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The Importance of Process Optimization in System Transformation

How Process Mining Enables Continuous Process Optimization

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Introduction

Innovative technologies have been emerging at a rapid pace over the last few years. The digital revolution has compelled every organization to reinvent itself, and, enterprises, irrespective of their industry or size, are moving away from legacy ways of working, embracing modern technologies, and driving digital transformation as a strategic agenda. With digital transformation becoming a key to sustaining business in today's financially uncertain and competitive landscape, system transformation provides a foundation for enterprises to build a digital-first business.

In fact, system transformation can provide businesses a way to harness next-generation software and technology by complementing or replacing legacy systems to move to new enterprise systems and applications. Also, there are many legacy processes that are built on old systems which are rigid and slow, impacting the overall business. System transformation plays a vital role in enabling digital transformation, as it helps enterprises keep up with new hardware and software advances to meet market demands and create greater value. Key types of system transformation projects are application consolidation, greenfield implementation, brownfield implementation, and hybrid implementation.

To undertake any kind of transformation, enterprises need to think about their operations and reimagine the business by seamlessly integrating technology, processes, and people. A majority of enterprises typically embark on system transformation projects without understanding their existing business processes. Performing system transformation on non-optimal processes can amplify underlying inefficiencies and impact the value from the transformation project. Hence, it is critical for enterprises to focus on process optimization that involves understanding as-is processes, eliminating process inefficiencies, and reengineering processes to achieve the desired value from system transformation projects.

Although process optimization prior to and during system transformation projects can help enterprises achieve superior business outcomes, enterprises face several challenges in implementing it. Some mature enterprises, however, have successfully overcome the barriers to embed process optimization as a key component of their system transformation projects, enabling them to effectively achieve the planned business and IT objectives, as well as improve the Return on Investment (RoI) from these projects.

To gain a comprehensive understanding of enterprise system transformation initiatives, Everest Group surveyed executives from 68 enterprises across geographies and industries. They all embarked on their system transformation journeys at least one year ago. The goal was to validate the importance of process optimization for them, as part of system transformation projects.

This viewpoint shares the findings from this survey-based research project, in-depth interviews, and Everest Group's ongoing research and IP and provides insights on:

- System transformation and its role in enabling digital transformation
- The importance of process optimization during system transformation
- Technologies that empower enterprise process optimization efforts
- Best practices and key success factors to drive process optimization

We explore system transformation initiatives from an enterprise practitioner's perspective and identify mature enterprises that have achieved superior business outcomes from these initiatives by focusing on process optimization. We also look at how mature enterprises have successfully leveraged technologies such as process mining to enable data-driven process optimization during system transformation projects.

Research methodology

All the enterprises included in this study have global operations, with overall annual revenues of more than US$1 billion, and have implemented system transformation projects for at least a year. The executives whom we interviewed as part of this study lead some aspects of the system transformation projects and hold roles in the office of or including Chief Technology Officer (CTO), Chief Investment Officer (CIO), Senior Vice President / Vice President – IT, Process Manager, and IT Director.

Of the 68 enterprise participants, Everest Group identified 28 enterprises as mature enterprises – those that have successfully carried out process optimization in at least 40% of their system transformation projects, enabling them to achieve superior business outcomes compared to other enterprises.

Exhibit 1 shows the distribution of the 68 participating enterprises by industry and total organization revenue. It is important to note that the respondents' collective profile does not represent the global enterprise landscape implementing system transformation but only the sample considered for this study.

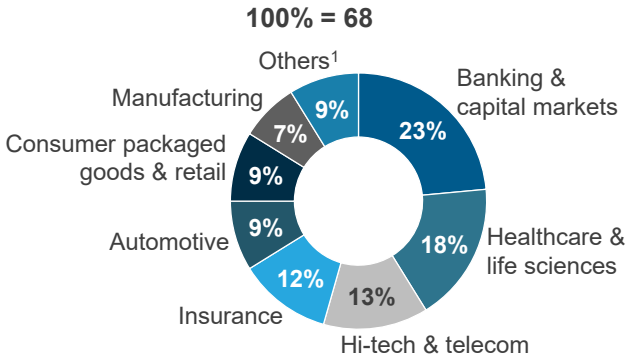
EXHIBIT 1

Distribution of respondents by industry

Source: Everest Group (2022)

