanding emerging technologies are taking hold. Companies are jumping on the wagon and are buying or building platforms that will enable new automation opportunities through seamless integrations.

#3 SUPPORT AN EMPLOYEE-CENTRIC RETENTION STRATEGY

Leaders are working to avoid being a victim of "The Great Resignation" by putting employees at the center of an experience that will engage them with clear career path development, purposeful work, and transparent feedback.

FORECAST OF INDUSTRY TRENDS
IN 2023 AND BEYOND

The pandemic acted as a catalyst that pushed us toward a digital economy at a faster rate than ever before, and organizations around the world are feeling the effects. Economic turbulence, global supply chain challenges, and hybrid workforces are just a handful of the elements that hint at new and emerging industry trends.

There are a number of predictions and trends that should inform your digital transformation initiatives. Whether you are embarking on an ERP implementation, CRM or HCM software initiative, supply chain transformation, or some other digital or business transformation, these are the top 10 trends that you should be aware of in 2023 and beyond.

10 CONSOLIDATION OF SOFTWARE VENDORS

Mergers and acquisitions are happening at a high rate in today's environment. There are many new software developers and vendors that are producing emerging technologies at a fast pace, opening up ample opportunities for the larger, legacy software companies to acquire them. As you select a software, consider the possibility of mergers and their effect on the future of that software solution.

9 VENDOR SALES BLUFFS WILL BE EXPOSED

Vendors in the enterprise software industry are becoming rather pushy in selling their software, even if it's not necessarily the best fit for the business. Software vendors across the board are guilty of pushing their product into industries and organizations that they do not have the grounds to support, yet their sales pitches say otherwise. It's critical to stay aware of this and poke holes in the demonstrations you sit through. Be intentional about staying out of the statistic.

8 FOCUS ON HUMAN CAPITAL MANAGEMENT

It's no secret that there are ample resource and labor shortages across the world. Mix that with offices reverting back to a hybrid work-from-home and in-office model, and you will see an uptick in human capital management and optimization of processes around the people side of any given business.

7 INDUSTRY RESOURCE SHORTAGES

Nearly all industries are experiencing some type of industry shortage due to the pandemic-rooted hiccups in the supply chain. The digital transformation and enterprise technology space is experiencing the same thing. Be prepared to have fallback plans in the case that a system integrator or software vendor does not have the resources your organization needs. One way to mitigate that risk is to bring more capabilities in house and avoid becoming dependent on a consulting or implementation partner.

6 CLOUD SOFTWARE BECOMES EXPOSED

Cloud software, in many cases, has not been ready for adoption. Even so, software vendors have been pushing their customers to go into the cloud. These vendors have had decades of R&D that have led to the creation of their on-premise solutions, and they have been shifting to cloud-computing solutions relatively quickly in an effort to appease investors and drive a subscription-based revenue model. As a result, these cloud solutions are integrated only for companies to find that there are shortfalls and immaturities in the system's capabilities.

5 LIMITATIONS OF BIG ERP SYSTEMS WILL BE EXPOSED

Organizations are being forced to change quickly and adapt to the ever-evolving landscape of the supply chain and consumer habits. With that need for flexibility, we may trend toward a higher adoption of best-of-breed or even custom systems that can speak to the needs of your specific organization.

4 CULTURAL TRANSFORMATIONS

We are trending to more cultural and operational changes that result from digital transformation. As we think about what our future state looks like and how we are going to survive and thrive in the future, we need to also figure out how to help our company culture evolve to get us there.

3 SUPPLY CHAIN DIGITIZATION

We've all experienced the raw material shortages both in our businesses and our day-to-day life. Supply chain management technologies are becoming more popular as a result. These solutions help organizations integrate with suppliers and customers more effectively and give leaders more visibility into the health of their supply chain. It also goes beyond technology. It includes tactics like diversifying our vendor base, sourcing new materials, improving efficiencies in operations, and communicating with customers at a higher level. All of these components will become a focus in 2023 and beyond as the global supply chain bounces back from a tumultuous couple of years.

2 INDUSTRY 4.0

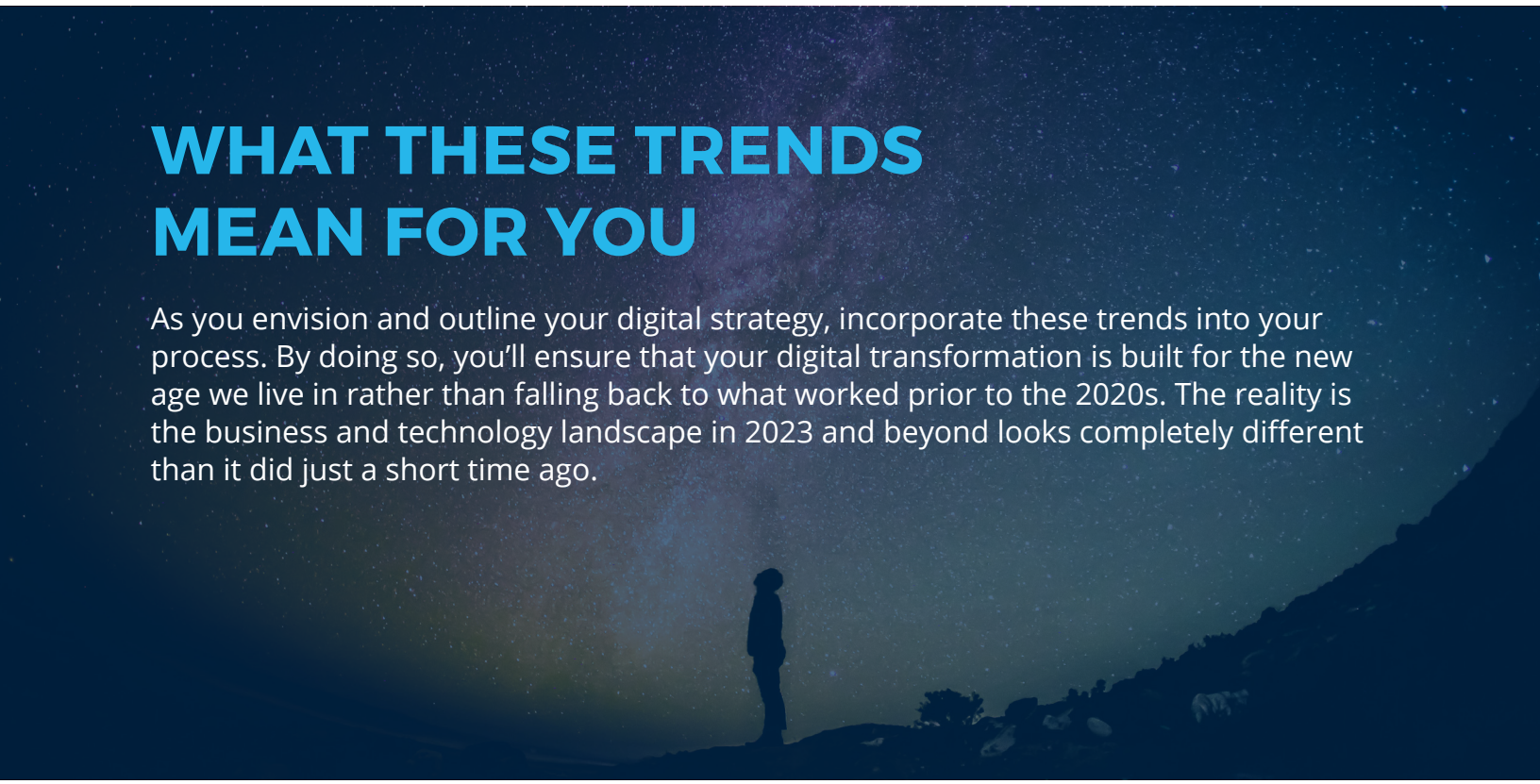
Industry 4.0 is becoming more important as businesses adopt more technologies. As manufacturing organizations and production facilities are moving toward robotics and shop floor automation, there inherently comes more silos in data. Industry 4.0 focuses on tying the entire process together so that we can leverage all the emerging technologies hitting the market in the 2020s.

