

THE 2025
**DIGITAL
TRANSFORMATION
REPORT**



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As per OECD, the revised 2025 target for world GDP growth (as per their outlook in Sep 2024) is expected to be

3.2%

similar levels as 2024.

While the world-wide monetary policies easing would drive some growth, the uncertainty would likely continue throughout the year – with slightly higher growth in the second half of 2025. With quarterly sales growth, as confidence returns back in the economy, most CFOs are likely to take a measured approach to long-term investments. Therefore, the activity levels of digital transformation initiatives in 2025 would still be slower – but slightly higher than 2024.

The major variable driving the activity level upwards would be AI-driven initiatives (as well as taking advantage of the next macroeconomic cycle peak), especially among tech companies that are projected to invest substantially in it. The private equity and venture investments will continue to move to AI-focused companies, making it harder for other industries to have the same level of attention. Also, it might take a while for other industries to understand the true business value of AI-driven innovations – and hence the investments are likely to be in the R&D and infrastructure technologies.

The major beneficiary of AI applications in the near term would be enterprise software companies investing in AI-agents and AI workflows/governance technologies. Among various flavors of technologies, cloud versions would be strategically selected to be upgraded with AI technologies (leaving their on-prem peers behind), making it easier for enterprise software vendors to make a case for cloud.

The AI-driven opportunities would also drive the need for superior infrastructure, accelerating innovation in hardware and quantum computing. Fearing its misuse would trigger governments to introduce regulations, increasing compliance and reporting requirements for both software publishers and consumers – creating the need for newer capabilities and changing existing ones. Yet in 2025 we might barely observe initial use cases of AI applications with early adopters driving some business growth while other companies remain bystanders. The customer experience and front office technologies would likely be the first category to take advantage of AI-agents, providing a competitive edge for companies investing early.



The other factors likely driving an impact on digital transformation initiatives are geopolitical issues, triggering countries to control monetary and information flow, and driving changes in architectural patterns. The geopolitical tensions would lead to shifted supply chain bases, with industrial companies moving their supplier bases to countries with lower geopolitical exposure and risks.

The e-invoicing and sustainability space would continue to evolve and most enterprise vendors would attempt to tap into the opportunities, creating substantial overlap in capabilities across enterprise software categories. It might take a while before companies understand and agree on the formalized architectural best practices for these capabilities.

Just like 2024, enterprise software would continue to be in the consolidation phase in 2025 (with most struggling to justify their price tags). This would drive sudden and unexpected changes in price variables of cloud technologies, driving major unexpected costs for companies. Rethinking their current cloud spend, they may decide to move their installations to newer enterprise software vendors. The consolidation would also cause architectural overlaps, making it challenging for companies to identify relevant technologies driving tangible business outcomes and realizing material returns.

Overall, 2025 is likely to be full of ups and downs – similar to 2024 – and the investments with transformation initiatives would be closely scrutinized. To be successful with your business cases, we recommend a phased approach starting with smaller investment in the research phase. This phase helps with business process architecture or current enterprise software spend review – with the help of an independent digital transformation consulting firm. This will help your finance peers build cash flow models to help track – without assuming unwarranted financial risks.

We have compiled this report, after interviewing and surveying more than 200 executives just like you, to help provide qualitative and quantitative metrics. Additionally, this report will provide insights into leading options for most enterprise software categories. Finally, it contains major topics relevant to planning major digital transformation initiatives (for companies in most industries and geographies). While the major beneficiaries of this report are companies undertaking digital transformation initiatives (using enterprise software categories), this report would also be helpful for enterprise software product organizations in planning their R&D investments (and commercialization strategies).

The report is prepared completely independently without any influence or compensation (monetary or non-monetary) from enterprise software vendors. We encourage executives to perform their own research and augment these benchmarks – to plan their digital transformation initiatives and budget for 2025.



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Research Findings



1

Project planning

1. Implementation Time

- a. For SMBs with <\$1B in revenue (8-16 months)
- b. For large companies with >\$1B in revenue (32-60 months)

2. Recommended Implementation Cost to Plan

- a. For SMBs with <\$1B in revenue (3-5% of revenue)
- b. For large companies with >\$1B in revenue (2-3% of revenue)

Analysis: Since the costs could vary substantially based on your existing data and processes (and the complexity of your architecture), the cost metrics provided here are meant to be guidelines based on the historical spend of executives participating in this study. Also, since the cost metrics might not be as reliable due to their variations across industries, planning based on timeline metrics provided would be a better choice. Also, the increase of implementation time based on company size is correlated – but is not linear. The larger organizations have much longer timeline than smaller organizations due to the time synergies of reusable efforts – and the additional time required for each entity.

2

Project planning with a pre-selection phase of up to 3-12 months

1. Implementation Time

- a. For SMBs with <\$1B in revenue (4-12 months)
- b. For large companies with >\$1B in revenue (24-48 months)

Analysis: Phase 0 is often seen as the sunk cost by most executive teams. But the noticeable metric here would be the reduction in overall implementation timeline (due to the introduction of phase 0 while reducing the risk of your implementation dramatically). The overall project timeline may still be similar – with or without a strategy (and a selection) phase. But, their introduction reduces your risk significantly.

3

The variables that impact the cost and budget the most

- **High correlation**
 - Misalignment in scope (54-58%)
 - Unrealistic expectations (60-62%)
 - Excessive customizations (34-38%)
 - The number of systems and add-ons involved in the architecture (26-32%)
- **Low correlation**
 - Uncontrollable issues (20-22%)
 - The complexity of operations (10-15%)
 - Experience of leadership team with prior implementations (22-25%)

Analysis: The metrics with the most impact (on the cost and timeline) are interesting. The variables with the highest correlation are unrealistic timelines – and misalignment in scope. In fact, the unrealistic expectations variable seem to lead to more misalignment in scope, resulting in frustration among vendors (and core ERP team members). And this frustration will further lead to their attrition and increased training and onboarding time. They all have an impact on project schedule. The excessive customizations and add-ons also seem to drive the cost significantly. Surprisingly, uncontrollable issues and operations complexity didn't rank as high as commonly perceived.

4

The impact of your failed digital transformation?

1. **Operational disruptions** experienced post go-live (48-51%)
2. **Inability to go live** (28-32%)
3. **ERP re-implementation** due to substantial operational performance issues (17-22%)

Analysis: The operational disruptions post go-live scored the highest while analyzing digital transformation failure implications. Examples of operational disruptions included material disruptions such as the inability to send sales orders, the inability to create invoices for sales orders, significant issues with inventory, or the opportunities lost due to incorrect inventory on various channels. We have considered the only disruptions that will have material impact on operations. Also, surprisingly, the inability to go live scored very high, especially with projects that included heavy customization or add-ons.

5

The importance of Phase 0 and business process re-engineering

1. **Executives with less than two** ERP implementations (8-13%)
2. **Executives with more than two** ERP implementations (68-74%)

Analysis: We also noticed an interesting trend with executives who had more than two ERP implementations under their belt. The executives with less than two implementations or implementing for the first time didn't seem to appreciate the importance of Phase 0.

6

Confidence in ERP implementation being successful in working directly with technology vendors or in DIY mode

1. **Executives with less than two** ERP implementations (70-76%)
2. **Executives with more than two** ERP implementations (10-14%)

Analysis: Another trend we noticed that was interesting was with executives with less than two ERP implementations. They had higher confidence in working directly with technology vendors – or with a DIY mode. The executives with more than two ERP implementations were more conservative. They preferred to invest in Phase 0 with the help of an independent digital transformation and business process consultant.

Top Challenges Experienced by Transformation Champions and Stakeholders



1

Organizational Change Management

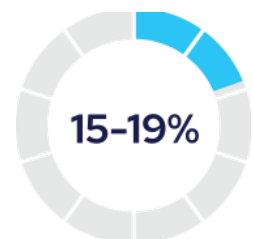
Issues with adoption due to poorly optimized architecture, systems, and workflows as per users' expectations. Fear of change due to past failures. Knee-jerk reactions because of a lack of expertise in decision-making. Inability to rationally and scientifically evaluate key architectural and business process decisions lacking subject-matter expertise. Fear of losing relevance in the organization due to automation. Distributed governance models with no clear consensus on the ownership of master data and its interactions.



2

Stakeholder Alignment

No clear alignment on the benefits of digital transformation. Premeditated architectural assumptions on "what works?" Inability to critically and scientifically evaluate proven architectural models than making decisions based on "gut check." Misalignment between IT and business teams. Executives with competing architectural and business process expectations. Political power struggle due to perceived loss of control with key functions.



3

Business Case Development

Limited experience in developing and championing realistic financial models. Inability to create a persuasive and compelling business case that balances both business and technical perspectives. Inability to build consensus while accommodating everyone's interests and shared objectives. Inexperience in capturing financial risks comprehensively and identifying technical mitigation plans.



There were other challenges identified but they didn't rank as high as the top three. Here they are:

4

Inability to execute on original vision

5

Clarity of business processes

6

Having a dedicated internal role to drive engagement

7

Organization culture

8

Having the expertise to design current and future states

9

Ability to set vision

10

Fear and budget

"Underestimating the scale of the project I would say is key, maybe as a result of an unclear scope [!] suppose!"

David Muldoon
Engineering Manager, Collective Arts



Top 15 Reasons for Digital Transformation Failures

While each stakeholder may have their own definition of failure, we define (for the purposes of this report) it as the alignment of expected business value to realized business value (including cost and timeline) from the initiatives.



1. Misalignment in Scope

Not investing enough time in the discovery phase and planning at the surface level. Ignoring the advice of technical vendors despite their recommendations about project complexity. Listening to salespeople with limited implementation experience who might “lowball” to get a foot in the door. Underestimating efforts involved with change management, data migration, and training. Not investing enough time to create comprehensive test scripts and strategy.

3. Inability to re-engineer processes aligned with the capabilities of new system architecture

Not enough experience in architecting business processes tailored to enterprise software categories. The lack of expertise in balancing usability issues, technical performance issues, and operational process implications. Inability to perform due diligence with existing processes and “perceived differentiators” that typically drive ad-hoc processes and custom solutions. The lack of ability to translate to-be vision into process maps and transactional workflows for everyone to be confident in the to-be state.

2. Unrealistic Expectations

Underestimating efforts involved with digital and business transformation initiatives. Asking technology vendors to find ways to “magically” reduce project efforts. Asking your team to deliver five months’ worth of work in two months without compromises on scope or budget, Setting unrealistic dates without clear alignment from all teams involved.

4. Over-customization of the software

A tendency to underestimate the amount of efforts involved with customizations. Developer-led transformations without involving business architects, solution architects, or project managers to evaluate alternative solutions. A tendency to choose customizations without fully exploiting enterprise software’s out-of-the-box capabilities. Choosing customizations over reengineering broken processes.

5. Usage of too many poorly written bolt-ons impacting operational performance

Trusting salespeople who might downplay add-on issues to win business. The tendency to treat add-ons as part of the core offerings. Inexperience in reading and understanding software contracts. Trusting references that might not require as many add-ons as your business. A tendency to believe that “APIs” and “No-code” will provide a magical answer to integration issues.

7. Lack of maturity of enterprise architecture

A thinking that enterprise architecture is only relevant for larger companies. Trusting that enterprise software packages cover defining enterprise architecture. Treating enterprise architecture as a technical issue and using OEM-provided templates to define your architecture. The tendency to downplay the importance of business, information, and process architecture. Inability to identify clear process boundaries for each system and their served function in the enterprise architecture.

9. Incorrect tools and technologies used are not designed for your industry

Following the “checklist” approach for enterprise software selection. The tendency to follow “binary” selection process: criteria as biased as “a system easier to customize” or “a system that is user-friendly,” which may have not have much bearing on implementation success (or adoption). The inability to perform a thorough gap analysis (and identifying critical success factors), leading to development and customization efforts. The tendency to listen to self-claimed “experts” without technical expertise to create solutions for each gap.

6. Organizational change management

The tendency to believe that change management is a solution to all poor product design and operational performance issues. Inexperience in performing the root cause analysis of the underlying reasons for organizational change management. Trusting change management companies that believe “change management” is all about the “touchy-feely” part of the transformation. Inability of change management consultants to work with technical and enterprise software implementation teams.

8. Poor governance of master data

The inability to understand the source of authority fundamentals. A misunderstanding that multiple sources of truth does not require identifying sources of truth. The inability to create a decision tree to resolve conflicts and reconcile across sources. Inability to understand implications of sharing master data across systems and operational implications because of shared master data.

10. Prior experience of the leadership team with successful digital transformation initiatives

Limited experience in hiring executives with successful business software implementations under their belt. Inability to understand the difference among different IT roles such as software development vs software implementation. Not balancing the right mix of skill sets internally as well as externally. Listening to unqualified resources that may have theoretical knowledge of business transformation implementation issues.



12. Poorly written test scripts and inability to create a framework for test compliance

Hiring test resources with limited educational background in accounting or supply chain. Recruiting software QA resources with limited ERP-centric implementation experience. Hiring business users with limited background with the SDLC processes and education in software engineering or information systems.

14. Not having a dedicated internal skilled project manager

Hiring interns for the project manager role. A thinking that the project manager role is about taking notes and scheduling meetings. Hiring a PM without accounting, supply chain, or information systems educational background. Hiring a software developer as the PM for enterprise projects. An assumption that the vendor-provided PM is enough to drive enterprise initiatives.

11. Ability to work with technology vendors to measure compliance with original vision and architecture

Inability to build rapport with technical teams and understand their issues. Inexperience in creating architectural models and pseudo code along with code reviews for technical teams to provide enough visibility through the process. The tendency to provide limited context to technical teams and not consider their feedback in the business process design. The tendency to let teams celebrate siloed cultural bias such as "IT vs OT."

13. Uncontrollable issues

Inability to foresee issues due to their limited experience with enterprise-scale implementations. Excuse of "flagging" skill set gaps as uncontrollable issues. Limited experience in identifying core issues and creating mitigation plans using technology or processes. The tendency to ignore uncontrollable issues despite being raised by technical teams and not funding POCs for further research and mitigation plans.

15. Treating digital transformation projects as a technical implementation project

The tendency to treat a digital transformation project as a technical initiative. Not involving business users from day one in solution and process design. Solving every issue with the technical mindset without considering operational and process implications. Not willing to make process changes to accommodate systems' constraints. A belief that shiniest technology or a system solves business process issues.

Top 15 Trends Driving Digital Transformation in 2025

Digital transformation trends help benchmark your digital maturity against your competitors, measuring obsolescence risk of your business model. Things such as how AI is likely to disrupt your industry. Should you be modernizing your current systems to capitalize on recent trends? The following list will help you understand the macro trends – and how they might impact on your current digital transformation plan and initiatives. Each year we forecast these trends through our research (and interviews) to help prepare for your digital transformation journey.



2025 Trends

1. AI-augmented agents and AI governance platforms

Struggling throughout 2025, most enterprise software companies would need to justify their price tags. How? AI agents baked within most enterprise software categories would likely be the immediate, price-justifying and revenue-generating opportunities. The agents would enable use cases such as customer service or “generative insights” from systems with complex interfaces. While AI agents are likely to be expert at specific tasks (just like humans), the agent-to-agent orchestration engines would enable complex workflows involving AI agents and humans (and in some cases, in a complete autonomous manner). Depending upon policies and regulations, we might see newer AI governance platforms introduced.

2. Chat-GPT induced revised search patterns and consumer behavior

ChatGPT would enable newer categories of search engines capable of multi-modal search, threatening Google’s market share. With newer search engines capturing some market share, Google would be forced to incorporate generative AI as part of its search workflows. This would also displace paid media as search engines figure out ways of monetizing ChatGPT-centric workflows. As a result, businesses would need to find new ways to optimize their content not only for paid channels but also for organic. Overall, this would lead to changed consumer behavior, driving changes to business processes – and enterprise software.

3. Continued consolidation of the enterprise software industry

2024 saw massive consolidation of enterprise software categories, which is likely to continue in 2025, with most categories becoming thicker, increasing overlap. The consolidation efforts would drive pricing and architectural changes for customers. Depending upon the strategy of the acquirer, displacing capabilities or sunseting the product completely isn’t uncommon. The implication of consolidation might lead to surprising pricing changes, driving unexpected upgrade projects.

4. Cloud/SaaS expense reduction and SaaS licensing price pressure

With most businesses struggling for cash, customers would seek expense reduction strategies in streamlining their SaaS spend – or cutting down on unused software. With impact on software vendors’ revenue because of cost reduction strategies (and buying environment challenging), their response is likely to be price increases. We have seen these increases with categories such as SmartSheet and ActiveCampaign with smaller changes in their pricing variables leading to substantial impact in the total customer payout. These trends will continue in 2025, especially with private equity buyouts.

5. Surge in M&A activities and deal flow

Given interest rate cuts and US administration changes, M&A activity will finally pick up in 2025. And since the M&A activity has tighter correlation with ERP and digital transformation initiatives, the digital transformation industry is likely to see more deals. Also, because of the slightly optimistic outlook, most software vendors will proportionally plan to invest with R&D dollars and innovation.

6. Continued reallocation of skill sets and their impact on business processes

AI is making several skillsets redundant, which is likely to continue in 2025 as we learn the effectiveness of AI use cases. AI would also require newer skill sets as AI governance platforms and AI agents become mainstream. These skillset changes would impact the traditional business processes, requiring reconfiguration of business process software, driving architectural changes and newer categories of software.

7. Geopolitical impact on business processes

With the risk of newer wars (and the existing wars intensifying), geopolitical struggle is likely to continue even in 2025. With most of the world's economies struggling (and cost of living substantially higher), along with most real estate markets being at unsustainable levels, newer, unforeseen supply chain issues will surface in 2025. Expect regulatory announcements and policy decisions to control information, currency, and monetary flow, driving changes to business processes, reporting, and enterprise architecture.

8. More disruptions caused by software supply chain and cybersecurity issues

With disruptions such as CrowdStrike, companies and governments are just understanding the issues software supply chains may cause. AI is going to make it easier for malicious actors to expose and exploit these vulnerabilities, driving policy changes to the software supply chain. These regulations might include regulating the accountability of open source software, driving price and architectural changes.

9. Collaborative partnerships and continued acquisition of networks producing data

With data being the main fuel for the effectiveness of artificial intelligence technologies, 2024 saw partnerships being forged even among rivals, with examples such as Salesforce and Workday collaborating. These partnerships will continue to be forged with the primary targets being networks producing data, for example Blue Yonder's acquisition of One Network Enterprises.

10. (No more) Breakup of large corporations and antitrust laws blocking large deals

The new US administration is not likely to scrutinize mega mergers as tightly as the current one, with deals such as Google acquiring HubSpot are likely to go through, along with no more speculation of breaking up larger corporations. Breaking of organizations such as Google would have had a substantial impact not only on front-end processes for most organizations but also on enterprise ones. This would drive further consolidations of large enterprise software companies, creating even more capabilities overlap.

11. Continued digital transformation failures and focus on enterprise architecture

The overlap driven by consolidation will lead to duplicate capabilities across enterprise software categories, making it extremely challenging for executives undertaking transformation initiatives. Companies such as SAP have already started pushing for enterprise architecture initiatives substantially to uncover and align overlapping capabilities. Other smaller vendors are likely to follow similar strategies. This will drive acquisitions for categories such as process mining, digital adoption platforms, and enterprise architecture visibility tools.

12. Energy-efficient algorithms and computing

AI capabilities are currently limited by infrastructure and energy sources. Because of this limitation, there will be substantial investment in data center energy technologies – and energy efficient algorithms. This trend might lead to the birth of newer models, which might be superior to current ones, offering much deeper capabilities.

13. Revised processes for sustainability and e-invoicing

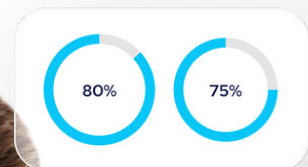
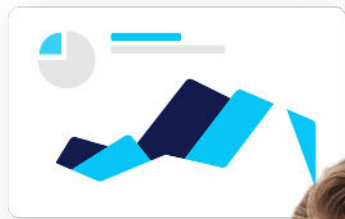
ESG and sustainability will continue to be the focus for most governments – and consumers. ESG and sustainability policy changes will drive reporting requirements, which most software vendors will prioritize to take advantage of newer trends. The ESG category is not settled just yet – with most solutions offering overlapping capabilities, competing for the same pie. The e-invoicing processes, on the other hand, would continue to evolve as governments maximize their tax revenue, driving changes to reporting requirements and architectural patterns.

14. OmniChannel, collaborative experience, and operational intelligence platforms

Companies ruling omnichannel (MACH ecosystem, real-time interactive experiences), collaborative experiences (SmartSheet, Monday.com, Airtable, ClickUp, and Notion), and operational intelligence platforms (Palantir) would continue to gain momentum and market share, as these experiences become mainstream, redefining these categories. Disrupted legacy companies such as Atlassian, Snowflake, legacy commerce vendors would catch up to these technologies.

15. Race to quantum technologies

AI is driving the need for superior infrastructure and compute, leading to expedited development of quantum technologies. While there are substantial risks associated with Quantum such as q-day or post-quantum cryptography, more developments and funding are likely with quantum previously seen. As a result, we might see newer technologies and categories evolve because of quantum technologies.