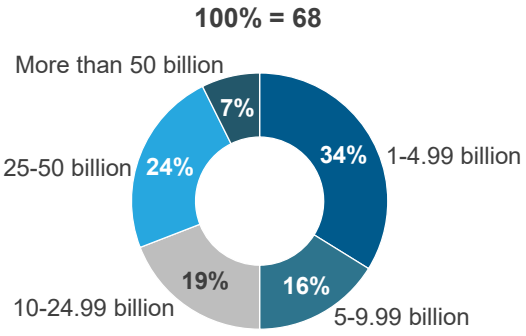
Enterprise profile by industry

Percentage of respondents



Enterprise profile by revenue (US$)

Percentage of respondents



1 Others include electronics, media and entertainment, energy and utilities, travel and logistics

Understanding system transformation and its role in enterprise digital transformation

A foundational step for digital transformation, system transformation involves implementing the most relevant modern systems/software in an optimized manner to achieve enterprises' modernization objectives. Notably, our survey participants assigned an average score of 6 (on a scale of 1 to 7, with 7 being the highest) to the importance of system transformation in their organizations' digital transformation strategies. Modern systems adopted through system transformation projects offer the potential to deliver significantly superior value than legacy/outdated systems. Enterprises undertake system transformation for several reasons, including improved ability to meet customer expectations in a digital-first world, enhanced security, seamless digital experiences for employees, reduced cost of operations, better compliance with regulatory standards, and improved business resilience and agility.

Exhibit 2 lists the top three reasons for the surveyed enterprises to take up system transformation projects.

EXHIBIT 2

Top three enterprise reasons for taking up system transformation projects

Source: Everest Group (2022)

		% of respondents that rated the benefit as their top-most reason
1	Keep up with technology advances and reduce the operational costs of legacy systems	78%
2	Gain competitive advantage by leveraging digital systems	71%
3	Meet customer expectations in a digital-first world	62%

Oftentimes, system transformation projects are treated as mainly IT initiatives and owned by enterprise IT teams, with limited involvement of business/operations teams. This is typically the case when a project is viewed in a technical silo and as a migration only. However, our findings indicate a greater realization of the importance of these projects in the organization's broader digital transformation strategy and the increasing involvement of C-suite and business teams in such initiatives.

The participation of operational teams in system transformation projects is increasing. A majority of the surveyed enterprises indicated strong alignment between their business and IT leaders on the importance of system transformation; however, their adoption drivers vary. Exhibit 3 outlines the key business and IT objectives for carrying out system transformation projects.

EXHIBIT 3

Key business and IT objectives when undertaking system transformation projects

Source: Everest Group (2022)

Importance on a scale of 1 to 7, with 7 being the most important

Business objectives		Rank	IT objectives	
Improved scalability and top-line growth	6.2	1	Data security and protection	6.2
Enhanced customer experience	6.1	2	Improved systems efficiency	6.0
Improved process efficiency, quality, and standardization	6.0	3	Reduction in the technical debt of outdated systems	5.9
Operational agility and resilience	5.9	4	Lower application landscape complexity	5.7
Faster time-to-insights	5.8	5	Architecture unification	5.7

Today, business and IT teams collaborate to decide on the type of system transformation projects they should undertake based on their existing system landscapes, strategic priorities, and future demands. The key types of projects include:

- **Application consolidation –** involves consolidation or reorganization of all the existing systems across the organization, typically based on a systems usage analysis
- **Greenfield implementation –** involves the design, installation, and configuration of new systems from scratch
- **Brownfield implementation –** refers to the upgrade or modernization of existing legacy systems/infrastructure; it does not involve complete reconstruction
- **Hybrid implementation –** refers to a combined implementation of net-new systems (greenfield) and an upgrade of existing systems (brownfield)