1 CUSTOMER EXPERIENCE

The organizations that optimize customer experience are the organizations that will lead their industries in the 2020s. Customers' tastes are changing, demand patterns are changing, and even macroeconomic factors are changing as a result of everything that has happened within the last few years. Now, more than ever before, businesses need to stay flexible and in tune to their customers' needs. It's time to get creative in how those needs are met.

WHAT THESE TRENDS MEAN FOR YOU

As you envision and outline your digital strategy, incorporate these trends into your process. By doing so, you'll ensure that your digital transformation is built for the new age we live in rather than falling back to what worked prior to the 2020s. The reality is the business and technology landscape in 2023 and beyond looks completely different than it did just a short time ago.



TOP 10 ENTERPRISE SOFTWARE DIFFERENTIATORS

FOR ERP, HCM, CRM, MES, WMS, AND SUPPLY CHAIN SYSTEMS

When evaluating potential systems for your organization, it's easy to get lost in analysis paralysis as you try to compare and contrast all the capacities of a prospected enterprise software. It's such a big investment that you will feel inclined to look at every corner within the functionality of a software. However, if you do that, you will not only waste your time, but it will only make your decision harder.

This list of key enterprise software differentiators is designed to help you narrow in your focus on the top ten differentiators to consider as you go through the software selection process.

#10 ASSET MANAGEMENT

If you're a capital- or asset-intensive organization, asset management capabilities will be important as you shop different options. Not all ERP systems have an asset management functionality, and the ones that do vary in their level of functionality. Consider how you manage depreciation of asset, how you identify which assets need to be replaced or repaired, and the financial implications of assets. These are all elements that will be important to your operations, and you need a system that will help you best gauge and monitor those attributes of your organization.

#9 FIELD SERVICES

If you have crews that are doing work or capturing data in the field, you need to find an ERP system that can do this function well. Work to hone in on the systems that can streamline the management of field services

and optimize things like cost tracking and time reporting. A lot of ERP systems don't do that well, so if your short list includes systems with this functionality, your software selection process will be much more efficient.

#8 BUSINESS INTELLIGENCE (BI)

Not all ERP systems are created equal. Some have robust business intelligence tools that entail predictive analytics and other sorts of data analysis tools while others don't. Understanding the capabilities within this feature across the software solutions on your short list will help you dial in on the right solution for your organization. The better the BI capabilities, the more opportunities there will be to optimize operations post go-live.

#7 CONFIGURE PRICE QUOTE (CPQ)

If you're a made-to-order or engineer-to-order manufacturing company, then CPQ is an important module to evaluate. The Configure Price Quote functionality enables salespeople to configure orders and proposals that meet specific criteria. So, if you manufacture custom products, ensuring this module is integrated in the system can be a key differentiator as you make your software selection.

CPQ modules empower sales representatives to understand what they can and can't sell and provide an accurate quote to the prospective customer. It also will enable the sale to go directly to manufacturing to streamline the workflow. High-level ERP systems do not do this very well without some form of a CPQ module bolted on.

#6 MANUFACTURING EXECUTION

Most ERP systems have the ability to manage inventory, so look beyond just that. If you're a manufacturer, you want to take a close look at the level of shop floor automation and manufacturing execution software available within the software you're considering. In order to have a grasp on what is happening on the shop floor and be able to optimize workflows from station to station throughout the manufacturing process, you have to evaluate software on a more granular level when it comes specifically to manufacturing execution functionalities.

#5 HIGH-VOLUME DISTRIBUTION

If you're doing a high volume of consumer products or lower-cost items that you are selling at bulk, you need to consider the capabilities that are specific to high-volume distributors. For example, in looking at warehouse management, many organizations do cross-docking to get goods in and out of the warehouse as efficiently as possible. Not all ERP solutions offer this functionality. Take a look at what makes your distribution processes unique, and understand how the solutions on your shortlist can help you manage and optimize your specific needs.

#4 PROJECT MANAGEMENT & CONSULTING

If you're an organization that values project management, then project management functionalities should be one of your primary evaluation priorities. For example, aerospace and defense organizations are responsible for bringing large, multiyear products, such as airplanes, to market. Construction companies building new developments also fall into this category. From the material level to the cost level, your ERP solution should be able to effectively manage things like project plans, costing, and resource allocations in the way that is conducive to your organization's strengths.

#3 CONFIGURE USER INTERFACE

User interfaces vary quite a bit from system to system. A lot of times we become so enthralled by functionality and workflows that we lose sight of the ease of use. Understanding how many pages you have to go through to execute on a task and get a grasp on how intuitive the product is are both elements that will affect the ease of change management. Making sure the user interface isn't a dramatic shift from what your organization is currently used to will often help you drive user adoption and encourage a positive response to change.

#2 PROJECT AND REPAIR

If your organization has a big MRO function, then it's important to understand the functionality of repair and maintenance insight that a software solution can provide. In today's digital landscape, there is an

opportunity for AI and machine learning to help identify assets that will need to be repaired before they break. This enables a more proactive approach rather than a reactive approach to business management, and finding the right software that can maximize these insights can point you to the best-fit software.

#1 DOCUMENT WORKFLOWS

If you are in the banking or insurance industry or any other market segment that has a robust document workflow, then this is a functionality that you should be extra cognizant of. There are ERP systems out there that have a document management system as a part of the workflow, so make a shortlist of those specific solutions and compare and contrast functionalities from there.

TOP ERP SYSTEMS

When embarking on a digital transformation, choosing the correct software has the power to optimize or hinder your organizational growth. To better understand your options, leverage this list to see the pros and cons of each of the top ten systems we've seen our clients have success with.

METHODOLOGY OF RANKING THE TOP ERP SYSTEMS FOR 2023

We evaluated nearly 100 systems in narrowing our list of top ERP systems for 2023. In doing so, we used comprehensive quantitative and qualitative methodology. We also increased our data points to include our team's more recent implementation experience with each of the leading solutions, providing a cohesive, hands-on perspective in comparing various systems that were in the running.

The following quantitative and qualitative criteria were considered through the ranking process to determine the best-performing systems.

- Customer adoption rate
- Ease of implementation, including average time and total cost of ownership
- Breadth and depth of functionality
- Maturity of cloud solutions
- Flexibility of solutions
- Scalability of solutions
- Ease of integration with third-party systems
- Vendor's product roadmap and overall viability
- Ease of organizational change management and training
- Strength of vendor ecosystem, such as system integrators and partners
- Return on investment

The major ERP vendors are in the process of overhauling their flagship solutions as part of their migration to the cloud. This mass overhaul of the leading solutions – along with the fact that the ERP vendor space has become incredibly competitive – has created a shakeup among the leading ERP systems. Understanding the pros and cons of leading ERP systems is a critical component of defining your digital strategy for 2023 and beyond.

#10 ACUMATICA

Acumatica is a solution with a focus on manufacturing and distribution. This product has a very clear user interface, and the pricing model is very conducive to the small and mid-market organizations. If you're a low-volume, high-margin type of manufacturing or distribution company, it can be a cost-effective solution with a very high ROI.

#9 SALESFORCE OR FINANCIALFORCE

Salesforce is a good fit for organizations that might be looking for more of a best-of-breed solution that can accommodate more flexibility in processes. They can bolt on different types of systems or modules to meet different needs as an organization grows. However, along with that flexibility comes a dark side. A lot of organizations find that that flexibility can create a lot more complexity in terms of integration and cost. Customizations can become a slippery slope when deviating from an initial implementation plan.