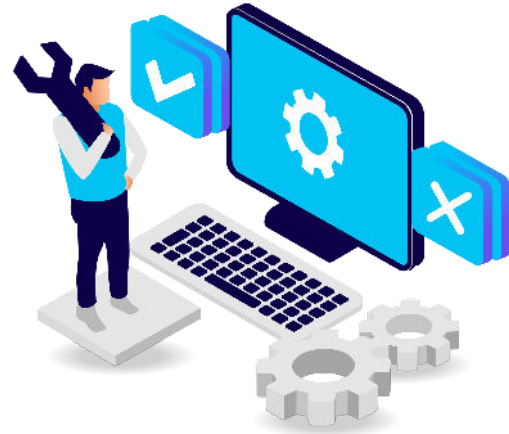


"Hire a 3rd party to help manage [Enterprise-wide Transformation], include a line item in your budget for this consultant."

Sarah Scudder
CMO, SourceDay

Top 10 Implications of Failed Digital Transformation in 2025

Most new executives underestimate the implications of failed digital transformation initiatives. Downplaying their importance, they might go live on a solution prematurely tested, only to learn the magnitude of damage caused, and later blaming “invisibility” as a major factor for such issues. The secret formula for success with digital transformation projects is discipline of everyone involved, without exceptions – even for executives. And without this chemistry working, get ready to face the following implications with failed digital transformation initiatives.



10 Lost Investment

The major cause for this issue is expectations misalignment. Underestimating the amount of expertise required, companies might take the path of enterprise software customizations, getting into the never-ending investment-sucking rabbit hole. Even after years of testing and development, the business users might not feel confident in going live on a system, losing all of their investments.

9 Inferior Customer Experience

Failed digital transformation initiatives might end up increasing overall cycle time for transactions, delivery times for customers, or stock-outs because of poor inventory management. The major cause is the misbelief that newer technologies will always provide a superior customer experience.

8 Cybersecurity and Data Loss

Not having a deep understanding of the code quality and the deployment infrastructure might lead to cybersecurity and data loss issues. This issue is especially common among enterprise software vendors that might not be deployed on mainstream cloud platforms, as well as without access to capital reserves to afford elite cybersecurity talent.

7 Key Employee Attrition

Most failed digital transformations lead to blame games. The disruptions typically lead to overworked employees in debugging and reconciliation, resulting in the attrition of key employees.

6 Lost Window of Opportunity

If the goal of digital transformation implementation is to help with timely opportunities. For example, capturing a market share before competitors penetrate, or trying a new channel before it becomes crowded, the failed digital transformation and its disruptions might lead to losing market share.

5 Brand Reputational Damage

Disruptions caused by digital transformation failures could be as severe as inability to process sales orders or cut invoices or unable to receive goods in warehouses. Companies that have an impact on their brand because of the ERP or CRM failure may be required to disclose them publicly, or the customers may report them on the social channels, causing negative connotations with brands permanently.

4

Lost Key Customers, Partners, or Vendors

The disruptions can lead to the loss of key customers, partners, or vendors. The new digital transformation implementation may not be aligned with the physical layout, which might pose challenges in keeping track of customer-allocated inventories, shipment delays, and customers' experience issues. These factors might collectively lead to customer (or vendor) relationship issues.

3

Regulatory Penalties and Lawsuits

Regulatory penalties are more common than you would think with digital transformation implementation. They would result because of integration or reconciliation issues between different systems, leading to misreported data, or missing timely filings. Lawsuits might ensue because of failed contract obligations.

2

Temporary Disruptions

Most digital transformation implementations will experience some levels of temporary disruptions, such as users getting locked down or inability to print forms. The issue could also be as severe as inability to send sales orders or close invoices. But most of these issues can be resolved quickly during hyper care.

1

Increased Permanent Work

It's not uncommon to see the total work increased for teams after a successful implementation because of over-engineered processes or rushed implementation. This generally leads to further disengagement from systems, causing cyclical issues.

"Do a thorough job of assessing digital transformation readiness, have a detailed transformation plan, and provide incentives for project team participation."

Dan Aldridge
Director, North American Operations, Merino Consulting Services



Top 20 Recommendations for Enterprise-wide Transformation Management

These recommendations are based on our 20+ years of research (and over 200 projects) where companies, in our experience, struggle with their business transformation initiatives. Our surveys and interviews with over 200+ executives further validate them. Following these recommendations will set you up for success with your business transformation journey.



1

Reassess Your Current Architecture and Systems

A new software would very rarely solve your business problems. Unless clear alignment exists with target operating model definition, new systems might simply produce bad results faster. Poorly planned initiatives might even cause operational disruptions. Redefining a vendor-agnostic architecture tailored to current operational constraints will lead to higher chances of success. Replace systems only when necessary after assessing your processes, data, systems, and architecture comprehensively.

2

Centralized Transformation, Change, and Budget Management

Enterprise transformation initiatives struggle to find a champion because of substantial risks and due to their limited short-term benefits. Forming a centralized digital transformation team and allocating corporate budget ensures enterprise-wide commitment, much needed for the success of these transformation initiatives. You also need to identify change opportunities that impact your current systems and processes, managing them centrally and defining a blueprint for each changeset after assessing their impact.

3

Compensation and KPI design

Have KPIs that are not only departmental but aligned with strategic priorities. Most corporations focus on short-term results, losing the sight of long term implications. Short term thinking leads to duplicated efforts across departments and information silos. These silos are typically counterproductive for the overall success and financial health of the organization.

4

Balance Macro, Micro, and User Perspectives

Most companies rarely approach these perspectives collectively – despite being equally important – often being narrowly focused on one ignoring others. Macro perspective focuses on macro financials, KPIs, and reporting, whereas micro cares for things such as inventory, project or product costing, or job profitability. Balancing the “accounting equation” is generally not sufficient to uncover issues at the micro-level. Sometimes two major micro issues counterbalance so much so that they might not be visible at the macro level. Each of these perspectives require careful analysis at all levels.

5

Focus on Building a Strong Foundation First

Most organizations are often lured by the mature capabilities such as AI or scheduling, often blindsiding them and unintentionally ignoring most basic capabilities such as Chart of Account mappings. Also, basic capabilities struggle in securing backers because of their perceived limited attractiveness in driving business results. But, believe it or not, even most catastrophic failures miss something super basic – as unfortunately building a mansion on a weak foundation is impossible. Focus on building a strong foundation first, the shiniest objects would fall in place automatically.

6

Don't Ask Your Technology Vendors to Define Your Enterprise Architecture

Enterprise Architecture is essentially your target operating model. While technology vendors (and their resellers) offer great technical (and product) expertise, their expertise is generally limited to tools in their portfolio. Their roles should start with defining downstream system architecture, inheriting other critical well-defined upstream architectural components such as business, process, and data architecture. Their involvement with upstream components would defeat the core purpose of them being defined in a technology- and vendor-agnostic fashion. Business process consultants with multi-system and multi-vendor expertise are perhaps most qualified for this activity.

7

Invest in Phase 0

The software development life cycle prescribes four critical phases of software implementation: requirement, design, test, and implementation. While not as detailed with enterprise software, they are not optional, especially the earlier phases would be fairly similar in both cases. The earlier phases might be even more critical with enterprise software implementations as their model is not as fluid as custom development with substantial constraints, which could be make-or-break for your implementation. And even if you could take shortcuts in somehow getting through the finish line, there would be challenges in meeting business objectives.

8

Build Enterprise Vocabulary and Data Dictionary

What ERP means to you might not mean to your peers. Also, this confusion is not just at the category level. Even minor misalignment in definitions – such as inventory, allocation, or phantom – could result in varied outcomes. Data is generally the major cause for process and system over-engineering. Building a data dictionary not only helps align the expectations of all parties but also helps select the right solutions (and vendors).

9

Re-engineer Your Processes and Data

Most legacy processes (and datasets) require a thorough review before considered to be transformation ready. Over time, due to the lack of governance and system-enabled controls, processes become so overengineered that they often get misassumed as “normal” business processes (and potentially misregarded as “business differentiators”). In reality, these are generally broken processes, often championed by stakeholders mentally not conditioned to change, driving overengineering and customization with new implementation, leading to failure and disruptions.

10

Implement a Framework for Decision-making and Conflict Resolution

Most companies feel that processes such as decision-making framework or project charter might not be necessary, ignoring to implement them. But as implementation progresses, overwhelming details might leave the whole team confused. This is where a well-developed and well-adopted framework can remove biases from decision-making, providing clarity.

11

Follow Structured Process for Documentation

Creating structured and scalable documentation that aligns stakeholders is challenging. This is especially the case with assumptions associated with meta information (ambiguous terms such as different interpretations of same terms such as projects or receipts). Instructions defining terms and detailing the context details improve clarity with communication, avoiding potential technical defects.

12

Don't be Fooled by Estimates And Methodologies from OEMs and Resellers

By design, standard implementation quotes and methodologies from OEMs and resellers assume your responsibility to be 90% of the work while theirs is just 10%. And they rarely touch the critical decision architecture, which is what sets the tone for results from such initiatives. They avoid taking this responsibility because of their fear of legal implications – and their software being blamed if those decisions fire back. They might brush off with a claim that you are better equipped with these decisions because of the superior understanding of your own business. But you will struggle with them as well because of your limited foresight with their implications.

13

Get Help from Independent ERP and Digital Transformation Consultants

Most executives go through at most 3-5 digital transformation initiatives in their careers. So designing the system (and processes) states based on this limited experience lacks sufficient sample size with architectural best practices and a foresight with the implications of these decisions. Unless you track the licensing and product nuances on a daily basis, most executives end up with dozens of disruptive blind spots during implementation and post go-live, missing on core transformation objectives while being slapped with substantial cost overruns. Hire subject-matter experts with decades of experience with such decisions (and their implications on several business models and transactions). Consultants too expensive? Hire them only for advisory.

"Separate design/strategy from implementation – and you need different sets of experts to help you achieve your outcome."

[Brent Perakoppi](#)
Vice President of Global Sourcing, Clarivate



14

Read Between the Lines

Most terminologies and checklists used in the sales phase by software vendors are so simplified that forecasting financial and technical risks embedded with software contracts becomes extremely challenging. If you can't hire experts to read contracts and design commitments, don't take anything at the face value. Most marketing claims are overstated, so the ability to read between the lines to truly understand the assumed financial and technical risks is a critical skill.

15

Don't be Fooled by Pre-baked Integrations

Pre-baked and productized integrations very rarely support your nuanced use cases, especially if your current data and processes deviate substantially from enterprise software vocabulary. What may come across as obvious might not be as obvious once you start testing (and using them). Plus, rarely used workflows – such as invoice edits or return processing – often end up causing a lot more headache as they don't get tested as rigorously. So don't forget to vet pre-baked integration flows thoroughly before committing to a contract.

16

Try to Reduce Code Ownership

With custom software, you might own 100% of the code – which might be 30% or lower, with enterprise software. This might include any customizations, home-grown integrations, or proprietary systems. While software development is perceived to be cheaper, owning and maintaining code over time requires economies of scale. So unless the custom code is part of your commercial offering, ownership will always be more expensive. So are there any components that are better suited for internal ownership? Yes, the components that frequently change such as EDI integration – or the ones requiring substantial manual inputs from business users during transaction processing. With the exception of these cases, other components can easily be bought at a much cheaper price from enterprise software vendors.

17

Invest in Master Data Governance

Most organizations end up reimplementing the same ERP system at least 2-3 times even within 5-10 years of the upgrade cycle. This happens primarily because of mismanaged master data. Poor master data management often leads to ad-hoc processes, adoption issues, and needs for external systems. Successful master data management requires clearly-defined roles and responsibilities of each system and their own interactions (as well as of different functions and departments). It also requires forming a centralized unit responsible for designing and maintaining master data compliance.

18

Be ready to “Kill Your Darlings”

Fragmented and siloed operations often lead to the birth of proprietary applications. These applications might make sense in a siloed and fragmented architecture – but not in the context of enterprise architecture. The legacy and proprietary applications might drive the customizations and additional unnecessary integration flows to accommodate their shortcomings. It might be cheaper to replace these proprietary systems and use components that might be pre-integrated with the new solution.

19

Don’t Take User Inputs at the Face Value

Business users – without formal training as business, data, or quality analysts – provide ambiguous inputs with critical assumptions, leading to substantial implementation issues in later phases. Enterprise software vendors, on the other hand, don’t have formal background (or clout) to challenge their assumptions, especially with candidates ideal for process- and data-reengineering. The lack of training also causes adoption issues because of their tendency to jump into solutioning – or hijack processes, which might have downstream implications. Involve them but don’t forget to probe the underlying intent for those needs.

20

Include Your Executives in “Therapy” Sessions

Unfortunately, digital transformation issues are so hardwired in longest-serving employers’ heads (and the ones with most clout with decision making). These executives generally also require the most amount of therapy – but their commitment is always a challenge because of their limited bandwidth. Skipped therapy sessions would cause their tendency to hijack processes or miss overarching context with decisions, leading to substantial issues with misalignment and consensus building, and teams simply following executives’ lead despite their therapy. The teams would also struggle to articulate their newly realized understanding because of the complexity of the subject, ending with group-think bias with heavy influence from “untreated” executives.

“Arrange ERP/Digital Transformation education for the C-Suite. And use the services of a genuinely independent who should not be part of the implementation phase and who therefore can afford to tell the truth.”

Sam Graham
ERP Blogger and Thought Leader



Top 10 Deliverables For Enterprise Digital Transformation Readiness In 2025

Digital transformation readiness is about comprehensive planning outlining the entire plan (blueprinting). Additionally, it includes identifying potential issues with the initial plan (process re-engineering), assessing financial feasibility (business case), and finally testing if the current resources can withstand new demand pressure (enterprise architecture plan).



The phases would differ depending on your current data (and processes) state – and the structure of prep and implementation phases segmentation. But even with a prep phase, a structured process is necessary, producing these most common deliverables, which will help stay on track without feeling lost in your journey.

1. Business and Strategic Plan

Creating a business and strategic plan is fundamental to your digital transformation readiness. It's essential because it not only drives the annual operating plan but also helps plan the volumetric capacity expectations from digital systems. Not ignoring this step will help set the tone and communicate the vision better.

2. Annual Operating Plan

Annual Operating Plan is a detailed forecasting and planning step, also outlining physical infrastructure growth. It uses a strategic plan as input and details a plan for each individual function. Without an annual operating plan, estimating the internal capacity, transaction volume, and KPIs would be a challenge, a critical step for your digital transformation readiness.

3. KPI-Role-Compensation Plan As-Is And To-Be

This step analyzes the impact of current compensation structure on KPIs and their influence on the behavior of each role, factors that drive resistance to change and decide the fate of your digital transformation. So mapping benefits with people's paychecks will set you up for success.

4. Role-Department-System Org Chart As-Is And To-Be

This step maps the role and department with the systems in both the as-is and to-be states. This is a crucial step both for change management as well as system architecture, as the to-be state requires analyzing teams' comfort level and their willingness to give up on their favorite (potentially overbloated) processes assumed as differentiators. This is perhaps the first step in building a consensus on the draft-to-be process state and architecture.

5. Business Case and Transformation Roadmap

This step is where the rubber meets the road. This step reviews each of these proposed initiatives, building a brief business case, phased priorities, and appropriate sequencing based on technical and financial feasibility. Once agreed on a specific path (and total spend), the following steps will build on the solution path identified – but considering alternatives is equally critical if the original solution falls short financial or technical feasibility.

6. Change Management Plan

The changes may have wider implications, requiring planning and communication. For example, if the to-be state requires a new SKU numbering scheme (or new configuration for license plates), communicating with customers along with aligning with packaging teams' schedule requires careful co-ordination and effective communication. Depending on the degree of changes and their implications, identify technically and financially feasible plans (and solutions).

7. Organizational Ledger Reconciliation Plan

Organizational ledger reconciliation requires tracking each datasets and their reconciliation workflows. For example, decisions such as the number of systems used in the architecture by building the reconciliation plan and estimating reconciliation costs. For example, if your team champions for an additional system, but the cost of reconciliation might be more than efficiencies gained by the system, then introducing an additional system might not be the wisest idea. The ledger reconciliation plan helps determine datasets requiring reconciliation, and their frequency and variances, driving the expected capacity of the finance department.

8. Master Data Governance and Reconciliation Plan

Just like an organizational ledger reconciliation plan covers the functional aspect of the account and inventory reconciliation workflows, master data governance is the technical aspect (at the definition or at the metadata level) of reconciliation. A master data reconciliation plan helps refine enterprise architecture, avoiding data quality issues such as duplicate data, data silos, and financial control.

9. Process Re-Engineering Plan

The process re-engineering plan documents re-engineering candidates in detail with their as-is and to-be workflows, including the migration plan for the new processes. Having a good process and re-engineering plan helps avoiding systems overengineering and identifying right critical success factors, which might make or break your system selection.

10. Enterprise Architecture Plan

The enterprise architecture plan documents the perspective of the technical teams to help align them with business teams. It also helps technical teams challenge the assumptions and demonstrate the technical and financial feasibility of the plan. Having a good enterprise architecture plan allows you to foresee technical issues that may not get uncovered with the siloed approach.

Deliverables For Enterprise Digital Transformation Readiness	Why It Matters	Essential Ingredients
1. Business And Strategic Plan	<ul style="list-style-type: none"> No destination? Keep wandering. Can't define the destination? No odds of getting there. Writing it down will help define the destination. 	<ul style="list-style-type: none"> Business model and SWOT analysis. Customer and supply chain journey mapping. Offerings and bundle strategies. Strategic goals, execution plan, and expected results. Financial Model.
2. Annual Operating Plan	<ul style="list-style-type: none"> Wishlists are great, but can you afford them? Helps firm up the strategic plan. Helps measure the outcome of transformation initiatives. 	<ul style="list-style-type: none"> Market, facility, site, product line, and warehouse expansion plan. Human resources plan. Digital transformation strategic plan. Expected transactional volume. KPIs and OKRs for measurement. Key planned activities and stakeholders mapping.
3. KPI-Role-Compensation Plan As-Is And To-Be	<ul style="list-style-type: none"> Let's face it. Needles won't move until compensation moves. Not willing to change the comp? Don't even bother making a change. Digital transformation initiatives are like financial markets. 	<ul style="list-style-type: none"> As-is compensation. Compensation-department-behavior mapping. As-is behavior and change impact analysis. To-be behavior and change impact analysis.
4. Role-Department-System Org Chart As-Is And To-Be	<ul style="list-style-type: none"> Role system mapping is like an org chart for systems. No org chart = pure chaos. Forms the foundation of change management. Helps each resource visualize why the change is necessary. 	<ul style="list-style-type: none"> Role and department mapping in the as-is and to-be plan. Communication plan on why org change is necessary. How each role would map, including the owner of each system and dataset. Process boundaries of each role and data interaction workflows.
5. Business Case And Transformation Roadmap	<ul style="list-style-type: none"> Helps eliminate "binary" vision and unqualified resources. Helps prioritize initiatives. Helps build a phased roadmap. 	<ul style="list-style-type: none"> ROI analysis of each initiative. Potential solutions and costs of each initiative. Buy vs. build vs. outsource analysis Internal staffing needs vs. outsourced capabilities map. KPIs and definition of success of each initiative.
6. Change Management Plan	<ul style="list-style-type: none"> Helps develop organization-wide language that everyone can understand and speak. Provides cross-functional visibility and implications. Documented agreement on current challenges. Helps differentiate tangibly executable initiatives. Alignment on the to-be changes and why users' contributions and commitment will make or break the initiative. 	<ul style="list-style-type: none"> Documentation of as-is workflows and process maps. Identified changes aligned with strategic priorities and business cases. Implications of changes on the business processes, roles, workflows, and the steps required to be successful. Documentation of key decisions, risks, and mitigation plans.
7. Organizational Ledger Reconciliation Plan	<ul style="list-style-type: none"> Helps define ownership of each dataset. Help avoid reconciliation nightmares. Helps understand the transactional integrity. Set the tone for enterprise architecture. 	<ul style="list-style-type: none"> Documented interactions of organizational ledgers. Documented impact on the financial or statistical ledgers. Documented data ownership and reconciliations models. Defined ownership of KPIs and data marts and their interaction workflows.
8. Master Data Governance And Reconciliation Plan	<ul style="list-style-type: none"> Helps understand the origins of each master data. Helps understand the master data augmentation journeys. Provides clear guidelines for the master data reconciliation plan. 	<ul style="list-style-type: none"> Master data to system mapping at the field level. Master data augmentation journey per system at the field level. Master data relationships change across journeys. Master data mapping to key use cases. Admin and approval flow, given the implications of each master data. Producer-to-MDM and MDM-Consumer Workflow mapping.
9. Process Re-Engineering Plan	<ul style="list-style-type: none"> Identified process re-engineering candidates to stay within budget. Impact of process engineering on the current process. Impact of process re-engineering on the customer-facing workflows. Impact on the product, branding, warehouses, facilities, and shop floors. 	<ul style="list-style-type: none"> Cutover and training plan for current users. Training plan and guides for the customer service and sales reps. Mock scripts to rehearse the process re-engineering scenarios. Framework to enforce readiness and learning. Communication and training plan for the customers, resellers, and partners.
10. Enterprise Architecture Plan	<ul style="list-style-type: none"> Helps align technical teams. Reassesses the business case. Identifies red flags. Sets the boundary of each system. Defines integration flows. Defines users to system interaction flows. 	<ul style="list-style-type: none"> Detailed documentation of data. Pseudo code for major business rules. Mapping of each interface. Documented requirement matrix. Documented quality plan. Documented release plan. Documented production planning. Detailed migration plan

Top 10 Roles for your Digital Transformation Project Team in 2025

Assembling your digital transformation team requires understanding of different roles and responsibilities during these initiatives. Not understanding the importance of each role leads to inexperienced resources overcommitting, without understanding of the consequences – and the level of disruptions their actions and decisions might cause. So take a close look at each of the roles and make sure you have the right crew who really know what they are doing.