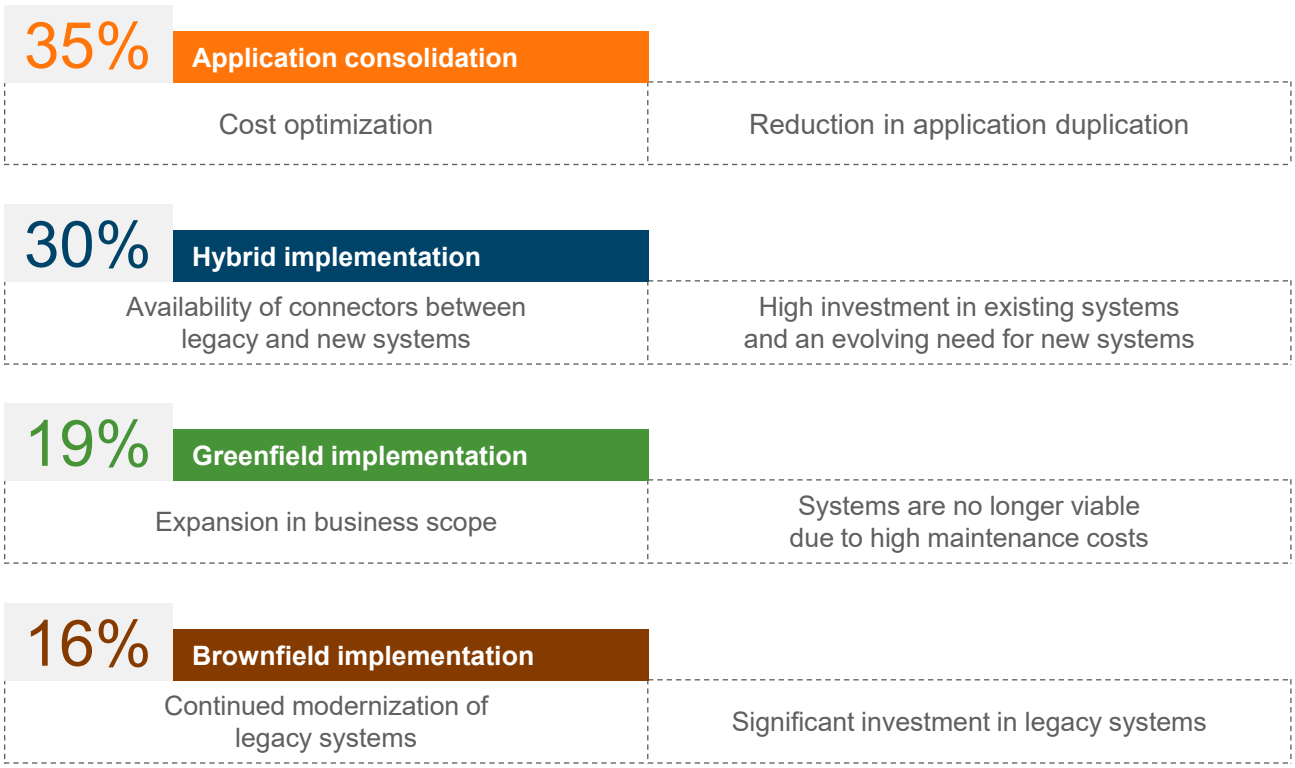
Our survey found that application consolidation was the most widely implemented type of system transformation projects, followed by hybrid implementation. Exhibit 4 lists the key enterprise reasons for taking up diverse types of projects.

EXHIBIT 4

Key reasons to adopt a particular approach for system transformation

Source: Everest Group (2022)

Percentage of total projects undertaken to date



Irrespective of the approach they adopt, enterprises that decide to undertake system transformation are faced with several challenges in executing these projects and, more so, in realizing the expected value from them. Often, companies start these projects frantically to address their immediate IT pain points or rush the migration process to sunset outdated and legacy systems. This rush can pose several challenges in conducting system transformation, as we discuss in the next section. The section also highlights how process optimization can help overcome these challenges.