#8 ODOO

Odoo is an open-source ERP system, and its general functionality and capabilities have expanded in recent years. For small and mid-market organizations, Odoo can be a very good fit, especially if you're looking for something with maximum flexibility to be able to tie together different modules within the organization. With that, it can be complex to maintain. If you don't have a fairly sophisticated and mature I.T. department that can manage the complexities of an open-source system, this system may not be the best fit.

#7 SAGE X3

Sage X3 is a core financial system that is great for manufacturing and distribution organizations, but it can also be a good solution for organizations in other industries as well. It's a good tier II alternative to some of the bigger ERP vendors in the marketplace.

One downside is that it's not as scalable for really large and complex organizations as some of the other products in our top 10 list. If you're a larger, more sophisticated global organization, it may test the boundaries of your requirements. Another consideration is the user interface. It isn't quite as clean or user-friendly as some of the other systems in the marketplace.

#6 INFOR CLOUDSUITE

The Infor CloudSuite umbrella is very broad and maybe a bit misleading. There are actually multiple systems within the Infor CloudSuite umbrella. The company is trying to rebrand the product as CloudSuite, but you still have the segments of different products that they work with. Under this umbrella, we find a great, robust, and wide variety of business process solutions and capabilities. These can benefit different situations, especially organizations that are in manufacturing and distribution. We also see Infor being used successfully by non-manufacturing organizations.

They also have a lot of R&D dollars as a result of Koch Industries investing into the acquisition of the company. The downside to this software vendor is understanding which of these systems piece together to give you the solution you need. This can be very confusing, even daunting, and it's important to make sure you're identifying the right solution – whether it's M3, Syteline, Nexus, or some of the other solutions that they offer.

#5 IFS

IFS is a very focused solution. It's not trying to be everything to everyone, and it tends to focus on industrial, manufacturing, and distribution types of companies. If you're a company that has a lot of project management, asset management, or maintenance and repair types of functions, IFS could be a very good fit.

What it really comes down to is understanding the strengths of this product

relative to your needs. There are a lot of R&D dollars being spent on the product itself, and the organization is also focusing on expanding its value-added reseller network and implementation partners. This investment in future growth will secure a bright future.

#4 SAP S/4HANA

SAP S/4HANA has been around for years, and they've evolved and adapted over time. Today, S/4HANA is very strong in financial and inventory management and is your vanilla, basic ERP functionality. It's really one of the best when it comes to financial flexibility, GL capabilities, product costing – all that stuff.

Where S/4HANA tends to struggle is once you get outside the core and start to look at other advanced capabilities like manufacturing, planning, product life cycle management, and even some of the CRM capabilities. That is where you'll find holes. It's still not as mature of a product as it could be and likely will be someday. It's certainly not as mature of a product as the old ECC product was, or even R/3, which are the old legacy SAP products.

#3 ORACLE ERP CLOUD

Coming in at number three on our list is Oracle ERP Cloud. Along with SAP, Oracle ERP Cloud is one of the gold standards for larger, Fortune 1000 types of organizations. When we compare Oracle to SAP Cloud and examine, with a critical eye, why Oracle is ahead of SAP, it's largely because Oracle's a more flexible product. It's something that can be tailored more easily than S/4HANA. If your organization needs to standardize processes and follow a more distinct flow as you scale, then SAP is a better choice. If your organization welcomes flexibility to accommodate specific needs, then Oracle will take the win.

Oracle ERP Cloud shares many of the same challenges with SAP in the sense that Oracle ERP Cloud is still a work in progress. There's still a lot of advanced manufacturing capabilities that aren't baked into the system yet. With that said, Oracle ERP Cloud is a very broad and robust product that can meet a lot of different industry needs. This is especially true if you're a diversified, larger, more complex organization and if you value flexibility and ease of integration.

#2 ORACLE NETSUITE

The positive aspect of Oracle NetSuite is that it's one of the pioneer software-as-a-service (SaaS) solutions. It has been in the cloud for 20 years, well before all the other vendors tried to play catch-up, so they have a very mature solution that has been in the cloud since the beginning. It was built for the cloud, and it has an architecture built for the cloud as well. NetSuite also focuses on small and midmarket companies, so if you're a fairly small, mid-market company looking to upgrade from QuickBooks or your basic accounting system, NetSuite can be a logical next step in your evolution.

The downside is that we're starting to see more issues with implementations with Oracle NetSuite. This is just strictly a hypothesis, but our theory is that since Oracle acquired NetSuite, they have been trying to push further into small and mid-market businesses while also pushing upstream to larger organizations. They may be a bit spread thin.

#1 MICROSOFT D365

Microsoft D365 has two different solutions. There's Business Central, which is built for small and mid-market companies, and then there's Finance and Operations, which is for larger, more complex organizations.

You have two distinctly different systems meeting distinct needs of different types of organizations. In addition to that, you also have the flexibility and the user interface of Microsoft. A lot of companies are comfortable with that user interface and value the flexibility that D365 provides, especially when you compare it to, say, an Oracle NetSuite or SAP S/4HANA. Microsoft D365 can be a lot more customizable. The dark side to this is that just because you can change the D365 system doesn't mean you should. A lot of organizations get tripped up during the implementation because they try to over-customize the system. The other appealing factor of Microsoft Dynamics is the fact that it's so easy to integrate with other systems. For these reasons, many organizations land on Microsoft D365 as their ERP solution.

TOP 10 SUPPLY CHAIN MANAGEMENT STRATEGIES

Now that we have experienced what it's like to have supply chains come to a dead halt, it's time to rethink our approach to supply chain management in a postpandemic market. These are the top ten strategies organizations should consider to ensure they stay agile in meeting the new needs of today's supply chain.

#10 OPTIMIZE HUMAN CAPITAL MANAGEMENT

Labor shortages throughout the world are one of the key challenges creating disruption in the supply chain. One of the best ways to mitigate shortages moving forward is to rethink our human capital management strategies. We need to have distinct and established plans that outline how we attract and retain talent, how we can ensure we develop those resources, and how we can keep them on our team for the long term. There are HCM solutions on the market that help automate some of these considerations, and it will be more important than ever before to leverage those resources.

#9 CUSTOMER AND SUPPLIER VISIBILITY

Given the unpredictable demand, it's more important now than ever before to have a new level of visibility into what is happening with customer demand, manufacturings, shipping, 3PLs, and getting the product to our customers. Business should implement and optimize processes and technologies to best analyze the marketplace. We also want visibility into other stakeholders' health in order to understand if a manufacturer or a supplier is backlogged as well.

#8 DIVERSIFY SUPPLIERS

The early 2020s showed us the risk that businesses take in putting all their eggs in one basket. If someone's supplier was located in China and the ports were all closed for months on end, then that business would be out of luck. It may be beneficial to hedge your risk and procure supplies from multiple suppliers. Yes, that will lead to a loss of buying power, but it just comes down to what you're willing to do to have flexibility.

#7 SIMPLIFY PRODUCTS AND RAW MATERIALS

Many organizations have overly complex raw materials and products. Many products don't allow for a streamlined supply chain, and it may be time to reassess that production to find ways of simplifying that from a product development perspective. The more complexities within a given product, the more room for errors and downsides.

#6 INCREASE COST TRANSPARENCY

Supply chains in general struggle to have visibility into their cost structure, and now with bottlenecks and inflation it has become difficult to understand the true cost of raw materials. We must know our labor costs, our materials cost, our shipping cost, etc. This will help us ensure we are holding our margins steady as costs fluctuate. It may be that having better technologies is one way to combat that challenge.

#5 INCREASE CASH LIQUIDITY

As organizations have extended lead times and diversified their partner base, it has created a cash constraint due to the need for cash to be consumed in the supply chain. For businesses to be successful, they need to focus on cash flow and open up the door to getting more solid footing and mitigate some of the challenges that surface with cash-focused intiatives.