“Getting someone to see the difference from a current state to a future state takes skill. You have to have the right people in the right places to drive effective change.”

James Harris
ERP Business Manager, Redmond



10. Change Management Consultant

The role of a change management consultant is to drive the entire change management process. It starts from identifying changes, creating a business case to justify changes, exploring several change initiatives, and finally implementing and monitoring them. Depending upon your budget, you might hire a dedicated change consultant – or work with an independent digital transformation consulting company that might bundle change management offering, along with their enterprise software selection, implementation, and integration expertise. Irrespective of the approach, change management is absolutely essential for the success of your technology initiatives. Due to the internal “power struggle,” the technical vendors and your internal teams will struggle with change management. So an external change management consultant is recommended.

9. Best-of-breed Apps and Add-on Experts

The role of best-of-breed apps (and add-on) experts is to provide functional and technical expertise of these add-on products. Most ERP or CRM consultants are unlikely to have depth with each add-on (or application). So you might need at least part time resources with their subject matter expertise with these apps. More apps in your architecture would require more skillsets. And more part time resources may lead to scheduling issues, driving the overall project costs.

8. Integration Consultants

Most ERP or CRM applications are generally massive – with thousands of tables and modules. The traditional digital transformation consultants are divided into two streams: functional and technical. Most technical consultants specialize in proprietary technologies and methodologies of that application. Also, most traditional ERP applications were not service-oriented architecture based. So ERP consultants didn't have as strong integration skills. The integration consultants specialize in API integrations, enterprise integration patterns, master data governance, and enterprise architecture. If you have multiple applications in your architecture, you will need specialized integration consultants.

7. Technical Consultants

Technical consultants are technical experts of specific applications. Each product may have its own technical specialists. For example, the technical consultants that focus on NetSuite might not have experience on Oracle Fusion Cloud, or vice versa. The technical consultants are also extremely weak with their functional knowledge, so they can't act as the functional consultant due to their limited knowledge. Their educational background would be in software engineering while the ERP functional consultants are likely to have accounting, industrial engineering, supply chain, or mechanical engineering degrees.

6. Functional Consultants

Functional consultants specialize in specific business domains. Larger products generally have more complex functional processes, requiring dozens of specialized consultants. For example, Smaller systems such as NetSuite or Acumatica may require only one functional consultants whereas systems as such as SAP S/4 HANA, Oracle ERP Cloud, and Microsoft Dynamics F&O may require several functional consultants, specializing in each functional area such as accounting, supply chain, manufacturing, sales, and etc.

5. Vendor- and Solution-agnostic Consultant/Enterprise Architect/Principal Functional Consultant

Just like you need an architecture for your home or kitchen, an architecture containing all of your applications and vendor software is equally important. Most of your internal functions (and vendors) are likely to create architecture from their perspective, often resulting in application silos, duplication of efforts, and overengineering of components – as well as, data issues. This is perhaps the most critical role of your project. Some independent digital transformation consultants might be able to include this role along with their change management expertise. But an external consultant is recommended for this role.

4. Internal Subject Matter Experts

These subject matter experts should be the focus of your implementations. Why? Because they need to drive the training and evangelize the change for their internal teams. It's critical that they appreciate and embrace the new platform. These are your internal operational users (such as supply chain managers, ops managers, sales managers) with most business processes depth. They provide crucial details – needed by business process owners – to make key decisions. Allocate at least 10-20% of their time for the entire project, involving them during the selection, process re-engineering, solution design, UAT, and training.

3. Internal Business Process Owners

These are your business process executives such as VP of Sales, VP of Ops, VP of Engineering, VP of Supply Chain, and VP of Finance who are responsible for making crucial decisions for their respective functions. They work in conjunction with subject matter experts and make decisions with a strategic perspective in mind. You will need their few hours allocated every week to be part of weekly demos and monthly steering committee meetings. Along with any detailed meetings that may require their inputs for the to-be state.

2. Program Manager

The program manager is perhaps the second most critical role for your transformation, the ideal candidates being controllers, VP of Finance, or CFOs – and sometimes CEOs for smaller organizations. This person is responsible for driving the project while keeping the project under budget and on-time. This person must be comfortable negotiating with – and resolving conflicts among – business process owners. Depending upon the size of the organization, allocate either full time or 50% to ensure he/she is not the bottleneck for the project.

1. Program Sponsor

The program sponsor is either the CFO, COO, or CEO, depending upon the size of the organization. The role of the sponsor is to set the vision for the program, provide resources, set KPIs to measure success, helping business process owners make key strategic decisions. Their role is not making decisions for them – but ensuring consistent decision-making aligned with the original vision and equal representation of all functions in the architecture. The program sponsor must participate in the monthly steering committee meetings, requiring a few hours of their time each month.

"The alignment and laminar flow of information and decision-making in both human and digital structures of intelligence. (When torquing digital bolts into human hex nuts, be very sure the threads align, before applying significant pressure.)"

Tom Pierce
President, I2S



Role	Served By	Capabilities/ Responsibilities	Meeting Presence	Involvement	Capacity	Internal/ External
Program Sponsor + Steering Committee	Executives including CEO, CFO, CIO, COO, etc. Most cross-functional executives impacted by this initiative	Set and control the overall direction of the project, approve scope, provide resources, align stakeholders, and resolve conflicts	Only steering	Strategy to post-implementation	3-4 hours per month	Internal
Program Manager + Principal System Administrator	Controllers, VP of Finance, CFOs, and sometimes the CEOs for smaller organizations	Own the overall project, coordinate with internal resources. Invite resources when conflicts arise. Report risks, plans, budget and milestones to the steering committee to seek their inputs when needed	All	Strategy to post-implementation	25-50%	Internal or External
Business Process Owners	VP of Sales, VP of Ops, VP of Engineering, VP of Supply Chain, and VP of Finance	Make crucial decisions for their respective functions. Own the to-be state.	Weekly progress + Steering	Strategy to post-implementation	10-15%	Internal
Subject Matter Experts	Supply Chain Managers, Ops Managers, and Sales Managers	Know most about the as-is state. Help business process owners to vet the feasibility of to-be state. Forecast adoption and operational risks with the planned to-be state.	Weekly progress	Strategy to post-implementation	25-30%	Internal
Vendor- And Solution-Agnostic Digital Transformation Consultant/ Enterprise Architect/ Principal Functional Consultants	Business transformation advisors with multi-system and solution expertise with equal depth in business and technology and hands-on experience with several ERP implementation projects	Own the overall framework and solution including functional and technical blueprints, testing strategy, change management schedule, roll out strategy. Coach and help executives make strategic decisions.	All	Strategy to post-implementation	25-30%	External
Functional Consultants	Functional ERP experts. ERP Product Consultants	Consults on specific functions within the solution or domain. Helps the principal consultant with product research and making decisions.	Weekly progress	Min involvement during selection. More during implementation	25-50%	External
Technical Consultants	Technical ERP experts. Enterprise Software Product Consultants	Consults on specific technical aspects of the ERP, within the ERP solution. Helps the principal consultant with the product research and making decisions.	Weekly progress	Min involvement during selection. More during implementation	10-25%, depending upon level of customization needed	External
Integration Consultants	Integration consultants, specializing in integration code and technologies, experts on multiple technologies	Consult on integration, master data governance issues, EDI communication, enterprise architecture, and enterprise integration patterns	Weekly progress	Min involvement during selection. More during implementation	10-25%, depending upon level of integration needed	Internal or External
Best-Of-Breed Apps And Add-On Experts	App or add-ons experts, functional or technical, primarily product consultants specializing on their products	Consults on specific technical or functional aspects of the add-on, within the ERP solution. Helps the principal consultant with the product research and making decisions.	Weekly progress	Min involvement during selection. More during implementation	10-25%, depending upon level of integration needed	External
Change Management Consultant	Business transformation advisors with ERP data model and business process expertise.	Drives the entire change management process including digital and physical, communication and training strategy.	Weekly progress	Strategy to post-implementation	10-15%	External

Top 10 Business Transformation Maturity in 2025

Getting the hang of the business transformation implementation process takes time. Just like earning a PhD as soon as you enter school is impossible, achieving the highest business transformation maturity on the first try is unrealistic. In fact, aiming for that may fire back – as the success of your business transformation implementation would depend upon finding the right tools designed for your business transformation maturity stage.

In general, the first-time ERP or CRM implementation is likely to be immature, with very little process integration and resulting substantial manual overlaps (and admin efforts) across departments (and ledgers). Believe it or not, these implementations might sometimes increase the overall workload, without any tangible business outcomes, discouraging first-time executives

TOP 10 Business Transformation Maturity Stages in 2025



Sometimes the ERP or CRM requirements might be driven by the customers. In such cases, the front end typically takes priority over backend operations. But these implementation projects still have process and integration issues, creating planning siloes. As they advance with their backend processes, the 3rd and 4th business transformation maturity stage is when they start experiencing material financial improvement from their operations. This is also where they would get true business agility. And the benefits of this agility? They can easily experiment with newer offerings and business models, allowing them to scale linearly. How about the overarching benefits? Gaining faster business transformation maturity allows companies to grow rapidly.

0

Outsourced Accounting / Operations

This is perhaps the business transformation maturity stage of most startups where they would be working with an outsourced accounting or a 3PL firm (to manage their books and logistics). They might use siloed systems to help with their operational processes, such as inventory, project management, and manufacturing. But at this stage, limited integration at the data model level exists – with most datasets using text-based descriptions, causing substantial data and process integrity issues, as well as connecting and correlating data extremely challenging.

1

Assumed Cross-Functional Integration

Once they outgrow the first business transformation maturity stage, they can no longer rely on outsourced firms. But why? Because of the limited control or visibility, as well as increased operational costs. At this stage, the companies in the product industries are in the range of \$5M-\$30 in revenue (this range might be slightly higher for service-centric industries). The only difference between stage 0 and stage 1 is that the outsourced capabilities might be managed internally in siloed CRM or SaaS software, with multiple instances being managed for each department with a substantial number of data silos across operations.

2

Transactional

With the growth of each department, the companies would struggle to grow (or might run into financial performance challenges) past \$30M point. But why? Due to the increased operational overhead and marginal admin costs. And they would need to consolidate their processes and systems while keeping at least the main transactions (sales, purchase, and job orders) inside a limited number of ERP or CRM systems. The companies in this maturity stage are generally between \$30M-\$100M in revenue for product-centric industries – and higher for service-centric ones.



3

Automated Customer And Vendor Communication

Once they hit this stage, the transactional stage may not be enough with the growing transaction volume and increased process overhead. At this stage, multiple ERP or CRM systems are present at different warehouses and sites, with the role of ERP or CRM still very transactional in nature, with the majority of mature processes such as scheduling, planning, and costing happening outside of the transactional systems or through ad-hoc adjustments. The consolidation is primarily done using GL entries either inside the ERP system or using an FP&A tool or inside an enterprise data warehouse. Significant manual reconciliation exists across the processes, but with automated communication using punchouts, EDI, eCommerce, or workflow automation technologies.

4

Department-Level Planning

While the customer and experience-driven requirements would take priority, the transactional nature of the processes and ad-hoc planning may lead to financial performance issues at this stage. And they will require teams to rethink their planning and scheduling processes. The increased workload and the pressure to hit KPIs from executive teams may lead departments to host their planning and scheduling processes inside centralized systems. Multiple ERP or CRM systems may be present at different warehouses and sites, as well as operating in silos, with no centralized planning or optimization.

5

Site-Level Planning

At this stage, the department-level planning will lead to significant outgrowth of the finance and IT department, due to the reconciliation efforts among various ledgers because of the disconnected systems and processes. These issues will force executive teams to cross-functionally align teams – or hire executive teams experienced in aligning teams (and with several transactional system implementations under their belt). While executives may be convinced with the site-level centralized planning, they might not foresee the value in global planning and finding synergies across geographies. So there might still be multiple ERP or CRM systems across geographies with limited communication and collaboration among entities.

6

Consolidated Multi-Entity Planning

While the site-level planning may be enough for domestic companies, they will outgrow that as their geographic footprint increases. As well as they get involved with substantial M&A cycles. This would require financial governance processes at the global level and finding synergies across geographies. At this stage, they would also require mapping out their material flow and supply chain processes across geographies to find synergies. Moving from site planning to consolidated multi-entity planning would require executive or private equity change that may be experienced in rewiring companies for global processes.

7

Joint Planning And Forecasting/Shared Services

Once the operational synergies are fully exhausted, the next priority would be to align vendor and customer processes for joint planning and forecasting. This would require mandating customer and vendor channels to share their data and be on the same/electronic systems, so the data can be gathered for joint forecasting and planning. Exploring the financial shared services model would require measuring transaction times and costs across geographies. The shared services models and joint planning and forecasting would require a strong IT COE, which might only be possible after a company reaches a certain stage in business transformation maturity.

8

Enterprise Architecture/Best-Of-Breed

At this stage, the companies may be processing millions of journal entries, and so to handle the workload, the ledgers need to be designed to balance global planning and transactional performance. The processes need to be thought through from the technical perspective in terms of where the transaction volume and reconciliation effort are too high to keep processes outside of core transactional systems. Also, due to the increased employee counts, the training and learning costs may drive the adoption of best-of-breed systems in specific functions.

9

Decision Support System And AI-Augmented Workflows

Clearly defined architectural boundaries and globally modeled master data allow mining quality data and building a decision support system layer on top of the core architecture. The decision support system would help complete the incomplete data by combining external datasets, build a data science layer that would help detect GL anomalies, superior revenue recognition workflows that will further optimize the profitability and revenue, and find opportunities by optimizing container space or better packaging strategies.

"In my experience, the biggest challenge driving all of these is no dedicated resources to drive the transformation. You need dedicated teams before, during, and after any change to bear fruit."

[Kristina Harrington](#)
President, GenAlpha Technologies



ERP Maturity Stage	Pros	Cons
Stage 0: Outsourced Accounting	<ul style="list-style-type: none"> • Easy for the team. • Does not require expensive resources such as Ops and finance executives. • Does not require as much consulting help to automate processes. 	<ul style="list-style-type: none"> • Limited traceability across processes. • Substantial admin costs in reconciling ledgers. • Data quality and financial control issues.
Stage 1: Assumed ERP	<ul style="list-style-type: none"> • Easy for the team. • Does not require expensive resources such as Ops and finance executives. • Does not require as much consulting help to automate and integrate processes. 	<ul style="list-style-type: none"> • Limited traceability across processes. • Substantial admin costs in reconciling ledgers. • Significant inventory, supply chain, customer experience, financial control, costing, and scheduling issues.
Stage 2: Transactional	<ul style="list-style-type: none"> • Easy for the team. • Does not require expensive resources such as Ops and finance executives to model various datasets. • Does not require as much consulting help to automate and integrate processes. 	<ul style="list-style-type: none"> • Traceability limited across processes. • Substantial admin costs in reconciling ledgers. • Significant inventory, supply chain, customer experience, financial control, costing, and scheduling issues.
Stage 3: Automated Customer And Vendor Communication	<ul style="list-style-type: none"> • Automated transactions with customer and vendor systems • Does not require cross-functional alignment to operate on shared master data • Functions can independently plan and use the tools of their choice 	<ul style="list-style-type: none"> • Traceability limited across processes • Substantial admin costs in reconciling ledgers • Significant inventory, supply chain, customer experience, financial control, costing, and scheduling issues.
Stage 4: Department-Level Planning	<ul style="list-style-type: none"> • Automated transactions with customer and vendor systems • Does not require cross-functional alignment to operate on shared master data • Functions can independently plan inside the ERP system without requiring cross-functional alignment on master data 	<ul style="list-style-type: none"> • Traceability limited across processes • Significant issues with planning and scheduling. • Organization-wide synergies not explored, and significant admin effort to reconcile cross-functional processes.
Stage 5: Site-Level Planning	<ul style="list-style-type: none"> • The site is fully optimized with their internal processes • Scheduling, costing, and planning are optimized at the site level • traceability is possible 	<ul style="list-style-type: none"> • Multi-entity and multi-geo synergies not explored • Significant issues with planning and scheduling at the global level • Heavier reconciliation cycle and longer close time due to the substantial variances among entities and translation required.
Stage 6: Consolidated Multi-Entity Planning	<ul style="list-style-type: none"> • Multi-entity and multi-geo operational synergies • Shared master data across geos and shared planning and forecasting • Multi-geo traceability possible 	<ul style="list-style-type: none"> • Financial synergies not explored at the global level • Training and learning synergies not accounted • Might slow down the planning and forecasting cycles
Stage 7: Joint Planning And Forecasting/Shared Services	<ul style="list-style-type: none"> • Predictive forecasting opportunities because of shared data from customers and vendors • Ability to control disruptions in the end-to-end supply chain • Ability to explore global financial synergies utilizing shared services 	<ul style="list-style-type: none"> • Requires very expensive IT capabilities and consulting support • Training and learning synergies not accounted • Might slow down the planning and forecasting cycles
Stage 8: Enterprise Architecture/Best-Of-Breed	<ul style="list-style-type: none"> • The decoupled architecture allows the scaling of transactions • Business agility and faster M&A cycles because of clearly defined architecture • Learning and training synergies explored 	<ul style="list-style-type: none"> • Requires very expensive IT capabilities and consulting support • Might be very expensive to build and maintain • Lack of enterprise architecture expertise may lead to failed transformation initiatives
Stage 9: Decision Support System And AI-Augmented Workflows	<ul style="list-style-type: none"> • Connected planning allows for finding new revenue and profit optimization opportunities. • Clearly separated boundaries for operational and data workflows allow scaling analytical workflows without impacting operational performance. • Connected models allow operating on one planning data for the entire supply chain. 	<ul style="list-style-type: none"> • Requires very expensive IT and data science capabilities • Might be very expensive to build and maintain • Lack of enterprise architecture expertise may lead to failed transformation initiatives.

Top 10 Enterprise Software Categories For Your Enterprise Business Architecture In 2025

Enterprise business architecture is more than a technical concept – and is essentially a target operating model (TOM) enabling your corporate strategy objectives. IT-led enterprise architecture frameworks generally miss other critical perspectives required for the success of business transformation initiatives, including frameworks promoted by other organizations such as PMO, change management, Lean, and product management. But they each suffer from similar problems, taking a biased (and incomplete view) – and making business technology decisions extremely challenging (and ineffective).

The following framework brings together all of these independent frameworks enabling a cohesive strategy required for the success of business transformation initiatives. It contains the following key pillars:



1. Business model/strategy/decision architecture

This is the map of key strategic decisions driving the financial health and state of an enterprise such as # of entities, roles and responsibilities of those entities, their interconnectedness, siloed function vs consolidated, shared services vs non-shared, decoupled front-end operations vs operationally integrated, integrated control towers or disconnected, integrated brand strategy or independent, build vs buy, speed of business transactions vs cost tracking.

2. Business political/power architecture

This is the map of key power groups (and departments) and their expected influence on the business processes (and decisions) including all stakeholders – internal and external. It includes current custodians of data and their level of influence on each datasets (and their contractual relationships) in influencing key business decisions. This will also include cause-and-effect analysis of current compensation structures – and their influence on business strategy.

3. Business process architecture

This is a representation of most end-to-end cross-functional business transactions such as order-to-cash or first-touch-to-lead. This perspective is critical to understand how these processes will be executed across system and departmental boundaries.

4. Business data reconciliation architecture

This is a map of key enterprise wide reconciliation workflows of all datasets such as master, transactional, or historical. This would include datasets belonging to all departments including finance, operations, sales, and marketing, whether the reconciliation would be statistical such as inventory or product counts– or financials such as total costs belonging to a specific category.