The importance of process optimization in system transformation

Challenges that enterprises face in implementing system transformation

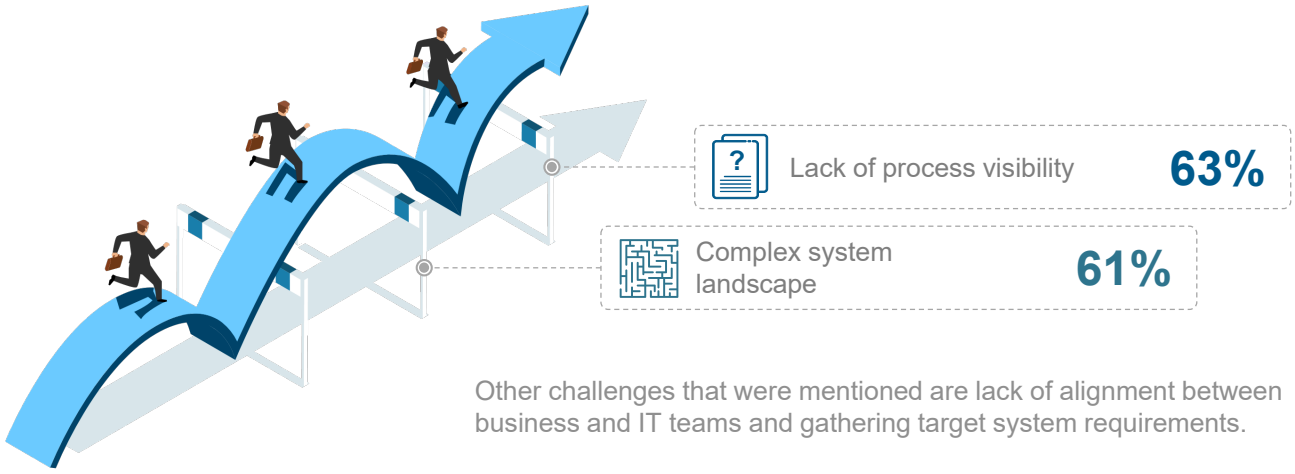
To realize value from their investments in system transformation, it is important for organizations to understand the key challenges they may face in their system migration journeys. Most enterprises implement system transformation with a focus on replacing/updating underlying systems and tend to miss the fact that processes are the engine of any sustainable transformation initiative. Exhibit 5 ranks the top challenges that enterprises face in their system transformation projects.

EXHIBIT 5

Key enterprise challenges in system transformation projects

Source: Everest Group (2022)

Percentage of respondents who indicated the factor as a key challenge



Other challenges that were mentioned are lack of alignment between business and IT teams and gathering target system requirements.

Notably, 63% of the enterprises indicated lack of process visibility and accurate documentation as the top challenge that they face in implementing these programs. The other key challenges are the current system landscape's complexity, lack of alignment between business and IT teams, and gathering target system requirements. Lack of process visibility can lead to amplified inefficiencies when new systems are put up. Limited or no proper documentation also as an impact on the understanding of the current processes. It helps in comprehensive identification of ways to improve processes as the organization modifying the system landscape. Performing process optimization as a part of system transformation projects would enable near real-time process visibility and help maintain an accurate process documentation.

The need for process optimization

Before an organization undertakes any kind of system transformation, it must take stock of its existing process landscape. As our findings have shown, the lack of process visibility and documentation is a key deterrent for organizations in effectively carrying out system transformation and achieving the desired benefits. As a consequence of limited process visibility and inaccurate as-is understanding, enterprises are faced with issues such as incorrect or missing requirements and migration of unwanted or redundant legacy processes.

More than 65% of the surveyed enterprises had less than 50% process visibility before initiating their system transformation projects.

The lack of process visibility can be attributed to organizations' heavy reliance on manual techniques to understand processes. Such techniques are highly ineffective in accurately representing as-is processes and identifying ways to improve them. Mature organizations have indicated their focus on technology-driven process optimization, which involves analyzing process data (e.g., system logs and user activities) to discover and document baseline processes and reengineer existing processes. This also helps them to detect and eliminate inefficiencies, standardize processes, identify automation opportunities, and monitor processes to continuously identify improvement opportunities. Mature organizations also focus on improving process compliance and modeling the to-be processes to clearly define the future target state.

Our survey indicates that mature enterprises that have embedded process optimization in their system transformation projects have achieved a significantly greater impact than other enterprises on both outcome and effectiveness metrics.

On an average, enterprises that have focused on process optimization before they started a system transformation have achieved **more than 2X ROI** than other enterprises from system transformation projects.

Exhibit 6 illustrates the difference in impact for mature enterprises versus others across key outcome and effectiveness metrics associated with system transformation projects.