#4 REVISE PRICING STRATEGIES

Once you understand your overall cost, liquidity, and cash implications of supply chain management, you can reassess your pricing to ensure you are staying in line with the evolving economic landscape. The goal is to ensure you have the right pricing structure that keeps you competitive and still enables you to optimize your margins given the new fluctuations in the market.

#3 REDEFINE DIGITAL STRATEGY

Better technologies enable better visibility, better tracking, and better business intelligence. Businesses need to rethink their digital strategies due to the reality that business has changed dramatically within the last few years. Part of this is looking into the software solutions available to you, but it also has to do with your data. Would robotics be helpful, or would smart sensors be a better solution? Consider things you could be improving to right-size your organization to the realities of today.

#2 LOOK BEYOND THE SUPPLY CHAIN

It's important to look outside your immediate supply chain. You need to understand everything that's happening from an aerial view of every touch point, from raw material suppliers to the product delivery to customers.

However, we need to look outside the supply chain as well. The better we canreach and see beyond our own supply chain, the more effective we will be in our projections. Consider macroeconomic trends to forecast what the immediate future might hold.

#1 PREPARE FOR GOVERNMENT REGULATIONS

It is inevitable that there will be regulations coming down the pipeline when it comes to supply chain management. Oftentimes, these regulations come with little time to prepare and stringent requirements that will create discomfort and maybe even disruption in operations. The more prepared you can be for a shift, the better off your supply chain will be – even if regulations never even end up coming.

TOP 10 MANUFACTURING EXECUTION SYSTEMS

Manufacturing Execution Software, or MES systems, automates shop floor operations. If you are a manufacturing organization and are looking for ways to improve efficiencies in your operations, it's helpful to understand the various tools on the market that can help you, and MES systems are one of those tools. As you define your digital strategy for your manufacturing organization, this list of execution systems should help you understand the value and functionalities of the top systems on the market today. These rankings and product reviews are a result of our real-time experience in helping hundreds of clients from around the world implement the best-fit technologies for their organization.

BELOW ARE THE TOP 10 MES SYSTEMS ACCORDING TO OUR INDEPENDENT, TECHNOLOGY-AGNOSTIC CRITERIA.

#10 E2 SHOP SYSTEM

E2 Shop System focuses specifically on shop floor automation. Its functionalities fit well for companies manufacturing a low volume of custom products. If you are a made-to-order or made-to-engineer organization, E2 might be a great solution.

Though they are known to have topnotch customer service, the reporting capabilities are not as strong as other systems on this list, and the breadth and capabilities are not as versatile. It's also one that will cost more over time.

#9 SAP ME

SAP Manufacturing Execution is one module or system within the greater SAP suite of products. This could be the right solution for those who are looking for a broader solution that will help manage the shop floor in addition to warehouse management, inventory management, CRM, accounting management, etc. SAP ME is a good solution for larger-scale, more complex manufacturing environments, and it can provide great visibility into operations due to its strong reporting capabilities.

On the other hand, SAP is a powerful tool that inherently comes with complexity in its user interface. Data archiving and data management can be more difficult as well. Due to that added layer of implementation, user adoption may be a bigger challenge with this solution.

#8 FISHBOWL MANUFACTURING

Fishbowl serves smaller to mid-size manufacturing shops. It's relatively intuitive when it comes to its user interface, so the user adoption is oftentimes more seamless. Even so, you will still need a strong organizational change management strategy, as you would with any digital transformation.

If you are a more complex operation, this system is likely not the best fit for your organization. It's also important to understand that the reporting capabilities are weaker than others on this list. Even so, this best-of-breed software solution is designed and crafted to serve the manufacturing floor.

#7 MICROSOFT D365

Many people have grown accustomed to the Microsoft user interface through the use of applications like Microsoft Word, PowerPoint, Excel, etc. The fact that Microsoft Dynamics 365 is a Microsoft product makes user adoption a bit more seamless since the user interface (UI) resembles all other Microsoft products. It's also a very dynamic and open platform, enabling customizations that can fill your organization's unique needs.

Now, because it's a broad system, it could take time to implement. Digital transformations implementing larger ERP systems like Microsoft Dynamics 365 will take a bit longer than a best-of-breed implementation. In correlation to that, the cost will be a bit higher than other products on this list.

#6 ORACLE NETSUITE

Although Oracle NetSuite isn't known as a manufacturing system, it's still a great option that can help automate operations for smaller to mid-size companies that are looking to automate their shop floor. This software has the ability to help automate more than just manufacturing and warehouse management. It can also help streamline accounting, customer relationship management, and other enterprise functions.

On the other hand, there are costs that creep up over time. As transaction volumes increase, the cost to leverage this technology will also increase.

#5 APTEAN

Aptean is a software vendor whose core focus is on manufacturing. This system is particularly useful in a food and beverage manufacturing environment, but even if your industry is outside of food and beverage, it can still drive great results. Beyond just manufacturing, it also does financials, supply chain, accounting, etc.

The feedback from our clients is that integration can be a bit more of a challenge than expected. It's also known to be a bit slower when it comes to research and development.

#4 INFOR

Infor is one of the largest software vendors in the world, and it focuses specifically on manufacturing. It has a relatively easy-to-learn user interface and it is fairly customizable. There are constant updates and improvements that will help your company stay relevant over time. It's also a great ERP solution, and if you want something that brings more to the table than just warehouse automation, Infor could be a great option.

With that said, it can be a bit pricey. The overall cost of this system can be more expensive over time than other solutions on this list.

#3 EPICOR

Epicor is another software vendor that focuses heavily on the manufacturing space. This is a product that is fairly easy to use relative to other products

on this list. There are also a handful of add-on functionalities that enable more options to better fit the need of the organization integrating the solution. In addition, there are versatile deployment options. A business can choose to integrate the cloud version of the software, the on-premise version of the software, or a hybrid deployment model with attributes of both that serve the greater company.

On the other hand, the more advanced capabilities are a bit harder to figure out. The reporting takes time to set up and the system itself tends to be a bit slower than other products on this list.

#2 IQMS

IQMS is a very scalable solution. This is a software vendor that has a very large manufacturing base. If you are a small to mid-size business that projects a high growth rate in the coming years, IQMS will be a good solution that you can grow into.

It's important to note that this system has been built specifically for manufacturing rather than trying to be everything to everyone else. With that, it can be a bit pricier than other systems. There has also been chatter that the reporting functionalities do the job but aren't as good as they could be. Many times, people have trouble with updates to the system pushed out by the vendor, and it could potentially result in short operational disruptions.

#1 PLEX

Plex is a product that is built specifically for manufacturing, and it is one of the only native cloud solutions. As software vendors migrate from on-premise to the cloud, Plex takes ownership of the fact that they have been there since the inception of cloud solutions, leading to inherently more optimal cloud functionality.

Although it's number one on this list, there are still some downfalls. There are elements of workflows that are not necessarily the most intuitive. In addition, it's a smaller company with fewer resources. With that will likely come good customer service but also the chance for more bugs in their code.

TOP 5 ORGANIZATIONAL CHANGE MANAGEMENT STRATEGIES

CHANGE MANAGEMENT LOOKS DIFFERENT IN THIS DECADE

It's no secret that organizational change management is the key to digital transformation success, and it has never been more true than it is today. The world has changed in recent years, and change management best practices have evolved as well in response to the abundance of change already taking place outside of the workplace.

The challenge for OCM practitioners has become keeping up with the times and staying in tuned with the empathetic side of leadership. How can you ensure that your transformation strategies are keeping up as times change?

The following change management tactics have been proven to be most effective when it comes to organizational change in the early 2020s. As we walk through 2023, they will only become more and more prominent.

#5 ACKNOWLEDGE CHANGE FATIGUE

With the ever-evolving landscape of the economy, the pandemic, and even personal and professional changes that have taken place over the last couple of years, people are feeling unprecedented pressure on many levels. From economic shifts to social shifts, change has become somewhat of a constant. It's leaving many feeling an ongoing discomfort. When an organization pursues digital transformation in today's world and plans to shift their employees' day to day, it has the potential to push people to their breaking point.