5. Business master data/information architecture

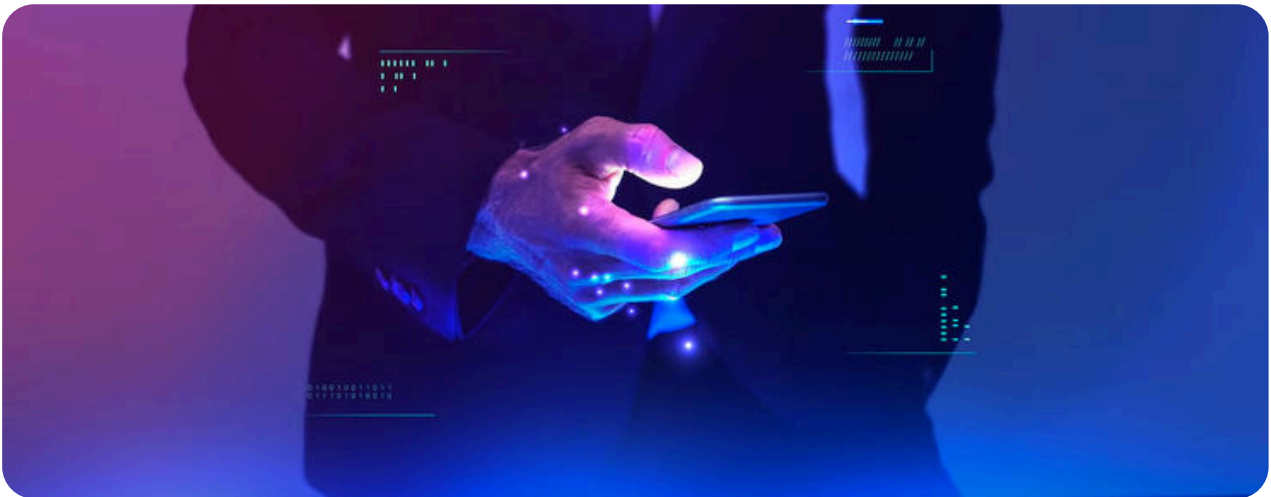
This is a representation of how master data and information is modeled across enterprise, system, and departmental boundaries. The process architecture simply carries data through a series of steps. The organization of underlying data would drive process overheads and overengineering of systems and processes.

6. System architecture

The system architecture is technology agnostic – and is a collection of various organizational systems containing humans, physical, or digital systems. This defines the roles and responsibilities of each system and their interplay.

7. Technology architecture

This is the least important of all, basically enabling the state built through the combination of other perspectives. There might be implications of technologies on the overarching state but the goal of technology-agnostic architecture is to build a state that doesn't change when changing specific technical components or vendors.



Generally, most industries have two choices in building their digital capabilities. They can either buy a system – or build it themselves. But regardless of whether you buy or build, enterprise business architecture sets the tone of your targeting operating model, realizing efficiencies through the collective synergies of these perspectives.

Also, any specific enterprise software categories such as ERP or CRM is rarely enough to build enterprise-wide capabilities. In fact, through consolidations, most large technology and enterprise software vendors now ship the entire enterprise architecture as part of their product bundle, giving them much higher leverage over you in commanding higher prices and creating substantial barriers to exit.

Also, a common misunderstanding exists that enterprise architecture is only relevant for larger companies. Each category of these systems would require a well-defined architecture for them to be effective and be synergistic with other ancillary systems and business processes. So regardless of the organization's size, the lack of enterprise business architecture results in digital transformation implementation failure, poor adoption of digital initiatives, and unforeseeable operational disruptions. Understanding enterprise business architecture and each system's role is crucial for your digital transformation journey.

10**Project/Service Operations Software (PM, PSA)**

In general, your enterprise architecture may not require project management software unless you execute these projects for your core business operations. For example, the ad-hoc engineering projects executed to improve processes – or a CapEx building – would not be part of your enterprise architecture. In other words, they can remain siloed. As far as the scope of enterprise architecture goes, these projects are applicable to businesses that sell them as their core offerings. These businesses include marketing agencies, defense contractors, sign manufacturers, non-project, public sector, or construction supply manufacturers.

9**Manufacturing/Engineering/Construction Operations Software (MES, CAD, PLM, BIM, EAM)**

Typically, these systems are applicable to manufacturing or construction companies. They might use a separate MES system – or a collection of tools that might serve a similar function as an MES. And they need an MES system if they have real-time integration with machines and need to collect and process operational data to optimize shop floor workflow. On the other hand, CAD, engineering, BIM, and R&D software typically have minimal impact on enterprise architecture unless they need to be integrated with the operational flow to minimize data entry.

8**Retail and Distribution Operations Software (E-Commerce, POS, loyalty, payment)**

Most companies selling products or services through retail locations or virtually would require several tools to enable their sales process. For example, if the order volume is too low, they might process the orders directly in the ERP or accounting software. But as the order volume grows and if digital is your primary channel, you might need best-of-breed e-commerce – as well as a POS platform capable of providing an omnichannel experience across all channels.

7**Supply Chain Software (P2P/ProcureTech, WMS/TMS/LogisticsTech)**

Depending upon your business model, if you have an extremely busy warehouse, WMS might be the first system you might introduce even before an ERP system. As the complexity of your business grows and order volume increases, you will be adding several specialized systems to your enterprise architecture, including TMS and P2P. Generally, systems such as strategic sourcing may not have as much impact on the enterprise architecture – and can remain siloed.

6

Integration Technologies (iPaaS, EDI, BPM, RPA, Workflow Automation, Low-code/No-code Platforms)

Unless you have siloed systems or maintain everything in one system without additional channels, you may require an iPaaS. On the other hand, workflow collaboration tools such as ServiceNow, Zoho Creator, and Boomi Flow would be an additional layer on top of the core operational architecture to enable master data control and ad-hoc workflows. Generally, Workflow collaboration tools don't impact the enterprise architecture as much – unless they are overused or over engineered. Finally, you might need RPA technologies but the scope of RPA is limited with the enterprise architecture as they are designed to automate ad-hoc, desktop-centric processes rather than to replace core operational and transactional processes, often processes in ERP-like systems.

5

Data Warehouse/Data Lake (Data Science Platforms, MDM)

Generally, most SMB companies might not include a data warehouse in their architecture as the operational systems crucial for their workflow take priority. However, once you have multiple systems in your architecture and struggle to get 360 degrees of your business due to disparate data sources, you might need to include it in your architecture. There might be a need for an organization-wide MDM tool to govern master datasets across the enterprise depending upon the complexity of architecture.

4

Business Planning Technologies (BI, IBP/S&OP, CPM/FP&A, ODP, Data Networks, CDP)

Typically, companies need business intelligence systems such as S&OP, CPM, customer data platforms, and operational data platforms when they might have business performance issues such as inventory, cash flow, or waste in the manufacturing process. However, these systems are often siloed in SMB organizations unless offered pre-integrated with the ERP, etc. But as the complexity of your architecture and systems increase, you might need to integrate them.

3

Human Capital Management (HRIS, Payroll)

Most companies start with essential payroll software that might be clubbed with an accounting system. However, as the number of employees grows in the organization and depending upon the criticality of human resources and compliance needs, you might need a specialized HCM system. The HR and HCM systems can remain siloed for SMBs as they don't impact the enterprise architecture much. But the integration may be required if you have HCM processes embedded as part of your operation flow, such as sales comp calculation.

2

Business Transactions Management (ERP, MRP, Accounting, AR and AP Automation, Bank Integration, Travel and Expense, FinTech) Software

Companies need an ERP system when siloed systems become a bottleneck to their growth and require substantial admin efforts to enter data in multiple systems. Companies that might be below \$10 million in revenue might be able to manage without a fully integrated ERP. But once cost accounting, MRP, and inventory accuracy becomes a priority, you would require tight process integration offered through ERP systems. There might be several ancillary systems part of the business transactions management core such as AP and AR automation, as well as travel and expense management.

1

Customer Relationship Management (RevTech, MarTech, CX, CPQ, CMS, DAM, Field Service)

The smaller companies start with a collection of CRM systems, marketing automation, CX, and CMS systems to manage their customer interactions until the point of order processing for products or services. Then, data silos would drive the need for external databases (or data warehouses). This need is to get consolidated insights from transactional siloes (with potential data and process integrity issues).

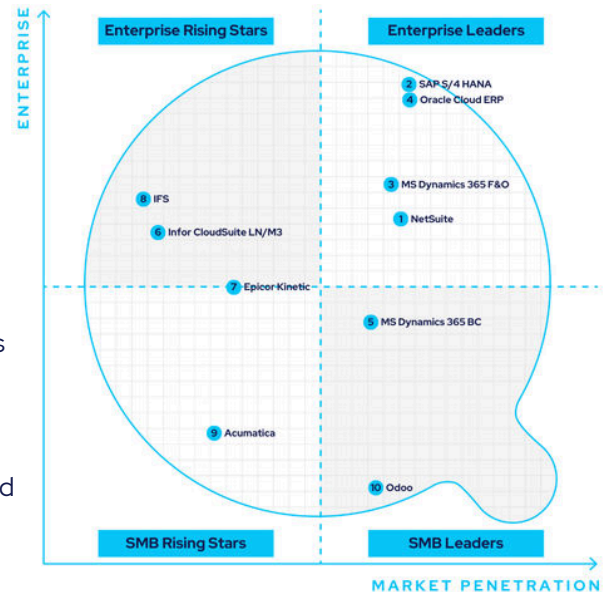
With these systems, you are touching the surface of the complexity of enterprise architecture. As the technologies mature and operational complexity increases with ever-growing customer expectations, the enterprise architecture will likely play a more significant role in the enterprise system design. So having a clear blueprint of all perspectives including business, decisions, reconciliation, political, process, data, system, and technologies is critically important for the success of your business transformation initiatives.



Top 10 ERP Systems For 2025

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Product share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with the product
- User reviews
- Publishers' control over their resellers/consultants
- Must be an ERP product (natively built and embedded finance module across operational processes)



Selecting an ERP system requires careful analysis of your business processes and architecture. It also requires assessing its suitability given your operational and financial constraints. Before we dive into the list, note that this article lists the ERP systems/products instead of the ERP vendors. So even if a vendor maintains a dominant market position, their products individually may not be as authoritative. And since this is a list of products, some products with dominant vendors may not rank on this list because of their limited individual market share.

10. Odoo

Odoo is one of the most straightforward products for startups to consider, with deeper operational capabilities than other cloud accounting solutions such as QuickBooks, Xero, or FreshBooks. It has a very affordable business model for each app that easily integrates, similar bundling strategy as ERPNext. But Odoo's object and process model is not as rich as Acumatica or NetSuite. But that is also the reason why Odoo's design is so friendly to smaller companies, minimizing the need for expensive consulting help to implement it.

9. Acumatica

While Acumatica does not have as global and multi-entity functionality natively built in the product compared to its peers such as NetSuite or Sage Intacct, it has far deeper operational capabilities for certain industries such as distribution, manufacturing and construction. Acumatica still struggles for global companies as the product is not natively localized to other industries and only available through OEMs, which makes Acumatica predominantly a North American solution present only in a few other handful countries.

8. IFS

Like other upper mid-market ERP solutions such as Infor LN or Sage X3, IFS has very deep functionality for industries heavy on assets and field service such as Airline, MRO, Energy, construction, utility, or telecom. IFS also has robust global, multi-entity capabilities, along with being a cloud-native solution. While IFS has a much larger presence in Europe, they have also started penetrating the US market recently but their North American logos, as of today, may be limited compared to their peers.

6. Infor CloudSuite LN/M3

Infor CloudSuite LN and M3 are two flagship solutions from Infor positioned for companies up to \$5B in revenue and could be a great replacement for SAP S/4 HANA and Oracle ERP Cloud where ERP may play a much bigger role in your architecture than just being a financial reporting tool. Infor M3, in particular, has much deeper (and unique) inventory capabilities to support planning based on style, size, and season, offering native integration with apparel-centric PLM out of the box. Infor LN also has very deep capabilities for manufacturing organizations producing large complex products along with smaller jobs.

4. Oracle Cloud ERP

Oracle Cloud ERP is still a leading solution for large companies in many industries including media, telco, construction, energy, oil and gas, and now healthcare after their acquisition of Cerner. Oracle Cloud ERP is a great solution for companies that might have deep internal IT expertise. And with the need of integrating several proprietary and third-party software systems such as patient claims management systems and utility billing solutions. Oracle Cloud ERP would be a great solution for industries highlighted above and for global companies when they use it as their corporate financial ledger while using other systems at the subsidiary level.

7. Epicor Kinetic

Epicor Kinetic is their flagship solution with a data model designed from the perspective of formal engineering-to-order companies with regulated ECN processes. They have much deeper operational functionality for industries such as Aerospace, Automotive, Metal. The product model also allows supporting hybrid business models such as manufacturing, distribution, as well as project-driven organizations. The new Kinetic UI has a very familiar Microsoft look-and-feel and can support mature cloud-native capabilities such as enterprise search. Epicor Kinetic is ideal for small to medium-sized engineered-to-order manufacturers.

5. Microsoft Dynamics 365 Business Central

Microsoft Dynamics 365 Business Central provides deep globalization capabilities in more than 120 countries, similar to NetSuite. These capabilities make it ideal for geographies where other North America- and Europe-focused solutions might struggle such as Acumatica or Epicor. Unlike other focused solutions such as Infor CSI (Or Epicor P21, IFS, QAD, Deltek), MS BC is a diverse solution that can fit several business models. But it will require add-ons or custom development for industry-specific functionality. MS BC is one of the strongest ecosystems for ISV solutions that can provide industry-specific functionality for most micro-verticals.

3. Microsoft Dynamics 365 F&O

Microsoft Dynamics F&O is typically the third choice for larger global accounts after SAP S/4 HANA and Oracle Cloud ERP. If the role of your ERP in your enterprise architecture is more than managing financial workflows (and reporting), the Microsoft Dynamics F&O ecosystem may be more mature with modern cloud-native technologies. While Microsoft Dynamics F&O is a great product with a vibrant marketplace, you might need the help of an Independent ERP consulting firm to navigate the channel due to unqualified ISVs and VARs present. Also, due to their channel immaturity, we experience more failures with Microsoft F&O than other products.

2. SAP S/4 HANA

SAP S/4 HANA is still the market leader, with large enterprises requiring global functionality with deep localization capabilities on several continents. The only competition SAP S/4 HANA faces is Oracle in these accounts. There might be a few other systems such as Unit4, IFS, and Deltek that might be able to handle the workload expectations of these larger enterprises. But for companies that are going to be more than \$5 mil in revenue, their choices may be limited to only a few ERP systems. And SAP S/4 HANA would still lead any other solution due to the HANA database and the transactional traceability built as part of the system. With the recent development and growth in the SAP portfolio when other ERP vendors have struggled, SAP S/4 HANA has gained its ranking on our list for this year.

1. NetSuite

NetSuite maintains the #1 position as the leading ERP solution due to its success in many industries, vibrant ecosystem, pre-integrated and credible marketplace add-ons, and breadth of the solution. It's also not as complex as other competing more extensive solutions such as SAP S/4 HANA and Microsoft F&O. Additionally, it is one of the most comprehensive solutions for companies with diverse business models. The diverse business models could include native support for an omnichannel architecture, matrix/dimensional inventory, and subscription-based business models.

Selecting ERP systems could be overwhelming. There are just so many variables. And if your job may be at stake because of a failed digital transformation initiative, it might be a frightening journey. Following a structured approach including identifying the critical success factors that matter for business model and transactions would help identify the relevant options.



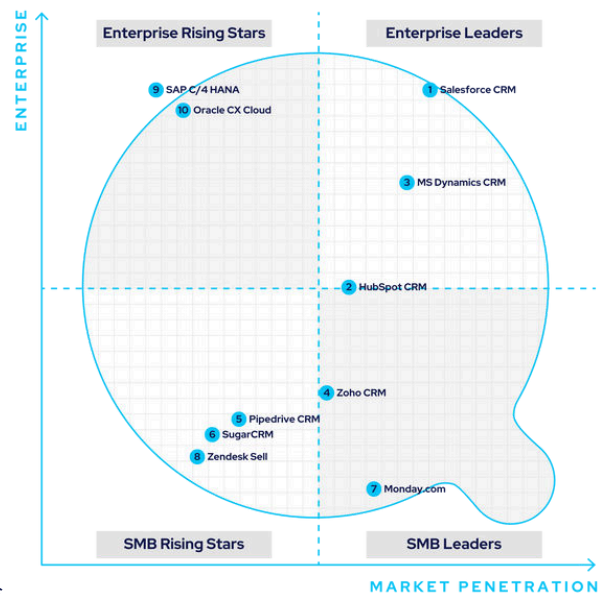
Top 10 CRM Systems In 2025

Historically, sales and marketing operations weren't as complex, managing their workflows through ad-hoc tools such as spreadsheets or siloed software. However, this is no longer enough as they require several systems because of the increased number of options and channels available to provide data related to customer actions, which can be used to drive behaviors. Data living in multiple systems necessitate system integration needs for meaningful and actionable insights that marketers need to drive revenue.

Moreover, the lines between CRM, e-commerce, and ERP keep blurring. These days, CRMs house functionality that ERP or eCommerce systems traditionally contained. These blurred lines mandate a streamlined architecture with their clear roles and responsibilities, as well as a source of authority for each dataset. Without them, adoption or data integrity issues are likely to bubble up.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Ability to natively support diversified business models
- Acquisition strategy aligned with CRM offerings
- User Reviews
- Must be a CRM product



10. Oracle CX Cloud

Oracle CX Cloud contains several best-of-breed CRM offerings such as sales, marketing, service, content management, and advertising cloud, targeting large B2C companies such as communications, media, and financial services. It offers industry-specific capabilities such as a profound need for content collaboration and centralized advertising management.

9. SAP C/4 HANA

SAP C/4 HANA is part of the S/4 suite with several best-of-breed CRM options in the CX portfolio, such as sales, marketing, and service cloud, targeting large utility, finance, and public sector companies. In general, the solution would fit companies requiring deeper regulatory workflow as part of the CRM processes. It would also fit companies already utilizing other SAP offerings in their architecture. However, it would not be a fit for smaller companies – or the companies without pre-installed SAP products.

8. Zendesk Sell

Zendesk Sell is a new entrant in the market after Zendesk's acquisition of Base CRM, targeting smaller companies with under 10-15 employees. It's a great add-on product for companies in the Zendesk install base using it for their customer service. However, it's not an excellent fit for companies mature in their sales and marketing organization – or seeking a robust CRM with sales ops planning, marketing automation, and territory management.

7. Monday.Com

Monday.com is another new entrant in the CRM market, targeting small companies that might already use it for project management. It also targets companies with unique CRM workflow needs, such as real estate and non-profits. However, it's not an excellent fit for larger companies requiring tight data integrity and standardized workflows for their CRM processes.

6. SugarCRM

SugarCRM targets smaller companies in the industrial sector and with subscription workflows as part of their business model. It also targets companies with unique CRM workflows, as having access to code will allow them to tailor the experience for their needs. However, it's not suitable for large companies looking for a robust CRM solution.

5. Pipedrive CRM

Pipedrive CRM targets smaller companies and solo founders with limited budgets needing an entry-level CRM to manage customer interactions. However, it's not suitable for larger companies with mature CRM processes with the need for territory planning, quoting, and sales compensation management.

4. HubSpot CRM

HubSpot CRM offers a free option for companies that might already use it for marketing automation. In general, it's an excellent fit for companies with relatively straightforward sales processes but not for companies with complex business operations (or processes). This is especially true for complex business operations that can't be shoeboxed with standard sales processes (and pipelines). HubSpot CRM has one of the most robust products for marketing automation, with the ability to create widgets on different lead acquisition channels, which can also write directly to the HubSpot database and trigger subsequent marketing automation workflows. HubSpot has a great ecosystem and integration with other CRM systems, CMS platforms, and eCommerce tools.

3. Zoho CRM

Zoho CRM is relatively richer to build complex organizational processes with relatively custom needs yet for companies with limited implementation budgets. These organizations generally can't afford to spend on enterprise-grade CRMs such as Salesforce or MS Dynamics 365 CRM requiring developer support, making it more expensive to customize and implement. With a data model similar to Salesforce, it's easier to implement and integrate it with systems such as ERP with complex customer masters. The biggest disadvantage with Zoho is that each app has its own data model, limiting the communication among apps and data centers across geographies.

2. MS Dynamics 365 CRM and Customer Insights

Especially suitable for companies already using other Microsoft products such as Dynamics 365 ERP products, Microsoft Dynamics 365 CRM targets mid-to-large-sized companies. It's not the best fit for smaller companies that prefer ease of use and fluidity of the data model with other smaller systems such as Zendesk or HubSpot. It has one of the richest data (and object) models to support complex sales and marketing organizations. This data model helps larger regulated companies create unique permissions and approval flows critical for them.

1. Salesforce CRM

Salesforce majorly targets larger companies, especially suitable for complex and customizable CRM workflows. However, their legacy technology may require developer support, making implementation and configuration substantially expensive. Among all CRM systems, it probably has the richest data model serving complex needs of various industries (and business models). It also has a superior development ecosystem (and platform) that allows building enterprise-grade capabilities to integrate with other systems. Salesforce has far deeper product and CPQ capabilities for specific industries such as Medical devices and Telecom to enable geo- (and territory-) specific pricing and product release workflows.

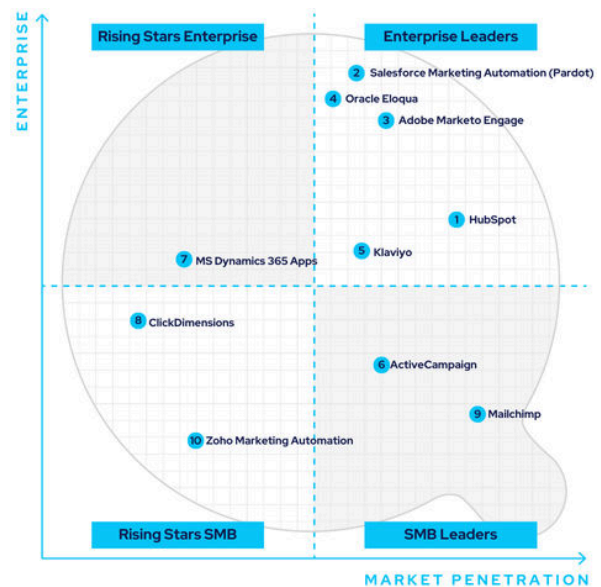
As customer experience becomes crucial in winning deals, sales and marketing departments will likely need deeper CRM capabilities. They will also need a centralized view of their customers at each step of their journey, whether in the pre-sales phase or post-sales. Performing due diligence with your CRM selection will help minimize impact on your enterprise architecture, increasing the chances of your digital transformation initiatives success.

Top 10 Marketing Automation Systems In 2025

Marketing Automation, the noisiest category ever – due to lower barriers to entry. Generally, falling within the CRM systems category, specifically handling upstream marketing efforts, its key component is email marketing, but also includes SMS marketing and omnichannel capabilities, often integrating with CMS. Whether embedding widgets on websites through a CMS within the marketing automation framework – or using an external system, all these channels feed into the marketing automation system.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Ability to natively support diversified business models
- Acquisition strategy aligned with marketing automation offerings
- User Reviews
- Must be a best-of-breed marketing automation product



10. Zoho Marketing Automation

Zoho Marketing Automation is designed for companies beginning their marketing automation journey on a budget. Its licensing is more affordable than that of other marketing automation systems. Offering deep integration within its own ecosystem and a robust CRM, it's suitable for slightly more operationally complex scenarios. If a company has ad hoc customer interaction needs requiring capturing various custom objects (and workflows), Zoho is likely a good fit.

9. Mailchimp

MailChimp aims at companies seeking a simpler CRM solution, primarily for B2C industries. It might also be relevant for B2B startups – as long as it's used as a pure-play marketing automation platform. This would be for simpler B2B use cases, such as sending newsletters with relatively simpler tracking requirements (and customer hierarchies). Tailored for startups, it lacks the robust security features of other platforms. Customizability can also be limited, making it less suitable for mid-market, enterprise, or apartment market companies.

8. ClickDimensions

ClickDimensions is part of the Microsoft Dynamics 365 ecosystem. The core CRM features within the Microsoft platform are robust, allowing for the accommodation and customization of various business models. But it's not as robust for upstream marketing automation features, hence the need for a ClickDimensions add-on. But even ClickDimension is limited. For upstream marketing and comprehensive omnichannel traceability, including CMS integrations with multiple platforms in the Microsoft ecosystem, ClickDimensions falls short. It lacks the richness and integration of capabilities found in platforms like HubSpot or Salesforce Pardot.

7. Microsoft Dynamics 365 Apps

Microsoft Dynamics 365 Apps has a Customer Insights product, which is primarily a CDP product that can integrate with several marketing automation execution systems. However, even Microsoft Dynamics 365 Customer Insights could be used for simpler marketing automation workflows, and it is used by companies in their install base on their ERP or CRM. The biggest challenge with the product would be to manage richer omnichannel and personalization scenarios possible with other marketing automation products such as Klaviyo or Braze.

6. ActiveCampaign

ActiveCampaign aims at companies seeking a more affordable option. Generally, marketing automation systems determine their pricing based on the number of subscribed emails and monthly email volume. This pricing structure can lead to high costs, especially with platforms like HubSpot or Pardot, which can be quite expensive for businesses sending numerous emails but selling lower-priced products. This pricing model can be a barrier for many companies, making Active Campaign a more cost-effective choice compared to other platforms.

5. Klaviyo

Klaviyo has gained significant popularity recently, particularly among companies operating in a B2C ecosystem. Customer journeys in B2C environments tend to focus on managing touchpoints from a purchase cycle perspective rather than engaging with various touch points through content. As a result, Klaviyo is an excellent fit for companies looking to streamline and optimize these purchase-driven interactions

4. Oracle Eloqua

Oracle Eloqua is an excellent choice for companies with a slight enterprise focus, especially those using Oracle Cloud CX. Oracle acquired Eloqua, a powerful enterprise-grade product, and integrated it into its Oracle Marketing suite. This solution is particularly well-suited for B2C industries like media and telecommunications, where there are numerous customer touchpoints. Oracle Eloqua excels in ad-centric customer journeys, offering robust content management and other key capabilities as part of the same suite. Additionally, it provides enterprise-level workflows, supporting seamless alignment with field service and call center operations.

3. Adobe Marketo Engage

Adobe Marketo Engage is a robust enterprise-level product comparable to solutions like Eloqua and Salesforce's Pardot. With capabilities baked in, such as events providing omnichannel experiences for design-heavy organizations such as B2C and media, it's friendlier for B2C industries. It offers advanced capabilities for consolidating various channels, including web ads, into a unified portfolio. This tool enables businesses to track engagements and monitor customer journeys across multiple platforms, making it an ideal solution for enterprises looking to manage and optimize their marketing efforts on a large scale.

2. Salesforce Marketing Automation (Pardot)

Salesforce marketing automation is an excellent choice for enterprise companies already using Salesforce CRM, although it works with other CRM products as well. Its strengths include the ability to create custom fields on core Salesforce objects for marketing automation and the availability of an exposed SQL layer, which allows for detailed analysis and segmentation—offering a level of granularity that is often not found in competing products. However, the integration with core CRM objects remains relatively shallow, limiting end-to-end traceability and making it feel as though users are navigating two separate silos.

1. HubSpot

HubSpot is ideal for content-driven B2B organizations heavy on upstream marketing workflows requiring traceability and integration with their web workflows. It is a widely adopted and integrated platform, particularly in the marketing automation and CMS space, providing seamless integration with ad platforms, CMS systems, and data providers. Its pre-built integrations make it ideal for consolidating customer interactions and marketing strategies. However, HubSpot's limitations arise in complex operational use cases, as its object structure and customizability may not meet the needs of companies heavy on transactional and operational workflows

In conclusion, marketing automation has evolved from a loosely integrated, standalone function into a dynamic, essential part of CRM suites. With its focus on workflows over transactions, marketing automation distinguishes itself by orchestrating omnichannel efforts—like email, SMS, and CMS integration—within a unified framework. As companies increasingly seek omnichannel engagement, the importance of a well-integrated marketing automation system within the broader CRM landscape continues to grow, offering businesses powerful tools for seamless outreach and engagement.



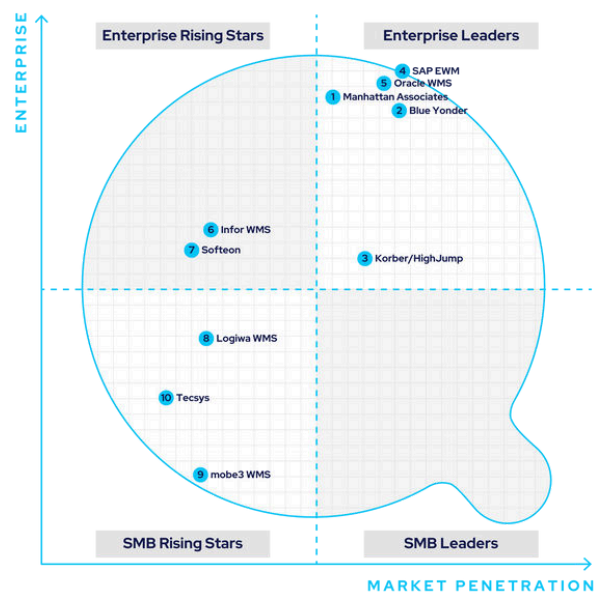
Top 10 WMS Systems In 2025

Traditionally, ERP systems didn't package WMS capabilities with their suite because of their different technologies (and architecture). But this is no longer the case with the cloud. The cloud systems now package basic WMS capabilities that their mid-market customers can easily use – without worrying about complex integration with a separate WMS package.

However, companies, even with relatively simpler operations, quickly outgrow them, requiring a best-of-breed WMS software.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Community/Ecosystem
- Depth of native functionality
- Quality of publicly available product documentation
- Product share and documented commitment of the publisher
- Acquisition strategy aligned with the product
- Maturity of the Supply Chain Suite
- User Reviews
- Must be a WMS product



10 **Tecsys**

Tecsys targets healthcare and retail-centric verticals with its unique capabilities (only relevant in certain verticals), such as point-of-use inventory. While most WMS vendors might offer some hardware as part of their offerings or might have alliances for devices or ASRS systems, etc. The point-of-use systems require specialized hardware and its interfaces. These verticals also have unique multi-location inventory capabilities, such as transferring goods across multiple locations. Choose Tecsys if you are a mid-market healthcare or retail organization, especially if you might have unique needs that only they might be able to offer.

9 **mobe3 WMS**

Mobe3 WMS is perhaps the smallest package on this list, often installed in the smaller ERP ecosystems. But it is feature-rich to support the needs of smaller warehouses, especially in process and batch-enteric industries where they would need specialized capabilities such as pallet and lot attributes built as part of the solution. The other solutions without these pre-baked might struggle in these industries. Choose mobe3 WMS if you are a small organization looking for a small WMS tool that can be easily implemented in a cost-effective way.

8 **Logiwa WMS**

Logiwa WMS is ideal for eCommerce and parcel-centric operations. While their WMS capabilities are strong, covering needs in most areas of warehouse management, such as WMS, WCS, and WES, it might not be as comprehensive as some of the other enterprise solutions on this list. Choose Logiwa if you are looking for a parcel-centric WMS with a cloud-native interface that is feature-rich to support the operations of a mid-size warehouse.

7 **Softeon**

Softeon targets very similar customers as Infor WMS in the upper mid-market segment. It's not proven for enterprise customers like other solutions on this list. It might also be too big for smaller companies. Choose Softeon if you are a mid-sized organization seeking an advanced WMS that can not only provide capabilities such as distributed order management but also support mature capabilities needed for batch operations.

6

Infor WMS

Infor WMS targets distributors in the upper mid-market segment heavy in manufacturing, especially the verticals where their other solutions such as Infor LN and M3 are strong. This would be especially true with verticals such as Automotive, Aerospace, Fashion, and Industrial distribution. Consider Infor WMS if you are a mid-market manufacturer, particularly the ones considering Infor LN or M3 as their ERP systems.

5

Oracle WMS

Oracle WMS is the right fit for large transactional warehouses that require a siloed supply chain layer either to support transaction volume, 24/7 operations, or the warehouse architecture of a 3PL business model. It is also ideal for companies that need complete supply chain capabilities as part of the same suite, especially if they might already be on Oracle Cloud ERP. Consider Oracle WMS if you are a large enterprise, especially if you might be on other Oracle products such as ERP or RMS.

4

SAP EWM

SAP EWM is ideal for enterprise-grade warehouses and distribution companies with the 3PL business model, especially on other SAP solutions such as SAP S/4 HANA. It's not ideal for smaller warehouses with a limited consulting budget. Choose SAP EWM if you are a large distribution company with a global presence, especially using other SAP products such as SAP S/4 HANA or SAP Hybris.

3

Korber/HighJump

Korber/HighJump is a suitable solution for mid- to upper-mid-sized companies. It's ideal for companies that are looking for an integrated suite, including last-mile capabilities. While Korber/HighJump contains several different integrated components, such as TMS, DSD, and freight audit capabilities, it's not as comprehensive as other solutions on this list. Choose Korber if you have outgrown standalone, smaller WMS systems and are looking for a suite with advanced WMS capabilities for mid-market companies.

2

Blue Yonder

Strongest supply chain suite along with advanced WMS capabilities proven for enterprises, especially for retail companies with high volume. Blue Yonder might not be a fit for smaller companies. Choose Blue Yonder if you are a large enterprise, especially a retail-centric business, looking for a complete supply chain suite integrated with a WMS.

1

Manhattan Associates

Manhattan WMS is among the strongest solutions in the market for volume retail. While Manhattan may not be as complete with its Supply chain suite capabilities, it's especially suitable for high-volume enterprise food, grocery, shoe, and apparel industries but might not be the best fit for smaller businesses. Choose Manhattan if you are a large company, especially a food, grocery, shoe, and apparel business, looking for an enterprise-grade WMS solution.

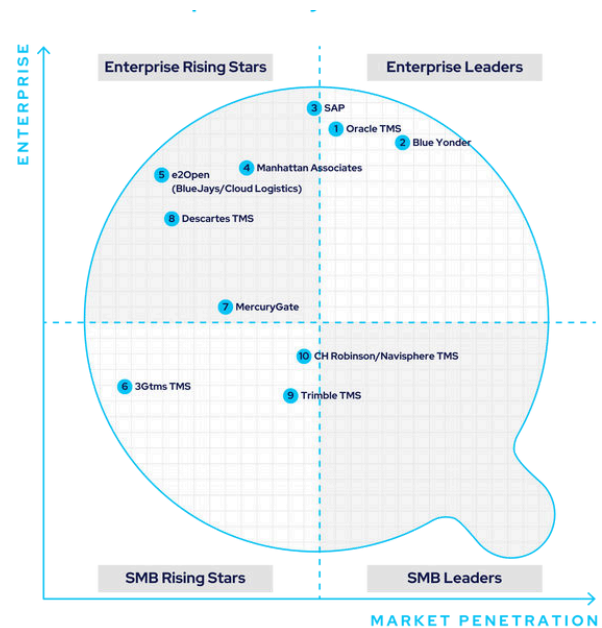
Choosing a WMS system is not as easy due to its overlap with several other software categories. As technology advances and boundaries blur, it's only going to get further confusing. So, if you are in the market for a new WMS system, make sure to dig through your business model deeply to find software aligned to your needs.

Top 10 TMS Systems In 2025

What is a TMS system? In the transportation and 3PL industries, TMS literally acts as their ERP, as it hosts 90% of their processes, including accounting. The smallest TMS systems, on the other hand, might be just a shipping add-on with capabilities as lean as rate shopping. The larger TMS systems, finally, might not only cover all modes of transportation, but they might also contain a carrier network and other supply chain capabilities that need to be tightly integrated with a TMS solution. If you are in the market for a TMS solution, understanding how these layers impact the scope of TMS is absolutely essential.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of development
- Community/Ecosystem
- Depth of native functionality
- Quality of publicly available product documentation
- Product share and documented commitment
- Acquisition strategy aligned with the product
- Maturity of the Supply Chain Suite
- User Reviews
- Must be a TMS product



10

CH Robinson/Navisphere TMS

Navisphere is a TMS solution offered by supply chain consulting firm CH Robinson. It's an ideal fit for companies looking for Supply Chain subject matter expertise along with a technical solution. It might not be the best fit for companies looking for a TMS solution without managed services. Choose CH Robinson if you are looking for a TMS solution that can support multiple modes of transportation, including managed services through the same vendor.

9

Trimble TMS

Trimble is a TMS solution that is strong for transportation companies. Their suite includes several tools for driver compliance, reporting, and monitoring. It might not be the best fit for other companies that might not have transportation-centric business models, such as retail or manufacturing. Choose Trimble if you are in the trucking or 3PL industry managing your internal fleet. Don't choose it if you are looking for a cloud-native solution, especially for industries that might not have transportation-like business models.

8

Descartes TMS

Descartes is ideal for companies looking for multi-modal and international supply chain network capabilities. It also has a smaller visibility and a TMS platform for trucking companies. Descartes might not be the best fit for smaller companies. Choose Descartes if you are looking for a best-of-breed TMS solution with multi-modal capabilities for large enterprises. Don't choose Descartes if you are an SMB company looking for a smaller solution.

7

Mercury Gate

Mercury Gate is a cloud-native TMS solution that targets SMB companies outgrowing smaller shipping add-ons such as Pacejet or ShipStation. It's not the best fit for large enterprises or companies with an international supply chain. Choose MercuryGate if you are an SMB DTC or a CPG company looking for a cloud-native solution. Don't choose it if you are an enterprise or a company with an international supply chain.

6

3Gtms TMS (Pacejet)

3Gtms is a solution designed for SMB trucking companies, and now, with the Pacejet acquisition, not only can they cover modes such as LTL and FTL but also parcel shipments. 3Gtms is not a right fit for large enterprise companies. Choose 3Gtms if you are looking for a TMS solution that covers all modes of transport, such as LTL, FTL, and parcels for domestic shippers with some international presence. Don't choose 3Gtms if you are looking for a cloud-native experience with a sophisticated supply chain suite.

5

e2Open (BlueJays/Cloud Logistics)

e2open is the most complete suite with all three capabilities, including execution, planning, and network, each equally represented. It would be a fit for companies seeking a pre-integrated suite with robust planning and forecasting capabilities using AI and ML but not the best for smaller companies. Choose e2open if you are a large enterprise on SAP or Oracle, looking for an enterprise-grade supply chain suite to manage international supply chains, especially for businesses for which planning and forecasting require collaboration with suppliers.

4

Manhattan Associates

Manhattan is primarily known for its WMS but also has TMS capabilities (but TMS component is more of an afterthought – and not their primary strength) as part of its Supply Chain suite that is especially relevant for industries with heavy foot traffic at retail stores such as apparel, footwear, or grocery. It would be a best fit if

you are already on Manhattan WMS, looking for an integrated TMS. It would not be suitable for SMB companies. Choose Manhattan TMS if you are already using Manhattan WMS or considering them as part of your architecture.

3

SAP

SAP transportation management solution is primarily used by companies already on SAP and looking to build their entire stack on SAP technologies, especially SAP EWM. SAP transportation management solution would be ideal for product-centric companies including distributors with 3PL business models (but only large enterprises). Smaller companies would find it overwhelming. Choose SAP transportation management solution if you are looking for an execution component pre-integrated with other SAP technologies that can work with other enterprise-grade best-of-breed solutions such as e2Open or Project44.

2

Blue Yonder

Blue Yonder has one of the strongest supply chain suites covering most aspects of the supply chain including planning and execution. It has a very strong execution component for transportation management as well. The main difference between e2Open and Blue Yonder is that Blue Yonder would rely on network and data from its partners while e2Open has its own proprietary network. But Blue Yonder has a lot more enterprise-grade installations than other vendors. Choose Blue Yonder if you are looking for a fully integrated supply chain suite covering most areas including execution and planning, especially for retail-centric industries.

1

Oracle TMS

Just like SAP, Oracle has enterprise-grade execution components for transportation management, especially for industries where the transportation management processes need to tightly collaborate with other Oracle solutions such as ERP or RMS. This is especially true for industries where compliance or regulatory requirements such international trade compliance and reporting require datasets to be tightly embedded. Choose Oracle TMS if you are looking for enterprise-grade transportation with a vibrant ecosystem of best-of-breed capabilities for other supply chain suite components.

Just like any other enterprise software category, transportation management systems are available in various flavors. Each business model, depending upon how they plan to use a TMS system in the enterprise architecture, could drive whether a TMS system would be fit for a business or not. So, if you are in the market for a TMS system, make sure you understand the difference between the TMS systems provided by the consulting firms vs. by the pure-pay technology firms. Then, dig into your business model and enterprise architecture deeply to assess a system that would be the right fit for you. Hopefully, this list can provide you with some potential options to evaluate further.

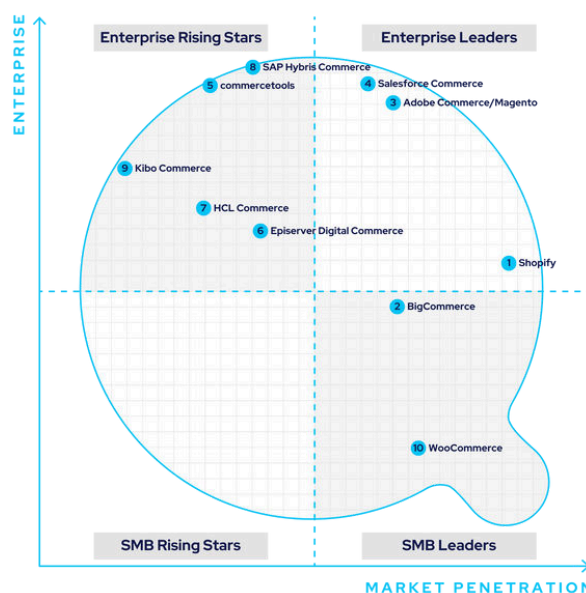
Top 10 Digital Commerce Platforms in 2025

Digital commerce has a much broader scope. While understanding the scope of eCommerce is easy, executing and choosing the right platform for your digital goals is hard. Because eCommerce platforms have challenges such as payment providers and shipping provider integrations. Also, factors such as site speed and bounce rates drive traffic share. Finally, the ever-increasing channels may require evaluating pre-baked integration capabilities to avoid cost overruns.