This is called change fatigue, and the art lies in combating that fatigue before it becomes an issue. We must get a pulse on our teams' stress level and team moral. Once we assess how open or resistant to change our employees truly are, we can create and craft an effective change strategy that speaks to the existing pain points.

#4 FOCUS ON CULTURE

Just as people have been impacted by change over the past few years, many organizations have been impacted as well. With the understanding that external influences can impact our organizational culture, we can be more realistic in where we are today and how to get to where we want to go. We can be more mindful and intentional in building a company culture that will enable our businesses to thrive. Just like with any other growth component of your organization, business leaders must be strategic in their approach to building a strong and unbreakable company culture.

#3 INTEGRATE THE 3 PILLARS

Organizational change management is often the glue that holds together the 3 Pillars of digital strategy: People, processes, and technology.

Now that we have grown accustomed to the new normal of society and business, we need to take a step back and become intentional in how we bring our business-specific goals in line with the 3 Pillars.

These pillars hold up a digital strategy, and to fulfill a truly optimized operation, all three pillars need to work synergistically to move the needle toward your desired future state.

#2 CHANGE STRATEGY

Once we have a handle on the 3 pillars, tackle change fatigue, and adjust or fine-tune our company culture, we are then ready to design a change management strategy.

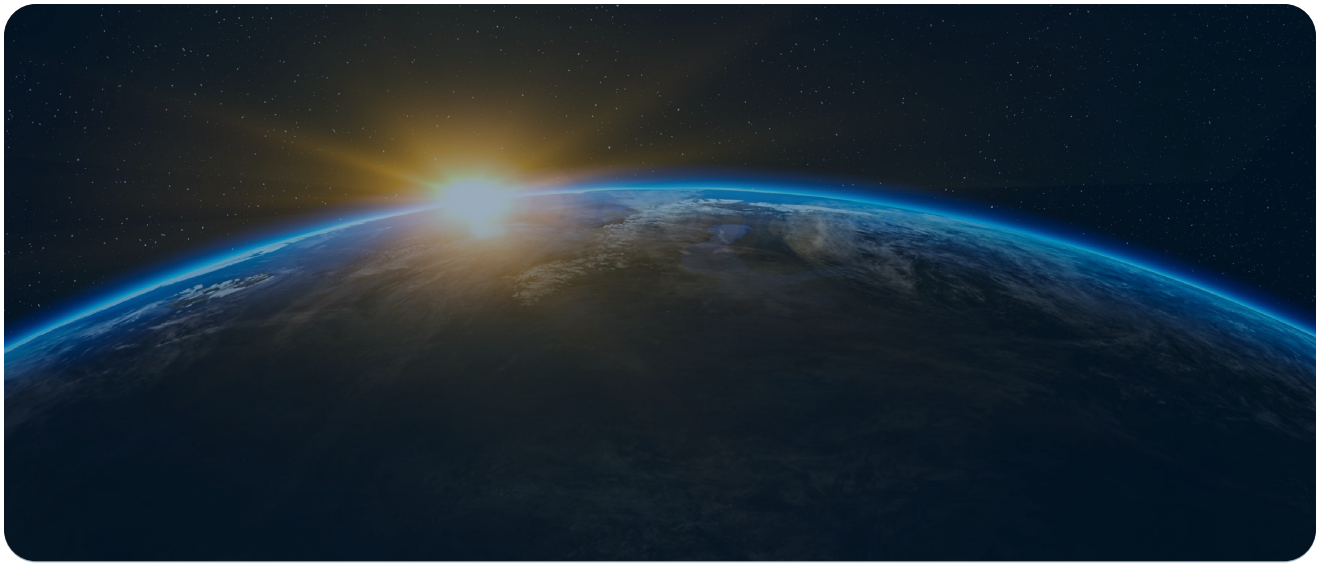
Take your corporate-level strategy and translate it into your digital strategy and your change strategy. Without that foundation of the corporate strategy laying down the groundwork, misalignment will sprout, sway, and even sabotage the overall progression of the company. Alway look to the greater, overarching business strategy, and allow your digital strategy to

be a derivative of the company's greater goals and objectives. From that digital strategy should come your change strategy. As long as each plan rolls up into the greater business goals, then you have a better chance at maintaining alignment.

#1 EXECUTIVE ALIGNMENT

Just as we want our change strategy to be aligned with our business strategy, we also want to ensure that those leading the charge are aligned on those goals and objectives as well. Executives and stakeholders need to be aligned on how and why an organization needs to go through a change or transformation. We want to make sure everyone is rowing in the right direction, embodying the same vision for what this project means to the organization, and how it will enable growth toward the company's greater goals and objectives.

The larger your organization, the higher the probability that your team will be misaligned. It takes intention and strategy to get stakeholders aligned to ensure everyone is rowing in the right direction. If there is abundant misalignment, it often helps to bring in an independent third party to bring everyone onto the same page.



TOP 10 **ORGANIZATIONAL CHANGE MANAGEMENT** CONCEPTS TO MASTER

In order to effectively manage change in any organization, it's important to understand the key concepts that affect change management. With this knowledge, you'll be better equipped to spearhead change, you will be aware of the action steps and pitfalls that come with change management, and you will best be able to lead an organization through change as a change management practitioner.

HERE ARE THE TOP 10 CHANGE MANAGEMENT CONCEPTS THAT WILL HELP YOU LEAD AN ORGANIZATION THROUGH A TRANSFORMATION.

#10 RESISTANCE TO CHANGE

On the surface, this sounds straightforward – there will be some who resist change. However, there is much more below the surface. There are two types of resistance that will come to fruition no matter the project: Intentional resistance and unintentional resistance.

Intentional resistance is easy to spot and will show itself through surveys and probing. Unintentional resistance is a bit more complicated. This type of resistance comes when someone is excited at first and feels that their value or job is threatened once the technology is implemented. Being aware of the resistance is the first step, and it can be addressed by crafting a strong change strategy to combat it.

#9 STAKEHOLDER ANALYSIS

Take a close look at the key stakeholders in a given project. It's important to analyze each stakeholder to understand what makes them tick. By doing this, you will drive a higher level of engagement from those stakeholders, and it will ultimately lead to a more successful transformation project.

#8 EXECUTIVE ALIGNMENT

The key to executive alignment is to ensure that you have an executive team with a common set of goals and objectives for a digital transformation. You'd be surprised to hear that a majority of organizations around the world lack clear alignment in corporate strategy, and it trickles down to the greater team, making change management rather impossible.

In addition to lateral executive alignment, there also needs to be alignment from the top down. This will enable a smooth change initiative across the board.

#7 CHANGE IMPACT ANALYSIS

Any organization migrating from current to future state needs to understand the true impact of the change. It goes beyond the technological shift or even the change in processes, the weight sits more heavily on the people side of the business.

We need to understand the changes that will hit our organizational design as a result of the implementation. We need to understand how the change will change each person's job and the dynamics within the different parts of an organization.

#6 TRAINING AND ENABLEMENT

Training employees on how to use technology is often misconstrued as a technical exercise. However, the more important side of training is to help people understand what the end-to-end processes will look like going forward and show them what their new roles and responsibilities will be going forward. It's important to note that training should occur along the way of a transformation rather than post-go live.

#5 COMMUNICATION PLAN

A communication plan is similar to a marketing plan, but for your internal team to accept the new normal. Each message needs to be tailored to the different stakeholders, different departments, and target audiences. Communications should begin on day one and continue even after implementation. This plan should outline the messages, frequency, format, and even the general timeline to deploy communications. You will need to repeat different elements of the project and progression to get your point across and reach your audience in different vehicles.

#4 ORGANIZATIONAL DESIGN

Do not overlook this element of OCM. You must define what people's jobs will look like after the implementation. If you are automating 50% of Susie's job, then Susie needs to be completely aligned and aware of what she will be doing during that 50% of her job going forward. If there is any fog on what her role will look like post-transformation, Susie will push back and inevitably resist the change. Organizational design entails the planning of new job descriptions, new incentives, and an overall illustration of what the future holds once the technology is implemented.

#3 BENEFITS REALIZATION

Understanding the way that activities drive benefits realization and overall business value will enable the project team and executive stakeholders to stay on track. Focusing in on the activities that maximize benefits realization will overflow into the activities and messaging that comes with a targeted change management strategy. If our goal is to drive efficiency and productivity, then our organizational change strategy should also be aligned with driving efficiencies and productivity.

#2 ORGANIZATIONAL READINESS

We must understand how prepared and ready the organization is to adopt a new process. Keeping a pulse on our team's appetite for change will enable a proactive approach to change management strategy, improving the odds of higher user adoption and overall digital transformation success. For example, if we are 30 days out from go-live and people are expressing concerns, that needs to be prioritized and addressed. Host an organizational readiness assessment to pivot and adjust to whatever concepts need attention to keep your plan on track.

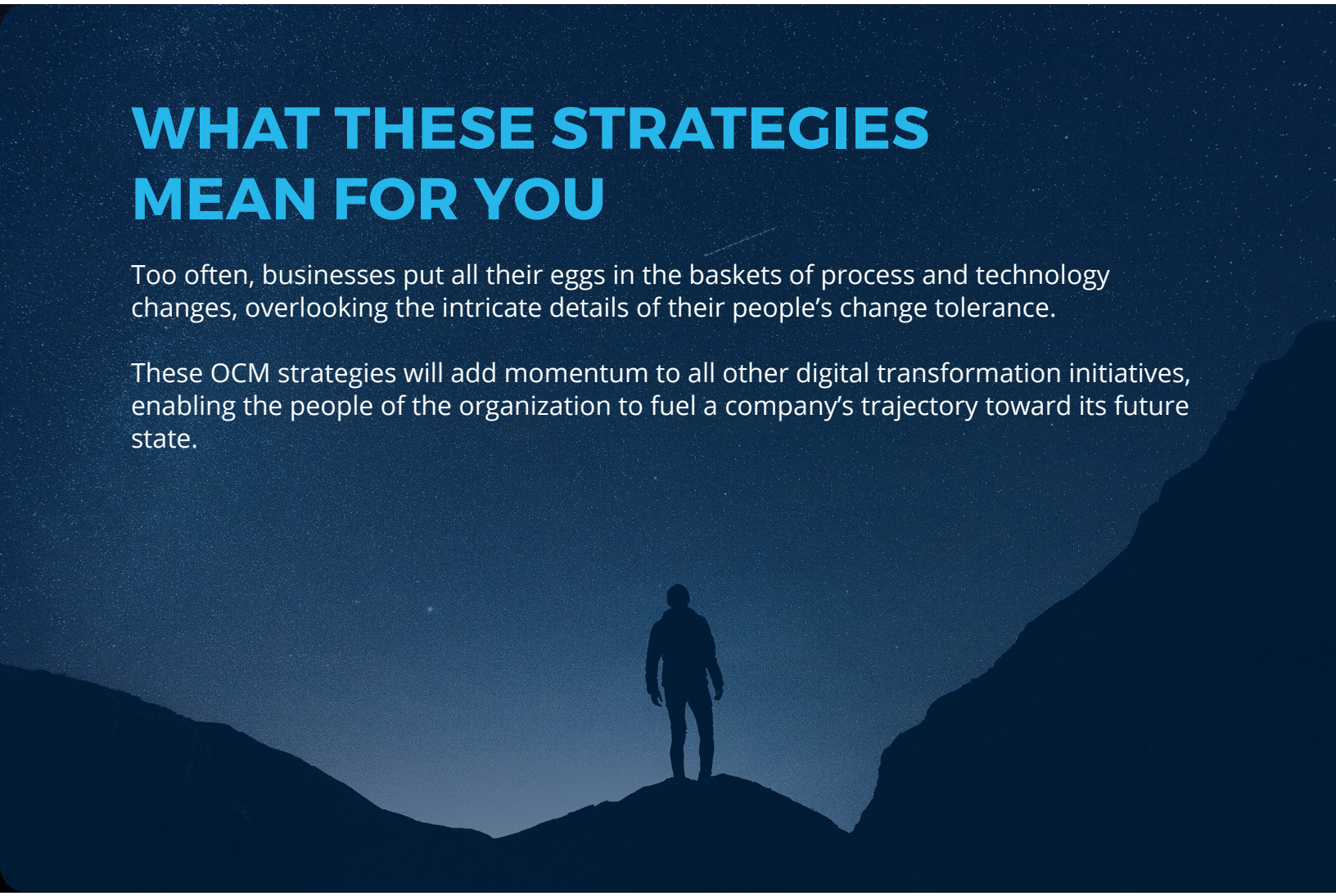
#1 **ORGANIZATIONAL CHANGE PLAN**

Your OCM plan ties all 9 other segments of OCM listed here together, and it should put each component into a more definitive project plan. Each section will have its own deliverable deadlines, and it should be incorporated into your overall implementation plan. Ensure that your overall program plan is in alignment with the OCM plan to understand and decide how aggressive you want to be in your goals.

WHAT THESE STRATEGIES MEAN FOR YOU

Too often, businesses put all their eggs in the baskets of process and technology changes, overlooking the intricate details of their people's change tolerance.

These OCM strategies will add momentum to all other digital transformation initiatives, enabling the people of the organization to fuel a company's trajectory toward its future state.



DIGITAL TRANSFORMATION
KPIs AND PERFORMANCE METRICS

HOW TO MEASURE TRANSFORMATION RESULTS

Most digital transformations fail to deliver on time, budget, and business value. There are several key performance indicators (KPIs) that can be used to manage and monitor any digital transformations and ensure the project is maximizing its ROI.

Oftentimes, when transformations fail or neglect to deliver the expected results, it's a surprise to the organization. In some extreme cases, the negative impact on operations wasn't expected or planned for, and it causes major operational disruptions. The key is understanding why disruptions happen and ultimately deploying KPIs throughout the journey as well as post-project to keep everything on track from start to finish.

The end goal is to ensure that the implementation is on time and budget and also minimizes operational disruption and maximizes potential business value. Here is a list of metrics to keep a gauge on that will help you do just that.

IMPLEMENTATION TIME AND COST

The first, and probably most obvious KPI is overall implementation cost and timing. There are some key questions that may need to be answered before beginning implementations, such as:

- Are we hitting the milestones of the company?
- Are we going to go-live with new technologies on time?

The key to mitigating any risk of overruns on budget and time is to install strong governance and track the process. It is important to establish limits on time and budget by truly mapping the entire project. A lot of organizations don't consider the magnitude of different work streams and budgetary line items within the project plan and strategy.

OPERATIONAL READINESS

Assuming the business processes and requirements in the future state are defined, there should be a measurement system to quantify success and identify any breakdowns in the business operations. Consider user acceptance testing and conference room pilots. It is important to think beyond how the technology functions and address the full business processes through the different scenarios.

During the testing of different scenarios and while running through business simulations, certain things are going to work fine, and others are going to fail or create problems along the way. Operational readiness is an important part of understanding how well the business processes and the technologies are aligned before go-live.

ORGANIZATIONAL READINESS

Similar to operational readiness, it is also important to measure organizational readiness. How ready are the people within the organization and how will changes affect them? Like operational readiness, there is a need to quantify how close the company is getting in terms of where we expect people to be before go-live. This could manifest in several different ways.