Additionally, as your transaction volume grows, you will require enterprise-grade capabilities such as digital asset management, approval flows, and a digital experience management platform. Also, if you operate in a regulated environment, you might have compliance needs that further complicate your transactions. These considerations, as a result, make selecting eCommerce platforms extremely challenging.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- eCommerce market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with eCommerce
- User Reviews
- Must be an eCommerce platform



10. WooCommerce/WordPress

WooCommerce targets small, content-first companies that might want to add commerce-centric capabilities to their site. It's especially suitable for entrepreneurs who might already be familiar with WordPress. However, companies with more than \$5-10 mil in revenue may find WooCommerce limited with its capabilities. WooCommerce might also be applicable for companies that might be primarily content-driven and might not require eCommerce capabilities.

9. Kibo Commerce

Kibo Commerce is a cloud-based eCommerce platform that enables you to launch personalized commerce experiences on top of a future-proof and modular architecture. Kibo Commerce's API-first and microservices-based architecture aligns with modern headless commerce platforms, helping businesses meet customer demand while staying agile.

8. SAP Hybris Commerce

SAP Hybris Commerce targets larger companies with enterprise-grade needs that might already be on other SAP systems. This allows them to explore the integration synergies available through one vendor. However, SAP Hybris Commerce is not a fit for smaller businesses with easier needs. The enterprise companies in regulated industries will find SAP Hybris Commerce especially beneficial. They need their eCommerce data model to be tightly integrated across systems. SAP Hybris also offers a React-based backend in the form of Spartacus for an omnichannel custom storefront experience similar to the ones available through other modern headless platforms such as commercetools, Spryker, and VTEX. SAP

7. HCL Commerce

HCL Commerce is the newer version of IBM's flagship commerce product IBM Commerce. HCL acquired it from IBM and has advanced its capabilities for modern headless development. HCL Commerce has similar enterprise-grade capabilities such as pinning a product at a particular location on a website, performing mock searches prior to going live, and managing multiple geographically-dispersed storefronts from one platform. HCL Commerce also has enterprise-grade commerce features such as accessing the entire commerce layers including DAM assets, search, and cart through APIs. HCL Commerce also offers much clear bootstrapped React-based storefronts but primarily targeted B2C brands. It doesn't have as complex B2B capabilities available in B2B-centric platforms such as SAP Hybris, Spryker, Adobe Commerce, and Salesforce Commerce.

6. Episerver Digital Commerce

Episerver Digital Commerce/Optimizely targets mid-large B2B companies requiring deep B2B capabilities in the industrial space out-of-the-box without requiring expensive add-ons and IT resources. However, it's not a fit for smaller companies and organizations that require enterprise-grade capabilities offered by larger platforms. Unlike other SMB platforms that rely on add-ons for digital experimentation features, Episerver allows you to build features and A/B tests with full traceability across channels as part of the suite. Episerver also offers deep features for complex channels that may require capabilities such as partner management, product-based variants, and rule-based promotions.

5. commercetools

commercetools is a new startup valued at over \$2B and funded by Accel. Major automotive brands such as Audi, Volkswagen, Porsche, and Bentley have used it for their customized commerce experience. Commercetools is the first enterprise-grade platform that has a true microservices-based architecture and is a big influencer of the MACH alliance. While the concept of MACH and headless is in its infancy, the companies that care for the customized and composable experience would find commercetools compelling. commercetools still doesn't have the same bundled offering for enterprises as other platforms on this list such as Salesforce or HCL Commerce, it is still one of the most cutting edge products.

4. Salesforce Commerce

Salesforce targets larger enterprise companies with complex eCommerce workflows needs. It's especially suitable for companies already using other Salesforce products such as CRM and Pardot – but not suitable for smaller companies. Salesforce has one of the most vibrant developer ecosystems and headless communities. In addition, Salesforce commerce offers integration with modern headless platforms to help companies build progressive web applications. With the ability to support both B2B and B2C business models, Salesforce Commerce offers deep capabilities for enterprise scenarios. Unlike other SMB products, Salesforce Commerce offers robust product recommendation and merchandising planning capabilities through its AI engine.

3. Adobe Commerce/Magento

Adobe Commerce targets mid-large enterprise companies with the need for complex eCommerce workflows. It's especially suitable for companies with complex eCommerce workflow needs for both B2B and B2C business models. While Adobe Commerce/Magento has an open-source offering, most companies might need an enterprise edition as features such as RMA and promotion permission might not be available with the community edition. Unlike other platforms on this list, Magento runs large-scale consumer-focused commerce sites with millions of visitors every day – but such scale would require an enterprise edition.

2. BigCommerce

BigCommerce targets B2B SMB organizations with deep capabilities needed for B2B companies. It is especially suitable for companies that don't have internal IT capabilities to design and support eCommerce operations. Also, through its underlying data model designed for B2B organizations, BigCommerce can support B2B organizations needs with complex product mixes and variants. BigCommerce also offers several pre-baked integrations with POS and ERP systems. But there might be challenges in building omnichannel architecture due to the number of add-ons required. Also, the headless capabilities are limited with BigCommerce.

1. Shopify

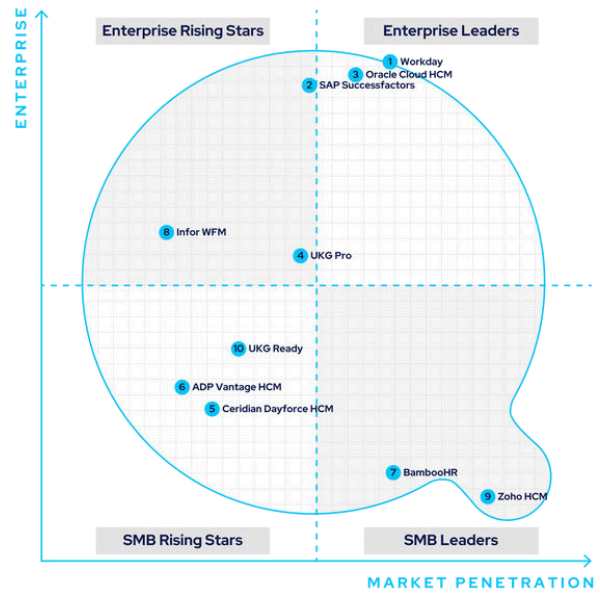
Shopify targets B2C SMB organizations with relatively simpler products with their configuration. Without much investment in the IT infrastructure or development skillsets, Shopify is especially suitable for brands looking to create omnichannel and DTC experiences. The biggest advantage of Shopify is its ecosystem and the multitude of options available there. They have also done significant work with their headless platform Hydrogen on Oxygen, which is likely to be a favorite among the development community. The major drawback of Shopify would be its fee structure charging per transaction and the need for add-ons for complex B2C and B2B features.

Choosing an eCommerce platform is not easy. You not only need to have a deep understanding of financials to understand the total costs of ownership. But you also need to have a software development background to be able to estimate the efforts required to build custom functionality on top of the existing platform. Also, the decision about the eCommerce platform may have implications on the entire architecture and operational efficiency. So it's critical that you take a comprehensive approach to selecting an eCommerce platform.

Top 10 HCM Software in 2025

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- HCM market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with HCM software
- User Reviews
- Must be a best-of-breed HCM software



HCM software has a distinct place in the architecture. While some people think that ERP must host HCM processes as well, there are regulatory challenges that require you to have a dedicated HCM system in the architecture. While most smaller companies might not utilize HR software and might instead use just payroll software, the complexity of HR increases, and a sophisticated HCM is required to avoid compliance and regulatory issues.

The major regulatory challenge with HR data is the confidentiality associated with compensation and personal information. While there is a massive overlap between the HCM, CRM, and ERP software as each of them might require data feeds from other software. For example, the companies that might have union reporting requirements might require you to have limited employee data embedded with your ERP system.

10. UKG Ready

UKG Ready is a robust SMB solution that can work with global organizations with their preliminary HCM needs. The solution is bigger than the other smaller solutions on this list such as BambooHR and ZohoHR but smaller than Workday and SuccessFactors. UKG Ready will be easier to adopt for smaller organizations as you don't need to configure enterprise-level approvals and layered data that the enterprise companies would require. Companies with headquarters in the U.S., Canada, Mexico, the U.K., France, the Netherlands, Belgium, New Zealand, and Australia can use UKG Ready to support their employees in more than 85 countries. UKG Ready would not be a fit for larger organizations with needs such as succession planning, flexible benefits, and complex compliance reporting requirements.

9. Zoho HCM

Zoho HCM targets SMB organizations in industries such as IT, media, education, healthcare, and finance. It is especially useful for companies that might already be on other Zoho apps such as accounting and CRM. Its price point for licensing makes it extremely easy for startups and smaller companies to use its product, offering great support for smaller companies to use in the DIY mode. Due to their business model, the product design is simpler. But it's not meant to be for industries for complex reporting and compliance needs. It's also not meant for larger companies that might require complex benefits management or approval flow. Zoho HCM only supports roughly 20 languages. So it's not as global as the UKG Ready product.

8. Infor WFM

Infor WFM targets larger manufacturing organizations employing union workers such as automotive, aerospace, hospitality, public sector, and healthcare. These companies have very specific requirements for employee reporting governed by OSHA (and other regulatory organizations relevant in specific countries). Infor WFM is an expensive product and not really suitable for SMBs under \$250 million in revenue (and with thousands of employees). It is especially useful for companies that might already be on other Infor flagship products such as Infor LN or M3. The biggest advantage of Infor WFM will be that it's already pre-integrated with Infor LN and M3. This will help companies embed employees and skillset data through service and procurement scheduling workflows.

7. BambooHR

BambooHR is the smallest product on this list, targeting SMB organizations with basic HCM needs with employee administration, benefits management, and talent management. The reporting capabilities are fairly limited in the solution, potentially requiring an add-on for advanced features such as time clocks etc, generally available with more advanced products such as Ceridian. The closest competitor for BambooHR on this list would be ZohoHR which targets similar industries (and startups with few people in the HR department) looking for simpler products (without much IT and consulting help required). The total implementation cost for BambooHR could be as low as \$3-5K and you can get support directly from Bamboo HR (or through one of its partners).

6. ADP Vantage HCM

ADP Vantage offers integrated tools that include HR Payroll, Workforce Management, Benefits, Recruiting, and Talent Management. It is an HCM solution that is well-suited to companies with over 1000 employees. This solution will be ideal for companies that might already be on ADP for payroll and might have separation of duty with several management layers. It might be complex for smaller companies to set up and maintain due to the additional overhead of separation of duties. It might also have communication issues among different products underneath (and may not be real-time). The specific issues some users report would be communication among benefits management and payroll modules.

5. Dayforce HCM

Proven with many large organizations, Dayforce HCM targets upper mid-market to large enterprise companies in industries such as manufacturing, retail, hospitality, the public sector, and healthcare. It has a similar offering as Infor WFM along with a fully baked HCM package with capabilities very similar to its enterprise peers such as Workday or Successfactors.

The product may not contain enterprise workflows such as advance benefits management, what-if scenarios, and succession planning. The product may not be the best fit for companies requiring multiple layers of approval or a security workflow. Also, unlike UKG Pro, which is likely to have managed services offering as part of their offering, Dayforce would require partner or consulting support.

4. UKG Pro

UKG Pro is the largest product in the UKG portfolio, targeting mid-large organizations requiring enterprise workflows for separation of duties and workforce management. It's also a full suite just like Workday, SAP Success Factors, and Oracle HCM. It integrated out-of-the-box with UKG Dimension products for advanced workforce management. UKG is localized in more than 100 countries to make it a global product that would not require add-ons or partner-provided functionality to support localization of those countries. The biggest challenge with UKG Pro might be its ecosystem and a limited number of partners that might be available to support the products in comparison with Workday, SAP SuccessFactors, and Oracle Cloud HCM. But UKG Pro has much superior managed service offering and consulting support compared to other similar vendors such as SAP SuccessFactors, Workday, Oracle Cloud HCM, and Ceridian.

3. Oracle Cloud HCM

Oracle Cloud HCM is an enterprise product, targeting larger companies with segregation of duties requirements and layers of management (and approval flows). It is especially suitable for industries such as tech, media, telco, and healthcare but might not be best suited for trade industries where blue-collar workers might be employed. Oracle Cloud HCM is especially beneficial for companies that might already be on other Oracle products such as Oracle Cloud ERP. However, the biggest challenge companies might face with Oracle Cloud HCM is its user interface as it still uses legacy products like Taleo underneath. Also, smaller companies might find it overwhelming due to the complexity of workflows and data setup required for enterprise workflows.

2. SuccessFactors

SuccessFactors HXM suite is an enterprise product, targeting companies that might already be on other SAP products. It supports 43 languages and more than 45 localizations. SAP SuccessFactors has a vibrant ecosystem of consultants to support the needs of manufacturing and trade-related industries as well. But primarily it's a natural fit for companies that might already be on SAP S/4 HANA. SAP SuccessFactors also natively integrates with other enterprise-grade products such as Qualtrics for employee experience workflows. But it might be overwhelming and cost-prohibitive for smaller companies.

1. Workday

Workday targets enterprise companies with deep layers of management workflows with complex hire-to-retain and benefits compensation needs. It is especially strong for industries such as tech, media, telecom, insurance, and financial services – the industries where Salesforce is likely to be strong as well. The biggest advantage of Workday is its Cloud-native UI and its integration with other products in its suites such as EPM and Financials. However, Workday Financials is not a fully baked product and is often overpromoted by its partners, which has resulted in failed Workday implementations. So it requires careful selection and enterprise architecture expertise to be successful with Workday.

With the labor laws being different in every state and country, HCM products require deeper expertise in selection and implementation. HCM workflows might also be significantly intertwined with the ERP, MES, and Service Scheduling modules, mandating enterprise architecture expertise to drive operational efficiencies.

"[T]here are so many reasons for this. Often I see that testing windows are pushed due to build delays so you are doing SIT, FUT, and UAT all at the same time. Why is that? Because of improper resourcing/time estimates on the build of integrations. Then, you layer in really poor testing scripts that are designed to never fail = finding defects too late in the game."

Amanda Prochaska
Founder, Wonder Services

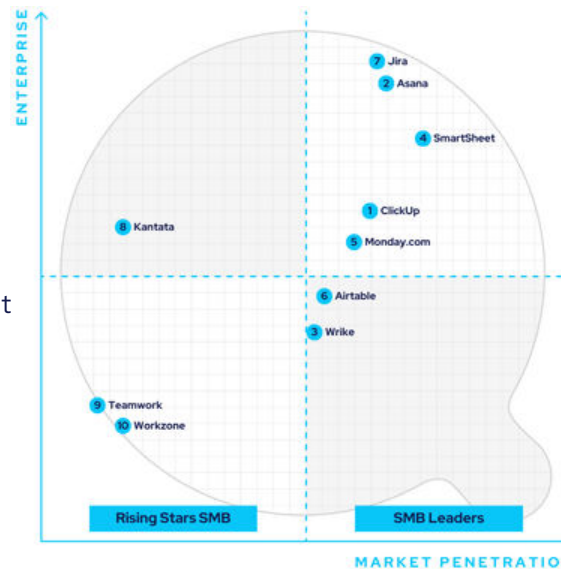


Top 10 Project Management Systems In 2025

Enterprises undertake a myriad of projects, each presenting distinctive characteristics—internal or external, short or long-term, billable or cost-centric, and varying across industries with specific scheduling and reporting needs. Construction projects diverge substantially from software development endeavors. Each falls under the umbrella of project management, necessitating diverse processes and unique capabilities from project management systems. How do you navigate this complexity effectively?

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Project management market share and documented commitment of the publisher through financial statement
- Ability to natively support diversified business models
- Acquisition strategy aligned with project management software
- User Reviews
- Must be a best-of-breed project management software



10 Workzone

Initially crafted with ad agencies and marketing firms in mind, Workzone shares similarities with software designed for software development companies. Primarily adept at handling internal projects and workflow components, it encompasses technical and operational features but may lack robust financial capabilities for aspects like invoicing, billing, resource budget planning, and project finance. Another potential drawback is its technology, which may not be as modern as the alternatives on the list. Despite these limitations, Workzone holds a significant market share in its industry verticals.

9 Teamwork

Positioned as the most balanced choice, Teamwork caters to client-centric professional services seamlessly integrating project delivery capabilities. Diverging from slightly flexible alternatives like Monday.com or Airtable, Teamwork adopts a prescriptive strategy akin to Wrike. Its advantageous alignment with the HubSpot ecosystem enhances its appeal. Notably, Teamwork excels in PSA capabilities, mirroring those of Kantana, and remains accessible for smaller businesses, earning it the top spot on our list.

8 Kantata

Kantata, a market leader, caters to companies requiring mature PSA capabilities. Its offerings include workflows like skill-based scheduling, capacity planning, and intricate milestones and billing processes. Kantata boasts two products—one tailored for a native Salesforce experience and the other for an external cloud-native experience akin to Wrike. However, it's worth noting that Kantata may not be the best fit for smaller companies due to user limits and its higher cost.

7 Jira

Jira stands out as a popular choice among software development firms, largely due to its parent company's suite offering bug tracking and integration with version management software. However, these capabilities may not be as relevant for other professional companies that prioritize critical functions like billing and invoicing. Despite its widespread use, Jira's strengths lie primarily in the software development and technology sectors, supported by a dynamic marketplace.

6

Airtable

Airtable belongs to the emerging category of project management tools alongside Monday.com and SmartSheet. These tools, essentially workflow management software, serve diverse needs and function as technical frameworks for various use cases, including project management and CRM. Their flexibility proves advantageous for industries with custom and evolving workflows, like financial services, non-profit organizations, or membership-based entities. However, deploying these tools may necessitate extensive consulting and custom development, potentially leading to over-engineered processes. Tight business rules and data integrity, common in more mature software, may be lacking.

5

Monday.com

Monday.com presents a comparable alternative to Airtable, differing subtly in its pricing model and industry alignment. Like Airtable, Monday.com is exceptionally well-suited for industries relying on custom workflows, particularly in workflow management scenarios where external collaboration holds equal importance to internal collaboration, resembling use cases found in surveys or customer experience software. However, similar to Airtable, the main drawback of Monday.com lies in its need for consulting assistance to implement more advanced business capabilities, which are pre-built in other options on this list.

4

SmartSheet

SmartSheet, similar to Monday.com and Airtable, despite UX not being as compelling as its rivals, is likely to have friendlier capabilities for traditional project managers, similar to Microsoft Project. It combines features similar to Monday.com and Airtable with the ability to create quick boards and Kanban queues along with the calendar view for easy scheduling. It also allows features such as easier workflow management for users, enabling them to enter their time, which will be recorded and accounted for on projects without much operational overhead. However, mature capabilities such as billing and invoicing, etc., would require substantial consulting help or an add-on on top of SmartSheet.

3

Wrike

Wrike, positioned in the prescriptive cloud-native category and primarily crafted for internal project management, stands out as an ideal choice for companies seeking versatile project management capabilities. In contrast to Jira and Asana which might have better integration for requirement management or bug tracking, Wrike exhibits superior integration and ecosystem, particularly in time management. Its robust data model surpasses that of smaller project management software, offering detailed capabilities for project portfolio management and sub-projects.

2

Asana

Asana stands out as the market leader, boasting a data and process model that is particularly accommodating for companies seeking traditional project management capabilities. While it delivers fundamental project management capabilities, especially for non-billable operations, it may not offer the same adaptive and collaborative workflow management capabilities like Monday.com or Airtable, which are designed for companies with customized project management workflows. Despite its rich ecosystem, professional services firms in areas such as accounting or legal may find it less relatable.

1

ClickUp

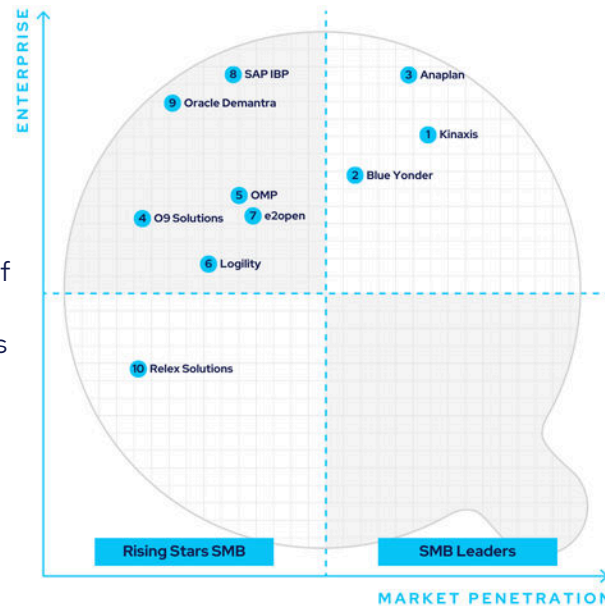
ClickUp offers an ideal combination of a new category of collaborative and adaptive project management, along with the traditional project management processes without requiring as much consulting and implementation efforts as with Monday.com, Airtable, or SmartSheet. ClickUp also has one of the strongest app ecosystems, filling the gaps of capabilities that might not be offered through the core platform. The biggest drawback of ClickUp would be with PSA-centric use cases with client billing, milestone tracking, and utilization.

The project management category may appear entwined with ERP or CRM, yet companies emphasizing internal project management workflows may find integrated solutions overly complex. The inclusion of accounting and procurement workflows could prove cumbersome, especially for companies not caring for cross-functional processes like cost accounting.