One example might be to go through scenarios with user acceptance, testing, and pilots. It is key to measure how well people understand those business processes. In other words, the business processes and the systems may work from a technical perspective, but do the people understand how those processes work? It is essential to demonstrate some level of competency in performing those processes within the new system.

It's critical to measure what percentage of the organization has been fully trained on the different modules and what percentage has demonstrated the competency to perform end-to-end business processes.

BUSINESS VALUE AND ROI

The next performance metric to look at is business value and ROI, or return on investment. These expected business benefits are important to understand.

Before we get there, let's back up and point out that it's also essential to measure operational risk. What happens if, during go-live, not only are the expected business benefits not achieved, but basic operations are also disruptive? What is the magnitude of that risk?

This is something we hope that we don't have to measure, but there is a need to identify and quantify the level of tolerance. One example is not being able to ship product or process transactions. If the product can't be shipped for a certain amount of time, is that an acceptable delay?

If you do everything right during the transformation and are following best practices throughout the transformation, this becomes less of an issue.

It is important to be thinking about how to maximize business value and get the full ROI out of the system or systems. An organization can quantify measures around what is expected.

It could be inventory levels, optimizing inventory through better planning to reduce inventory by a certain percentage, or it could be that we are to increase revenue by X% due to new sales enablement tools.

All these are examples of things that might drive revenue enhancements. The question then becomes what do we expect the revenue enhancements to be?

TOP 10
CLOUD AND HOSTING SOLUTIONS

METHODOLOGY FOR RANKING THE TOP CLOUD AND HOSTING SOLUTIONS FOR 2023

When searching for the best cloud service provider, it can be overwhelming. There are a lot of options on the market, and finding the one that's right for you can be a challenge. This list has been curated based on the following considerations:

- Size
- Scalability
- Cost
- Reliability
- Market share
- Global presence
- Ease of integration

This top 10 list is based on a global market. There are some vendors not discussed in this report that are still great options, so be sure to do your own due diligence. Even so, this list will enable you to better sift through the options and find the best fit for your organization.

#10 MINDSPHERE

This is a cloud services provider that focuses on the Internet of Things, specifically automation of shop floor and other manufacturing functionalities. They're a big player in industry 4.0 since they specialize in pulling together disparate sets of data, allowing for a more efficient and streamlined process flow. If you have robotics on the shop floor or an MES system that you're trying to tie back to your data center, this could be a great option.

#9 VMWARE

vmware

VMWare is a technology-agnostic hosting provider. Leveraging VMWare can be beneficial for organizations that have various best-of-breed solutions. In addition, this solution can handle multitenancy very well. On the other hand, it can be a bit more complex to set up. However, it's relatively easy to use once it's live and ready to go.

#8 RACKSPACE CLOUD

rackspace

Rackspace Cloud has been a pioneer when it comes to providing cloud solutions, and as a result, they have a more mature foundation in the cloud than some competitors. Rackspace can support a broad and diverse set of software solutions, and it can host a variety of different technologies. Additionally, customers have been generally pleased with their service and particularly their general reliability. On the other hand, the costs for add-ons can add up, leading to a more expensive solution.

#7 SALESFORCE

salesforce

Salesforce is known for its CRM software, but it is also a cloud solutions provider to other software companies as well. Salesforce is flexible, enabling unique functionalities depending on your needs. It's also able to integrate with countless other solutions. In addition, it is also a cloud native product, meaning it is a bit more mature than other on-premise solutions that are migrating to the cloud. The downside? Technical support. The Salesforce support team isn't as great as it can be, so as long as you are aware of that, this could be a great solution.

#6 ORACLE

Oracle is a provider of enterprise applications and databases, but it also provides cloud solutions for companies that want to move their softwares to the cloud. This is a very scalable option due to a heavy investment in it's cloud infrastructure. With a focus in research and development, it is able to offer high-quality solutions with a strong uptime.

Another unique advantage of Oracle is that the company is focused on analytics and providing business intelligence. The Oracle cloud infrastructure can accommodate various analytical data points, allowing businesses to make better, data-driven decisions. On the downside, the pricing model is fairly complex with hidden costs that escalate over time, and the integration is not entirely seamless.

#5 IBM CLOUD

IBM Cloud's enterprise tools and business analysis tools are very strong, which arguably makes the company a leader in the industry. Since IBM was historically a hardware company, it has a very well-built infrastructure that can support efficient storage and capability. One of the most important elements of IBM Cloud is that you are getting secure uptime. Their cybersecurity protocols are strong, and that is incredibly important in today's digital landscape.

#4 ALIBABA CLOUD

Alibaba is a large cloud service provider that provides a high-value free trial. This allows businesses to test out the solution to get a feel of the user interface and different capabilities before making the commitment.

They also have a multinational support team with representatives that speak various languages, so it's an international solution that can enable growth on a global scale. This is also beneficial for multinational organizations with global locations. Beyond that, Alibaba Cloud is infamous for its resources, with an extensive library of tutorials and trainings that can walk users through how to optimize their solutions. That is likely because there is a steep learning curve in understanding how to manage the solution. Note that management of this console requires knowledge and experience in coding.

#3 GOOGLE CLOUD

Google provides robust, open cloud hosting solutions. Its open and flexible use of technology allows for integration with various types of software solutions. Their data analytics and business intelligence functionalities are also very strong, in addition to the user-friendly attributes that come with them.

On the other side of the coin, it's important to recognize that they have a less extensive portfolio and a smaller market share. They're known to have a lower level of support when compared to other solutions in the market. Similar to Alibaba Cloud, they offer a free trial as well.

#2 MICROSOFT AZURE

Microsoft has become a dominant player in the cloud-managed service space. Third-party systems use Microsoft Azure as a cloud hosting solution, just as they can do with Oracle and SalesForce. As with all Microsoft products, one of the biggest benefits is the ease of use due to the familiar Microsoft user interface. In addition that, they have an impressive uptime of 99.95%.

This is also a helpful solution when expecting to scale because its offerings can support and scale with your growth plans. Beyond that, it provides strong cybersecurity and the ability to pay as you use rather than paying for solutions you don't necessarily need.

On the flip side, Microsoft doesn't enable diversification of where you host your applications. Rather, they push to be the exclusive cloud-managing service.

#1 AMAZON WEB SERVICES

Amazon's scale is the allure. AWS is the largest cloud provider in the world, and as a result it's a global company that supports other global organizations. Amazon also uses cutting-edge and innovative technologies along with ample training materials to help users learn the system with ease.

The biggest disadvantages are the add-on solutions that can add up and increase the cost over time. In addition, they do not provide a wide variety of SaaS support. They tend to focus on a smaller number of potential solutions.

TOP DIGITAL TRANSFORMATION FAILURES OF ALL TIME:
SELECTED BY AN ERP EXPERT WITNESS

Throughout the history of digital transformation and ERP projects, there have been a lot of failures. Let's explore the top 10 biggest ERP failures of all time and what we can learn from them.

Our Founder and CEO, Eric Kimberling, often serves as an expert witness in ERP and business technology lawsuits. Many of the failed projects below involve lawsuits, and Eric was actually involved in some of the cases as an expert witness.

All the information discussed below is public, and we're not sharing any confidential information that we may have gathered from the lawsuits as expert witnesses.

Here are the top 10 biggest ERP failures of all time.

10 HARIBO

Many were saddened when Haribo gummy bears were largely unavailable for a period of time in 2018. The reason? Their SAP implementation fell flat. The general gist and summary of what happened here is that the company spent hundreds of millions of dollars trying to implement SAP in 2018. They finally – well, sort of – implemented SAP.

Haribo immediately ran into supply chain problems. They couldn't track where their inventory was, they couldn't track raw materials, and they couldn't get the inventory to stores in time. As a result, their sales dropped roughly 25% shortly after the transformation. All of these problems are enough to land Haribo at number 10 on our list.

9 WASHINGTON COMMUNITY COLLEGE

This organization tried to implement PeopleSoft in 2012. They hired Cyber to help implement the product. The tricky and unfortunate part of this project is that Cyber is filed for bankruptcy and went out of business at the time of the implementation. The college was left holding the bag, which wasn't pretty.

Once Cyber went out of business, it was acquired by a company called the HDC, which resumed the project, but they eventually canceled the project. Keep in mind, this is HDC the vendor, that canceled the project, not the college. They then sued the college for $13 million saying that the reason that the project failed was because they had internal dysfunctions that couldn't be overcome.

8 HEWLETT PACKARD

Hewlett Packard spent $160 million on its ERP project. The damages to the company that they claim were caused as a result of the failed implementation were nearly five times that amount. Not quite the ROI they were looking for.

The CIO of HP at that time said, "We had a series of small problems, none of which individually would have been too much to handle." Together, they created the perfect storm. This certainly was enough to land Hewlett Packard on our list of top ERP failures of all time.

7 WASTE MANAGEMENT

Coming in at number seven is Waste Management, another company that tried to implement SAP to no avail. Waste Management spent around $100 million on this project, according to public records, and it ultimately failed. SAP had promised that Waste Management would get annual benefits somewhere in the neighborhood of $100 to $200 million per year.

However, those business benefits never materialized and resulted in a failure on the part of Waste Management. Their main argument in the ERP lawsuit was that SAP failed to demonstrate the product they contractually agreed to purchase.

6 HERSHEY'S

Hershey's tried to implement SAP, and they spent quite a bit of money on their implementation. What they found at the time of their go live is that they were incapable of processing roughly $100 million of orders for Hershey's Kisses and Jolly Ranchers. They tried to implement SAP in an unreasonably short period of time during an unreasonably busy season. Unrealistic expectations caused the first domino to fall, which led to a lot of other problems later on throughout the implementation.

Note to self - don't plan go-live during Halloween season if you are a candy company.

5 MILLER COORS

Coming in at number five on our list is Miller Coors, the beer company. They started their SAP implementation in 2013 and spent roughly $100 million on the project. As a result of the implementation, they sued their system integrator, HCL. In this case, Coors was trying to recover the losses resulting from this SAP implementation.

To add insult to injury, HCL's public response to the lawsuit was a bit flippant. Their reaction was that it was just one client and that they had several other reference clients available for every one client that had something bad to say about them.

4 REVLON

Coming in at number four is Revlon, the consumer product company. The interesting thing about this project is that they announced everything in a financial filing. That's how the news of the failure broke to the markets, and the markets did not respond well. Their stock dropped about 6.9% the day after that filing announced that their SAP project had failed.

To paraphrase some of what they said in that filing, they first went live with one of their manufacturing plants in North Carolina. The minute they went live, they weren't able to ship product, they lost customer orders, and they lost visibility to their supply chain.

This essentially brought that plant to its knees and it wasn't able to manufacture, distribute, or sell products anymore, at least in the short term.

Because of some of those challenges, they had to expedite shipments. As they were tracking orders, and as customers were complaining about late orders, they were spending a lot of money expediting shipments for their customers.

Another noteworthy aspect and contributing factor to this failure is that at the time they were implementing SAP, they had just recently acquired the company Elizabeth Arden. They were trying to figure out how they were going to integrate that company into the core Revlon operations at the same time that they were trying to implement SAP. Sounds like they had a lot going on, and the ball was dropped.

3 NIKE

Number three on our list is Nike, the well-known consumer product company. They spent $400 million to upgrade their ERP systems. Spoiler, it didn't go so well. The company had to take a loss of around $100 million.

The stock price dropped by around 20%, according to one outlet that we reviewed in preparing for this case, and the company had to invest another five years and another $400 million to get the project on track and successful. From the outside looking in and what we see in the public forums, the project got back on track, and they're now getting value out of their ERP system.

Now the big question here is, did they need to spend that much money? Was it worth the heartache? Could they have done it better? Could they have optimized their process through this transformation? These end results are enough to land Nike at number three.

2 NATIONAL GRID

The reason we can say with certainty that National Grid failed is because of the results that they publicly announced, and it was widely reported in the media. National Grid had to spend $100 million in services to support the implementation after the fact. After they went live, they spent another $100 million just supporting and stabilizing the system as it was rolled out.

They also had two system integrators, one of which was Wipro, and they ended up filing a lawsuit against Wipro. They also brought in Ernst & Young, a second, expensive system integrator to help support the implementation because it wasn't going well with Wipro. By the end of the project, the company had spent $30 million a month just to support the project while trying to get the product up and running.

1 UNITED STATEDS NAVY

This US military branch that spent over a billion dollars on its ERP implementation lands the number one spot. They had three big system integrators helping: IBM, Lloyd, and EDS, according to the GAO report, which is a regulatory company that looks at accountability and oversight for the government. They put out a report saying that there were still no material improvements to the organization as a result of this billion-dollar project.

The other interesting fact is that they had reduced the scope of the project to exclude their entire supply chain, only to focus on the financial component of their business. In other words, they cut from their scope the whole shipyard inventory management piece of it. Despite cutting this scope significantly, they still spent over a billion dollars and still had trouble with the project, which also affected 90,000 employees. These 90,000 employees were stuck trying to deal with this new system that apparently didn't deliver a lot of value to the organization.

LESSONS
FROM AN EXPERT WITNESS

These lessons are meant to share learnings from ERP failure. By examining these extreme "train wreck" situations, we can learn what not to do, which is just as important as learning what you need to do.

ERP failure typically isn't due to "broken" software.

Lawsuits often allege that software "doesn't work." We find that technology typically works – though, to be fair, sometimes it doesn't – but the more common issue is either a) the software was broken due to customizations, and/or b) the software works from a technical perspective but doesn't fit the client's business needs. That leads to some deeper root causes that are more likely to be an issue than the technology itself.

There is no clear correlation between ERP software vendor and ERP failure rates.

With highly publicized situations like the SAP failure and implementation challenges at other high-profile companies, some might think that SAP failures are more common than others. But, we have found that any of the top ERP systems are just as likely to succeed or fail. It typically has less to do with the technology itself and more to do with the way that technology is implemented. The odds of success versus failure are generally the same – regardless of which specific technology you might be deploying.

Companies without a clear vision and business requirements for their ERP implementations are much more likely to fail than others.

It's easy to get excited for a new software transformation and jump right in without a clear vision or plan. It is also tempting to defer to "vanilla ERP software" and "best practices," but companies that do so are much more likely to struggle with their implementations. The ones that are most successful are those that take control of their project and let their business drive their transformations rather than the other way around.

Organizational change management is the most common root cause of ERP failure.

Change management – or lack thereof – is the most common pattern we see with ERP failures. Effective change management strategies go well beyond training and communication and extend into high-value activities like change impact, strategic alignment, and other things that are more likely to contribute to success or failure. Organizations with ERP failures tend to overinvest in the technological aspects of their transformations while underinvesting in critical human and operational components such as organizational change management.

ABOUT THIRD STAGE CONSULTING

Founded by industry thought leader Eric Kimberling and supported by the industry's brightest strategic consultants, Third Stage brings our clients an unparalleled wealth of experience and thought leadership. Comprised of senior business and technology advisors, project managers, process engineers and change innovators, our team has led some of the most complex and well-known technology initiatives over the past 20+ years. With offices in the US, Europe, Africa, and Australia, Third Stage's team serves a diverse client base across the globe.

Our consulting approach and methodologies stem from the core objective of improving businesses' operational efficiencies and profitability through optimizing the use of technology. Technology, in one way or another, influences every single aspect of business today. With the immense amount of technologies available, it is rarely easy to determine the best technology strategy. Expertise is needed to help determine when, where and how to implement new systems, to make use of emerging technologies and to map technology investment to a positive ROI. This is where Third Stage Consulting thrives.

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