Top 10 S&OP Systems In 2025

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- S&OP market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with S&OP category
- User Reviews
- Must be a best-of-breed S&OP software



Running inventory-centric operations without a Sales and Operations Planning (S&OP) system is nearly impractical. Traditionally, businesses managed operations through complex spreadsheets, merging data from various sources. Despite ERP systems claiming S&OP capabilities, their rigid data structures for transactions hinder analytical workflows. An alternative system with a more flexible structure is needed, one that allows easy manipulation without disrupting core operations

10

Relex Solutions

While various systems cater to different industries, S&OP systems necessitate industry-specific capabilities. In retail, planning varies even between softline and hardline operations. Relex excels in mid-market retail, providing pre-configured workflows for streamlined implementation. Unique features like retail floor planning and planogram optimization, common in larger supply chain suites, make Relex a robust choice for retail operations without displacing existing operational systems like WMS or TMS.

9

Oracle Demantra

Much like SAP IBP, Oracle Demantra suits companies already using Oracle for various technologies like TMS, WMS, or ERP. Offering seamless integration for analytical processes closely tied to operational workflows, it proves beneficial for diverse businesses seeking robust S&OP capabilities. Particularly suitable for those with substantial implementation budgets to customize industry-specific processes, Oracle Demantra stands out as an excellent choice for large enterprises already integrated with Oracle retail solutions or ERP.

8

SAP IBP

Much like Oracle Demantra, SAP IBP caters well to businesses already utilizing SAP for various technologies like TMS, WMS, or ERP. Offering seamless integration for analytical processes closely tied to operational workflows, it proves beneficial for diverse enterprises seeking robust S&OP capabilities. Particularly suitable for those with substantial implementation budgets to customize industry-specific processes, SAP IBP stands out as an excellent choice for large enterprises already integrated with SAP S/4 HANA.

7

E2open

e2open stands out as a holistic suite encompassing supply chain aspects like network, planning, and execution. Its strength lies in the robustness of its network, setting it apart from other platforms. Beyond technical capabilities, e2open excels in delivering vital industrial data, enhancing essential KPIs such as demand forecasting and arrival times. Ideal for businesses seeking a comprehensive suite with S&OP capabilities.

6

Logility

Operating primarily in the prescriptive category, much like Relex, Logility caters to mid-market companies in specific industries. As a standalone S&OP system, Logility doesn't necessitate the replacement of other transactional or operational components, allowing department-level implementation. The simplicity of data modeling and implementation is an advantage, given its independence from other suite components. However, incorporating Logility into the architecture may demand extensive enterprise architecture expertise for master data governance and integration workflows.

5

OMP

OMP follows a prescriptive approach similar to Relex or Logility, offering a distinctive solution tailored for industries with intricate inventories like chemicals, life sciences, and metal. Due to the unique planning cycles and data models necessary for these industries, OMP stands out, rendering other industry-agnostic solutions less relevant. However, its industry-specific focus may pose a challenge for businesses spanning diverse sectors.

4

O9 Solutions

In the competitive landscape alongside enterprise-grade platforms like Blue Yonder and Anaplan, O9 emerges as a top choice for upper mid-market to enterprise companies. It caters to those seeking extensive technical capabilities for enterprise-wide planning, particularly within retail-centric industries. Many mid-market or outdated enterprise solutions may lag in technology investment, lacking advancements in AI and ML crucial for effective S&OP systems.

3

Anaplan

Anaplan stands out as a highly sophisticated platform catering to enterprise-wide connected planning across FP&A, S&OP, and more. Unlike some prescriptive solutions, Anaplan minimizes the need for industry-specific proprietary knowledge. While its planning models may not match the scalability of Anaplan, it appeals to skilled planners accustomed to extensive spreadsheet use due to its flexible platform. However, leveraging Anaplan may entail a substantial consulting budget for workflows that could be pre-configured in other solutions.

2

Blue Yonder

Similar to e2open, Blue Yonder offers a comprehensive suite encompassing various supply chain components such as WMS, TMS, and S&OP. Contrasting with e2open, Blue Yonder relies on partners for its network needs instead of having its proprietary network. Although it lacks a proprietary network, Blue Yonder excels in handling enterprise workloads, particularly in the retail sector. Comparing it with a few others, Blue Yonder and Anaplan take divergent approaches to their suites. Anaplan prioritizes connectivity and traceability in planning, whereas Blue Yonder excels when S&OP processes demand tighter embeddedness with operational processes.

1

Kinaxis

Compared to other prescriptive options such as Logility or O9, Kinaxis is perhaps the ideal solution, covering many different market segments. Although it doesn't have the same suite capabilities as Blue Yonder, it also makes it slightly friendlier for companies looking for a standalone S&OP system without requiring alignment with other departments. Like e2open, Kinaxis is perhaps the only other solution that owns a network, providing superior decision-grade data than other platforms. Contrasting with Anaplan, it would not require as much consulting help, especially for manufacturing companies, for which supply chain planning is far more detailed and different.

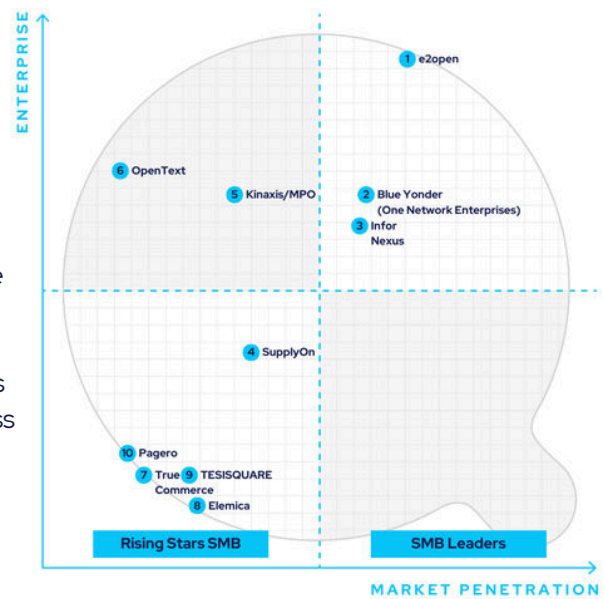
Navigating the myriad S&OP systems can feel like solving a puzzle, with each platform adopting a unique approach tailored to traceability and connectivity goals. Industry considerations, including planning cycle nuances, further influence the suitability of each solution. As you contemplate an S&OP system, articulate its scope and collaboration with enterprise data.

Top 10 Supply Chain Business Network Platforms In 2025

Before the advent of supply chain business networks, industries depended on research and survey-based approaches for supply chain planning. Companies in the data business often erred significantly, leading to inefficiencies throughout the supply chain. Establishing networks was challenging due to communication standard disparities and the difficulty of persuading the entire industry to converge on a single platform. While business-to-business communication relied on standards like XML or EDI, they offered limited connectivity and acknowledgment without centralized repositories to drive industry-wide supply chains.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Supply chain business network platform market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with supply chain business network platforms
- User Reviews
- Must be a best-of-breed supply chain business network platform



10. Pagero

Just like the role OpenText played for enterprise e-invoicing and document exchange for the stakeholders across the supply chain, Pagero’s cloud-native platform filled the same gap for SMBs, offering them a network very similar to OpenText. Pagero would be relevant if you are looking for a good document exchange solution, including e-invoicing support with trading partners for various markets. While Pagero’s network fills the gap with critical supply chains, they are not the best fit if you are looking for a vendor that could provide end-to-end supply chain visibility and traceability data.

9. TESISQUARE

TESISQUARE presents a unique network origin, initially focusing on supplier collaboration within manufacturing and engineering value chains. Unlike carrier or e-invoicing networks, its strength lies predominantly in the European market, offering specific capabilities within the supply chain. While not comprehensive for the entire supply chain, it excels as a supplier collaboration network with strength within the SAP ecosystem.

8. Elemica

Elemica originated as a carrier and document exchange network, similar to EDI vendors or shipping platforms, with a primary focus on process manufacturers. Since process manufacturers require unique capabilities with document exchange and shipping needs, their network is focused on specific geography, use cases, and industries, limiting their applicability as a true supply chain business network. But they could be a great platform if you are looking to communicate and collaborate with industry-focused trading partners.

6. OpenText

OpenText provides enterprise-grade content exchange and trade document networks primarily for enterprise ERP ecosystems such as SAP or Oracle to provide connectivity with trading partners. With ESG and eInvoicing capabilities housed with these networks as well, their network has been expanded to these workflows, expanding their network further. While it's a great platform for connectivity and collaboration, it's not necessarily a true supply chain business network.

4. SupplyOn

Much like OneNetwork and TESISQUARE, SupplyOn centers around procurement and supplier collaboration. While OneNetwork emphasizes global collaboration and industry-wide BOM tracking, SupplyOn, akin to TESISQUARE and Infor Nexus, specializes in procurement and supplier collaboration. It may not delve as deeply into the carrier aspect of the network. Although possessing data from a broader array of companies and countries than OneNetwork, its dataset might not match the completeness of networks like e2open. However, for those focused on procurement and supplier collaboration needs, SupplyOn stands out.

7. True Commerce

True Commerce is primarily an EDI network connecting trading partners in the automotive ecosystem, serving as a visibility platform for the automotive industry. While it could be a great value add for SMBs that might have access to a more robust supply chain platform, it's not necessarily a true supply chain business network. But it could be a great network if your goal is to primarily connect with trading partners through EDI.

5. Kinaxis/MPO

Kinaxis, just like e2open, takes a very different approach to its suite and has a true supply chain business network that it owns, enabling the AI and ML workflows crucial for decision-grade data. Their network will provide end-to-end supply chain traceability for all global modes and control tower capabilities. While it might be a great planning suite for manufacturing-centric verticals, as in these industries, planning processes do not need to be tightly integrated with operational workflows, it might not be a great fit for retail-centric verticals as they require planning processes to be tightly integrated with order management, store and floor planning, warehouse, and procurement.

3. Infor Nexus

Infor Nexus primarily serves as a visibility platform, focusing on the procurement and supplier collaboration aspects of the network. It relies on external datasets, such as those from partners like Project44 and FourKites, for carrier-side information. While it excels in meeting the supplier and procurement collaboration needs of verticals like automotive and aerospace, it falls short of providing a comprehensive supply chain business network. Nevertheless, its strength lies in fostering tight collaboration with other architectural layers, such as WMS and ERP, in industries where this collaboration is crucial.



2. Blue Yonder(One Network Enterprises)

One Network is one of the strongest networks for industry-wide collaboration and control tower capabilities. The network features a strong partner network, providing traceability across geopolitical boundaries using its unique technology capabilities, allowing it to have such traceability. The network is also uniquely positioned for complex scenarios such as counterfeit tracking or global pharma supply chain, making the network more relevant for the execution function than for planning. One Network Enterprises has been acquired by Blue Yonder, making Blue Yonder one of the strongest options comparable to e2open combining most capabilities related to network, planning, and execution.

1. e2open

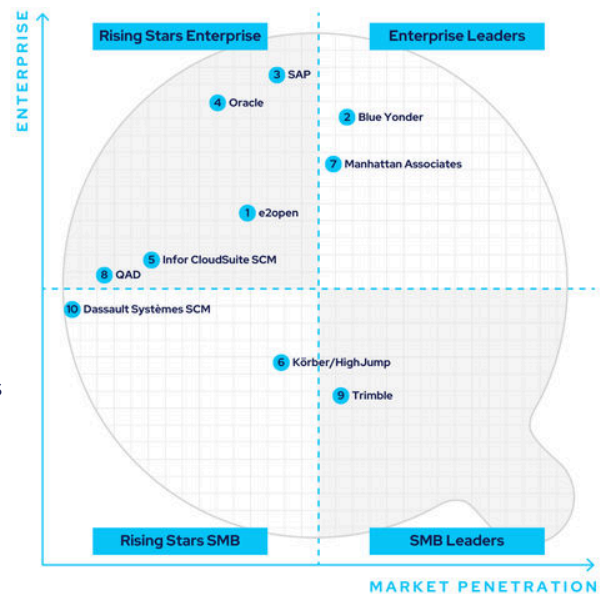
e2open stands out as one of the most comprehensive platforms, encompassing a wide range of capabilities within a suite, including planning and execution, coupled with a robust network. In contrast to other solutions that may focus on specific datasets and networks in particular regions, e2open's network spans suppliers, carriers, and ELD data, covering all modes and geographies. Its versatility shines when managing diverse operations, seamlessly supporting combined business models such as retail and manufacturing under the same portfolio.

Top 10 Supply Chain Suites In 2025

In certain industries such as retail, Supply chain suites restrict ERP suites to financial reporting, while tightly collaborating with WMS, TMS, and OMS for mature capabilities like inventory management and allocation, decoupling the state of financial processes from operational transactions. This is done to expedite the speed of transactions as the cost tracking is not relevant for these industries with commoditized transactions. In retail, procurement aligns closely with merchandising and planning engines. Conversely, in manufacturing and industrial settings, procurement collaborates more directly with production and accounting, making the role of an ERP more important for those industries. Depending upon the industries and business model, each of these suites may play a much deeper role while collaborating with ERP in varying capacity.

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Supply chain suites market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with supply chain Supply chain suites
- User Reviews
- Must be a best-of-breed Supply chain suite



10. Dassault Systèmes SCM

Dassault Systèmes employs a distinctive approach in its suite, positioned at the crossroads of ERP, CAD, and S&OP. Although tailored for supply chain industries overlapping with process manufacturing and retail, it caters to automotive- and aerospace-centric sectors, necessitating robust supplier collaboration. The suite's roots lie in plastics, offering integrated tools for plastic-like operations across diverse industries. In contrast, other suites like Blue Yonder may face challenges in these specialized sectors.

9. Trimble

Navigating supply chain planning, particularly in sectors like transportation, construction, and agriculture brings unique hurdles. Transportation prioritizes dispatch and preventive maintenance, influenced by distinctive driver-side compliance processes. Also, agriculture adds seasonal and crop quality factors to the planning mix. In construction, quoting processes wield substantial influence over supply chain planning.

8. QAD

QAD adopts a strategy similar to Dassault's by integrating CAD/PLM, S&OP, WMS, TMS, and ERP capabilities. Tailored for retail and supply chain-centric industries, it leans towards particularly discrete manufacturing and is less focused on process manufacturing for several industries like automotive and life sciences. QAD's suite is structured around unique product categories, thus influencing supply chain and production processes across diverse industries. It mirrors the strategies of many supply chain suites, which exclusively focus on the supply chain function, omitting the ERP aspect, therefore making the QAD suite unique.

7. Manhattan Associates

Manhattan specializes in retail and warehouse execution, tailored for industries tightly integrating physical store planning with warehousing and merchandising processes. These industries, less cost-focused with stable pricing models, don't demand meticulous cost tracking, as seen in complex industrial sectors. The industries that Manhattan targets adopt a distinctive approach to intricate functions like inventory management, allocation, and omnichannel fulfillment.

6. Körber/HighJump

Körber, akin to Manhattan, adopts a distinct approach with a focus on warehouse and execution components. It caters to 3PL-centric business models, crucial for distribution-focused companies often incorporating 3PL elements. Unlike Manhattan, Körber targets the mid and upper-mid markets, integrating processes like WMS, TMS, and freight claims management. While comprehensive, it lacks certain critical components found in other suites.

5. Infor CloudSuite SCM

Similar to Dassault and QAD, Infor CloudSuite SCM adopts a distinctive approach, integrating diverse processes like CAD/PLM, WMS, ERM, and HCM with S&OP processes. It proves ideal for companies with manufacturing-heavy business models where supply chain processes tightly intertwine with new product development and ERP. Pure-play retailers might find other suites more suitable, as S&OP processes may not align with their needs.

4. Oracle

Oracle Supply Chain Suite proves ideal for global enterprises with diverse operations and various business models, effectively accommodating the planning cycles of multiple industries. In comparison, industry-specific suites like Infor, QAD, or Trimble may face challenges in handling such diverse operations. Mid-market-focused suites may struggle with the high workload of enterprise-level planning cycles, especially those involving millions of transactions per hour. While limited by its proprietary network, Oracle Supply Chain Suite excels in providing operational capabilities for global enterprises that demand seamless integration across systems such as HCM, ERP, WMS, and TMS with S&OP.

3. SAP

Like Oracle, SAP Supply Chain Suite is tailored for global enterprises with diverse operations, accommodating planning cycles across various business models. Unlike Oracle, SAP offers friendliness for product-centric industries deeply involved in cost accounting and MRP-driven processes. Mid-market-focused suites may struggle with the high workload of enterprise-level planning cycles, dealing with millions of transactions per hour. Despite its proprietary network limitations, SAP Supply Chain Suite excels in providing operational capabilities for global enterprises, seamlessly integrating systems such as ERP, WMS, HCM, and TMS with S&OP.

2. Blue Yonder

Blue Yonder stands out as a unique suite, akin to Manhattan, offering retail-centric capabilities enriched with robust external supply chain processes and control tower capabilities. In contrast to industry-specific suites like QAD, Infor Nexus, and Dassault, Blue Yonder may not excel in industries requiring seamless integration of business rules from WMS, TMS, and OMS with ERP, particularly those emphasizing cost accounting and MRP-centric processes. Unlike SAP and Oracle, which may lack depth in external supply chain capabilities, Blue Yonder proves more suitable for industries necessitating the decoupling of cost-centric overhead. Differing from e2open, Blue Yonder lacks its proprietary network.

1. e2open

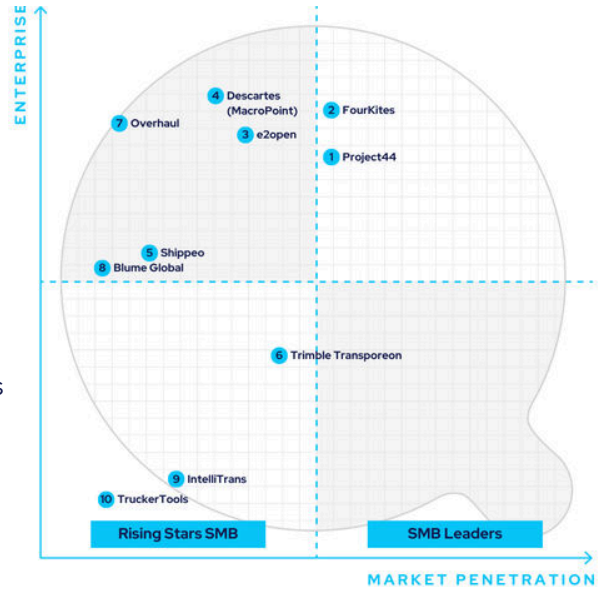
e2open takes a unique approach to its suite, straddling the realms of retail and manufacturing and integrating transactional CRM processes. Diverging from Blue Yonder, e2open prides itself on its proprietary network, ensuring precise decision-grade data, a valuable asset for companies contending with demand forecasting challenges and data dependencies on external factors. While exhibiting similarities with QAD or Infor Nexus in various capacities, e2open encounters constraints in architectures necessitating ERP cross-pollination for specific industries. In such contexts, e2open may not be the optimal choice. Nonetheless, its robust enterprise-grade capabilities and deep supply chain processes catapult it to the forefront.

Supply chain suites have diverse origins, evolving from various perspectives—some rooted in execution systems, others in planning. Over time, they've developed significant overlaps with each other and other enterprise software categories, intensifying architectural challenges. In your quest for a supply chain suite, delineate your business process boundaries and determine their natural placement based on required process embeddedness.

Top 10 Real-Time Transportation Visibility Platforms 2025

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Real-time visibility platforms market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with real-time visibility platforms
- User Reviews
- Must be a best-of-breed real-time visibility platform



Real-time transportation visibility platforms, with apparent similarities abound, tout comparable capabilities. Yet, distinctions emerge; some specialize in specific modes, while others offer multi-modal prowess. Geographic coverage further diverges, with prevalence in North America for some and exclusive focus on Europe for others. While some function as standalone applications, their primary role lies in empowering supply chain control tower applications—integral solutions seeking to finalize the supply chain equation through carrier-centric data.

10

TruckerTools

TruckerTools is perhaps the smallest solution on this list, targeting freight brokers to see load visibility. The number of modes is substantially limited, without the coverage for modes such as air or ocean. With the limitation of its network, it might not be the best fit for companies seeking a platform with international multi-modal traceability.

9

IntelliTrans

IntelliTrans, compared to TruckerTools, is slightly richer with its capabilities, especially for multi-modal scenarios. While it covers several models, the network coverage is limited compared to other advanced tools such as Project44 or FourKites. It is a great option for SMBs looking for multi-modal capabilities with some level of TMS integration provided, but may not be the best fit for large enterprises seeking comprehensive network coverage and end-to-end supply chain traceability.

8

Blume Global

Blume Global is another option for SMB companies needing global visibility with multimodal features. Post-acquisition with WiseTech, it can now offer broader capabilities, including pre-integrated TMS offerings, just like Trimble. Due to the limited AI and ML workflows and network coverage, it might not be the best fit for companies seeking mature capabilities.

7

Overhaul

Overhaul is an enterprise-grade option for companies seeking global trade traceability and transparency. It has some unique capabilities, such as integrated RiskGPT, helping companies manage their risks. However, the platform might not be built as other solutions on this list, with limited options to mine relevant insights.

6

Trimble Transporeon

Trimble Transporeon is a comprehensive solution, particularly strong with the carrier and trucking side of data, making it ideal for transportation companies or companies with internal fleets, such as agriculture or construction. It might not be the best fit for enterprises seeking mature capabilities with AI and ML workflows and multimodal traceability through the international supply chain.

5

Shippeo

Shippeo is great for companies looking for road transportation visibility, mainly focused on Europe. Its network is not as comprehensive as other solutions such as Project44 or FourKites, especially covering different geographies. While a great solution for Europe, it might not be the best fit for companies seeking global traceability across all modes.

4

Descartes (MacroPoint)

Descartes MacroPoint is the best for global freight visibility and carrier capacity for logistics-intensive businesses such as freight brokers or logistics service providers. Unlike other solutions on this list with limited data and security models, Descartes MacroPoint offers enterprise layers that accommodate the needs of different personas, ensuring the right insights for the right user profiles. Descartes MacroPoint would not be a great fit for SMB companies seeking a simpler solution with a limited budget.

3

e2open

e2open is the best for global companies looking for a complete suite, including network, planning, and execution. While it relies on other solutions, such as FourKites and Project44, for carrier-centric data, it could be powerful for companies seeking real-time transportation visibility platforms because of other datasets, enriching the transportation data and completing the supply chain equation. It might not be the best fit for companies seeking simpler solutions.

2

FourKites

FourKites is perhaps the best platform for enterprises seeking standalone real-time transportation visibility platforms. It has global coverage across all modes. But might not be the best for companies seeking suite capabilities across the supply chain and not just transportation. Also, it might not be the best fit for SMBs seeking an affordable solution.

1

Project44

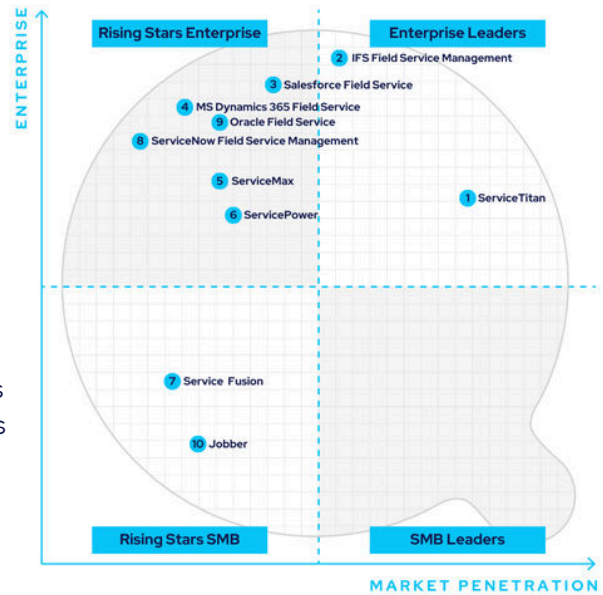
Project44 is the best for SMBs seeking standalone real-time transportation visibility platforms. Compared to FourKites, Project44 is relatively friendlier for SMBs. It also provides a guarantee for carrier compliance, a huge risk for companies struggling to get their carriers on the platform, leading to misleading insights and unreliable data. Project44 is also GDPR-compliant, making it friendlier for geographies such as Europe.

Real-time transportation visibility platforms, with apparent similarities abound, tout comparable capabilities. Yet, distinctions emerge; some specialize in specific modes, while others offer multi-modal prowess. Geographic coverage further diverges, with prevalence in North America for some and exclusive focus on Europe for others. While some function as standalone applications, their primary role lies in empowering supply chain control tower applications—integral solutions seeking to finalize the supply chain equation through carrier-centric data.

Top 10 Field Service Systems in 2025

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- Field service systems market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with field service systems
- User Reviews
- Must be a best-of-breed Field service system



Unlike most other industries, field service industries have their own “personalities,” with varying business processes depending upon the micro-vertical. An example of these micro-verticals could be traditional field service categories such as appliance repair – or home cleaning (think of field workers carrying mobile devices!). However, they could also be the field service department intertwined with other business processes such as engineering, production, or post-sales service. While several ERP systems contain a field service module, the field service systems are generally best-of-breed. With transactional speed requirements similar to those of a POS or CRM-centric architecture, they are generally not as embedded with other operational processes.

10

Jobber

Jobber is a relatively small system primarily designed to work alongside QuickBooks for field service management. While it offers effective scheduling capabilities, its inventory management may not be as comprehensive. This can pose challenges, particularly with job costing, from an operational and project management perspective. Although you’ll be able to schedule resources and manage calendars efficiently, tracking the profitability of jobs could be difficult due to the limitations in inventory coding. On the positive side, these simplified features also mean the implementation process will be much easier.

9

Oracle Field Service

Oracle Field Service is an enterprise-grade solution, unlike Jobber, which is more introductory. It is ideal for companies using Oracle Cloud ERP, typically large enterprises. Oracle has a significant market share in industries like media, oil and gas, and service-centric businesses, offering tailored capabilities. It’s also highly robust in the public sector, particularly for scenarios like emergency communication that require device integration in the field, with many of these features natively built into the solution.

8

ServiceNow Field Service Management

ServiceNow offers various templates tailored for field service companies. However, it has traditionally been more focused on IT-centric, data center-centric businesses that require IT planning and compliance. It handles more complex tasks like integrating with data center devices, managing billing and invoicing, and supporting hardware-based consumption billing. These are the scenarios where ServiceNow is an ideal fit.

7

Service Fusion

Service Fusion is ideal for home services SMBs looking for a suite that combines commerce and field service. It's slightly more advanced than Jobber, but still a smaller solution compared to some of the other products on this list.

6

ServicePower

ServicePower is ideal for relatively larger companies seeking a stronger scheduling engine along with fully managed offerings, including field service workers for verticals, especially for insurance or utility industries. Without a strong ecosystem, especially for industries such as home or appliance repair, ServiceTitan might not be a great fit for those industries.

5

OMP

ServiceMax is ideal for enterprises seeking a native Salesforce platform with industry 4.0 use cases. Now owned by PTC, ServiceMax is a great fit for industries where field service needs integrate closely with CAD or PLM products. It's particularly useful in industry 4.0 scenarios that involve communication with edge devices, data collection, and combining that data with field service monitoring.

4

Microsoft Dynamics 365 Field Service

Microsoft Dynamics 365 Field Service is ideal for companies already using Microsoft Dynamics products, whether it's the CE suite or any of Microsoft's ERP solutions. Its enterprise-grade and customizable model fits uniquely for companies seeking to customize these capabilities on top of the Microsoft Dynamics 365 Field Service Platform. With the risk of being perceived as overwhelming, it might not be the best for SMB companies to have a simpler and prescriptive solution without requiring an expensive implementation.

3

Salesforce Field Service

Salesforce Field Service is another solution within the Salesforce ecosystem, part of the Field Service Cloud they offer. It's fit for companies already on Salesforce looking for embedded experience with Salesforce CRM and CPQ processes. It might not be the best fit for companies not on Salesforce or seeking prescriptive solutions with pre-configured processes for industries such as home services or paint.

2

IFS Field Service Management Software

IFS field service management offers the best of both worlds, combining field service capabilities with tight integration into the ERP layers provided by the same vendor. While IFS excels in managing operational processes, challenges may arise with CX-centric processes, such as integrating with your call center or CRM systems. This can become more costly, as these capabilities may need to be custom-built. IFS offers flexibility similar to ServiceMax for Industry 4.0 scenarios, but it doesn't cover all aspects of customer experience. Choosing the right architecture depends on your priorities. If operational integration and flexibility in field service are key, IFS is a solid choice.

1

ServiceTitan

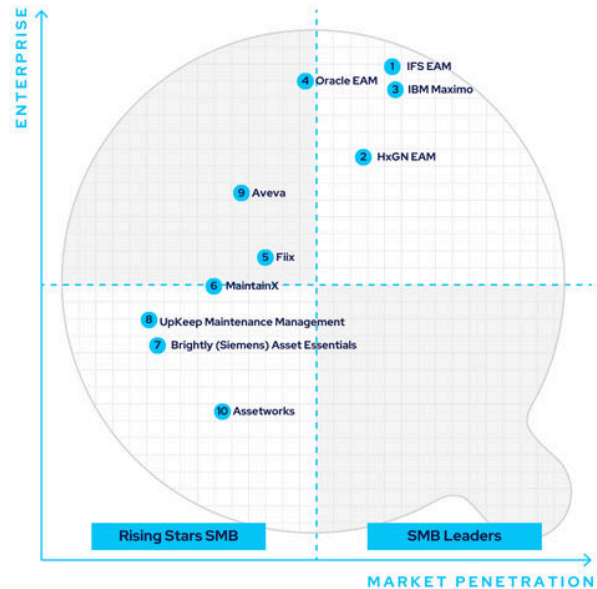
ServiceTitan is ideal for SMBs, particularly those in residential services, seeking a user-friendly solution with a lower implementation cost. It offers strong connection points, especially for CRM and lead management. In field service businesses, ServiceTitan often functions as the CRM, with robust capabilities to support these workflows. Most companies in this sector likely won't need an additional CRM to manage their processes.

In contrast to other industries, field service industries possess unique characteristics and varied business processes that reflect the specific needs of their micro-verticals. While some ERP systems include field service modules, specialized, best-of-breed field service systems are more effective in meeting the rapid, transactional demands akin to POS or CRM architectures, allowing for a more focused and efficient response to the needs of field service work.

Top 10 EAM Systems In 2025

Criteria:

- Overall market share/# of customers
- Ownership/funding
- Quality of software development
- Community/Ecosystem
- Depth of native functionality for specific industries
- Quality of publicly available product documentation
- EAM systems market share and documented commitment of the publisher through financial statements
- Ability to natively support diversified business models
- Acquisition strategy aligned with EAM systems
- User Reviews
- Must be a best-of-breed EAM system



Similar to other horizontally overlapping categories transcending industries, the Enterprise Asset Management (EAM) category is broad, covering a range of solutions, some integrated with hardware vendors while others deeply buried inside ERP systems. The range of use cases might differ based on the industries – and the asset types tracked. For example, in real estate industries, non-profit, or public sector, the assets include buildings requiring compliance with buildings (and city codes). Other industries, such as food and logistics, might have their own fleets – and integrate with vehicle manufacturers. Yet another industry could be large equipment manufacturing, requiring integration with OEM manufacturers and their processes – making the EAM category especially challenging.

10. Assetworks

Assetworks is ideal for companies seeking a smaller solution in North America with traceability and maintenance requirements of buildings and fleets. Despite supporting diverse asset types compared to smaller solutions, it might not be the best for large, global companies seeking a centralized solution covering many geographic areas and layers with asset types, which would be available with more enterprise-grade solutions such as IFS or IBM Maximo. They might also not be suitable for companies where inventory and cost tracking is a higher priority than mobile and user experience.

9. Aveva

Aveva is ideal for OT-centric and industry 4.0 industries seeking a pure-play platform – without future expectations of supporting newer business models (or asset types). Providing the integration with hardware vendors, it's an ideal fit for companies caring for tight embeddedness in their engineering and MES workflows embedded within the same suite. This architecture generally disconnects the operational and financial aspects but might be beneficial for companies prioritizing their plant operations over the needs of other departments at the corporate level.

8. UpKeep Maintenance Management

Similar to smaller-sized systems such as Assetworks, UpKeep maintenance management is a smaller point solution relevant for SMBs seeing a cloud-native, easier-to-use, and mobile-friendly solution. But these benefits come with compromises, which would be relevant for slightly larger organizations caring for slightly more detailed transactions and data integrity. It might not also be relevant for companies seeking global and diverse asset types.

7. Brightly (Siemens) Asset Essentials

Brightly Asset Essentials, now owned by Siemens, would primarily be software for companies using Siemens machines without the need for additional workflows – or an appetite for other software. Due to Siemens' focus primarily on selling their machines – and this being an add-on feature, it might not receive the same amount of R&D (or attention) as software providers whose core business is to sell software. Also, the competing machine providers would not be as integrated with their software because the goal of the software is to have vendor lock-in. If you are looking for an agnostic option covering more than what this offers, this might not be the best option. But if you can't afford another software (or have limited use cases just to track and maintain Siemens machines), this would be a great option.

6. MaintainX

MaintainX is comparable to UpKeep Maintenance and Assetworks, but it is slightly larger and more mid-market friendly than Assetworks. From a technology standpoint, it is cloud-native, mobile-friendly, and offers more layers than Assetworks. Its key strengths are that it's mid-market friendly, easy to learn and configure, and designed with mobile accessibility in mind. Hence, MaintainX secures the #6 spot on our list of top EAM systems.

5. Fiix

Fiix is also a mid-market-friendly system, with MaintainX being a suitable comparison. It is a cloud-native, mobile-friendly platform that is easy to learn and configure, offering a user-friendly experience similar to MaintainX. In terms of size, it's larger than smaller systems such as AssetWorks or UpKeep maintenance but smaller than other enterprise-grade systems that may have many detailed security and data layers.

4. Oracle EAM

Oracle EAM is an enterprise-grade asset management product particularly suited for companies using Oracle Cloud ERP. Offering more advanced data models compared to smaller SMB-focused systems, it handles complex asset hierarchies and diverse asset types. However, it lacks the pre-built integrations often found in smaller solutions, leading to a more challenging and resource-intensive implementation. The learning curve is steeper, and using the system generally requires more internal and external expertise, making it harder to use overall.

3. IBM Maximo

IBM Maximo is one of the most widely adopted asset management products, particularly for enterprises, excelling in sectors like public services and nonprofits. Its key strength lies in its deep enterprise-grade capabilities to handle complex scenarios, hierarchies, and diverse asset types. Architecturally, it's similar to Oracle EAM, offering strong data and process models but lacking pre-built integrations. Like Oracle EAM, Maximo can be difficult to use, requiring extensive training, change management, and a significant investment in implementation. However, its high customizability allows for extensive support of unique data models and processes.

2. HxGN EAM

HxGN EAM is also an enterprise-grade asset management solution. Previously owned by Infor, Hexagon now maintains a close alignment with existing Infor installations. However, as a machine provider, Hexagon's primary focus is on selling its machinery, which leads to tighter integration with its asset management product. While HxGN EAM offers slightly more advanced enterprise capabilities, its incentive is to integrate closely with its own assets to drive sales. It is comparable to IBM Maximo and Oracle EAM but is generally more friendly towards OT applications. In contrast, it may not provide as many layers or detailed capabilities for property management or transportation management scenarios.

1. IFS EAM

IFS EAM is an enterprise-grade asset management solution that is widely adopted in industries such as MRO, airlines, oil and gas, and telecom. With their workflows closely integrated with field service operations, these sectors typically require complex scheduling and management of intricate assets. A significant advantage of IFS is its two best-of-breed enterprise-grade products, field service management, and enterprise asset management, which work seamlessly together for these industries. Compared to other enterprise-grade solutions like IBM Maximo or Hexagon EAM, IFS offers superior technology, making it somewhat easier to use.

The EAM category spans a wide array of solutions, reflecting the diverse needs and assets of different industries. From buildings in real estate and public sectors to vehicle fleets in logistics or specialized machinery in manufacturing, each industry integrates EAM differently, often alongside ERP systems or directly with hardware vendors. This diversity and the need for industry-specific compliance and integration make EAM particularly complex, demanding adaptable solutions tailored to each sector's unique asset management needs.

Top 10 Integration Technologies In 2025

System integration is like a commute, getting you from A to B. So why is there an overload of integration technology options? Well, sometimes the destination is a system – in other cases, an external business. The nature of data transport, volume, and mode determines the right integration technology choice. These options aren't just programming languages but products of industry collaboration for interoperability. They may seem like business jargons, but each plays a vital role.



10. Point-to-point

Most newbie business system buyers mistakenly assume their unlimited bandwidth, oblivious to the fact that integrating additional code can strain system performance. Enterprise software publishers don't typically plan for extra firepower in their core offering.

Native point-to-point integration comes in different forms: some people code it recklessly, bypassing security rules and tampering with the database directly, while others use add-ons or external components for deployment. The point-to-point integrations are generally coded within the platform such as Shopify or Salesforce utilizing core technologies of the native platform as opposed to using an external platform deployed on a dedicated infrastructure, decoupling workloads and providing scalability.

9. Workflow Automation/RPA

The RPA technologies are generally suitable for ad-hoc workflows to replicate desktop-centric processes without requiring formal transactional control. These technologies are generally good for automating physical processes that can't be formalized or are likely to change such as scanning of invoices and capturing data. The workflow automation, on the other hand, provides enterprise grade workflows collaborating with many technologies, providing a relatively ad-hoc layer to collaborate with human and system-centric processes. These technologies generally sit on top of ERP or CRM systems, helping with ad-hoc workflows such as data capture from third-parties or cleansing master data before entering them in transactional systems.

8. eCommerce and Marketplaces

While some people might believe that eCommerce or marketplaces might not be integration technologies. But sometimes, they serve very similar purposes, gathering information from customers and vendors, as well as integrating with sales channels. While there might be a possible point-to-point integration with eCommerce and marketplaces, they generally require additional technologies on this list to enable the integration such as iPaaS or EDI. Marketplaces integrations are most relevant when a business needs to sell on a specific marketplace but using their integration (and platform) for other channels may not be the best idea. eCommerce-centric integration is useful when customers might be willing to use an eCommerce platform to transact. Otherwise, EDI integration might be a superior choice.

7. API

Most people misunderstand the role of APIs. The APIs hide the technical boilerplate of underlying technologies obeying the same security rules as the user interface. This prevents the tempering of databases directly while separating integration from core system concerns. They are not meant to be plug-and-play, although often perceived, so designing architectural and reconciliation workflow is critical with APIs. APIs are most internal communication when shared credentials with third-parties is feasible. When collaborating with external parties, APIs may not always be the best and cost-efficient options as they would require building API workflows and integrations from scratch, generally available pre-baked with technologies such as EDI or punchouts.

6. P2P and Punchouts

Larger companies generally use a procurement system to streamline their procurement processes. The P2P systems may have a gateway built with eCommerce systems to communicate between the client's P2P and the vendor's eCommerce. They can share their catalog, complete transactions, and receive updates on their orders. P2P and punchouts will be useful when you are large enough to influence your vendors to publish their catalogs and pricing in your centralized P2P system managed for all your vendors. If not, other integration technologies might be a superior choice.

5. ISV Add-ons

Some ISV add-ons could provide the same capabilities as integration technologies, as well as augmenting business objects for improved traceability and collaboration with business partners such as customer and vendor portals. Despite their plug-and-play integration capabilities, analyzing architecture and reconciliation flows is still critical.

4. WebHooks

WebHooks allow hijacking web events, allowing to perform processing in an external application rather than relying on the application's core capabilities. They are the primary reason how modern SaaS apps can intertwine their capabilities seamlessly such as MailChimp capturing triggers of Shopify – and triggering email automation workflows. While WebHooks are great for event and marketing-centric workflows, they might not be the best fit for transactional workflows where sequential processing and transactional guarantees may be critical for scenarios such as sales comp calculations – or completing a workflow of a supply chain transaction.

3. ETL

ETL is generally faster at bulk data movement for database-to-database communications. They are especially useful when a bulk of data needs to be moved to isolated locations – without impacting core operations or transactional workflows. These technologies are useful for building data warehouses or data science applications for after-the-fact analysis or macro-level planning. Using ETL technologies in between transactions may not be the best idea. The newer technologies such as Snowflake might allow building analytical applications without moving data or requiring ETL technologies but in general the use of ETL technologies would be useful in moving data for analytical or data applications.

2. EDI

EDI is not just a technology but it also contains standards for business-to-business collaboration. This is especially important for trade-centric and regulated processes such as e-invoicing where industry-wide compliance with specific messaging standards would be key. Most of the supply chain and documentation exchange platforms use EDI technology underneath and might be one of the best options for external communication with customers and suppliers when business partners are willing to be EDI-compliant.

1. iPaaS/Middleware

The role of iPaaS and middleware is to connect external wiring among different systems in the architecture. They can communicate among heterogeneous technologies but are primarily limited to system-to-system communication. They might not be the best choice for the system workflows needing to be augmented with human ones. Due to their design, they are also not suitable for database level integrations or data movement.

Integration isn't just about moving data from point A to point B. That's the easy part. The real challenge lies in tackling compliance issues and building an enterprise architecture aligned with business and performance goals. So, if you're new to the integration game, don't get swayed by the latest technologies. Dig deep into their origins and intended use, and apply them wisely.

1. OECD: Global economy is turning the corner as inflation declines and trade growth strengthens. (2024, September 25). OECD. Retrieved November 3, 2024, from <https://www.oecd.org/en/about/news/press-releases/2024/09/oecd-global-economy-is-turning-the-corner-as-inflation-declines-and-trade-growth-strengthens.html>

About ElevatiQ

With the vendor-agnostic, independent approach to business transformation, ElevatiQ is a boutique consulting firm specializing in enterprise software research and advisory, whether you need help building a roadmap for your business transformation strategy, selecting and procuring enterprise software systems, optimizing current business processes, managing change, or rescuing struggling projects.

With over 200 successful digital transformation projects, ElevatiQ is uniquely positioned to build the digital process architecture for the next phase of your growth.

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