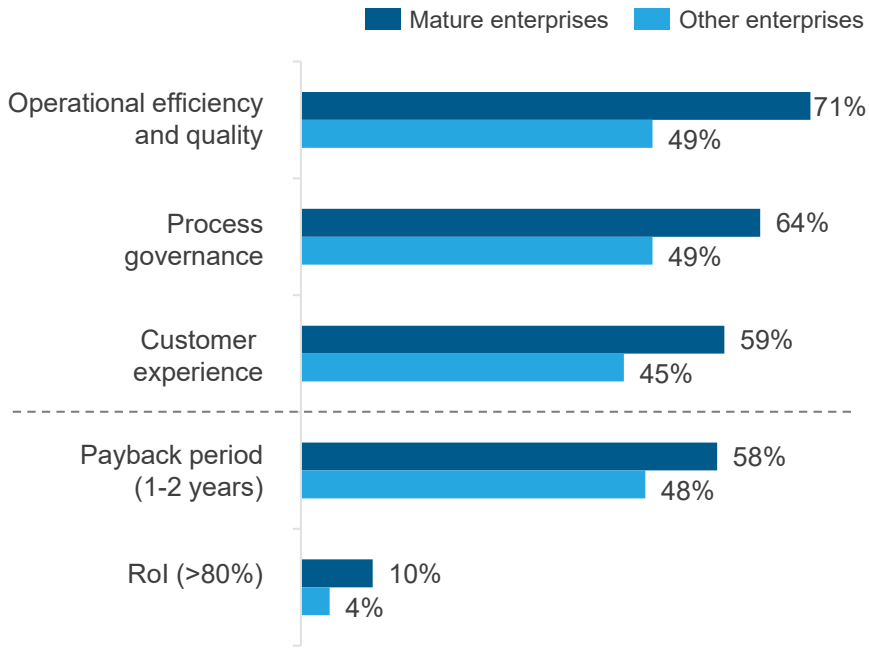
EXHIBIT 6

Key outcomes of system transformation projects

Source: Everest Group (2022)

Percentage of respondents

Over 40% improvement than before system transformation across key adoption drivers



A strong focus on process optimization as part of system transformation projects is a key differentiator for mature enterprises that has helped them realize superior value. The key reasons for mature enterprises to include process optimization in their overall strategies is to standardize business processes and detect and eliminate process inefficiencies, among others, as illustrated in the exhibit below.

EXHIBIT 7

Key enterprise reasons for implementing process optimization

Source: Everest Group (2022)

Top enterprise reasons for considering process optimization

Percentage of enterprises that indicated the reason as one of their top three reasons

1	To standardize business processes	75%
2	To detect and eliminate process inefficiencies	64%
3	To establish a continuous process improvement mechanism	50%
4	To ensure that process owners and business users adapt to new systems	46%
5	To improve understanding of as-is processes	35%

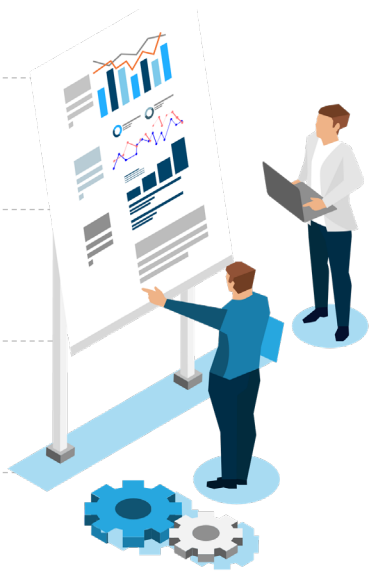
We also asked enterprises that did not carry out process optimization if they faced any issues in deriving the desired value from their system transformation initiatives. The major issue that enterprises face due to limited/no focus on process optimization during system transformation is amplification of existing process inefficiencies. Exhibit 8 lists the top five issues faced by enterprises in the order of significance.

EXHIBIT 8

Issues that organizations face due to a lack of focus on process optimization

Source: Everest Group (2022)

Business objectives	Rank
Amplification of existing process inefficiencies after adopting the new system	1
Employee resistance or limited ability to adapt to new systems	2
Higher turnaround time due to increased process complexity with new systems	3
Higher overall project costs	4
Limited or no improvement in customer or employee experience	5



Benefits of implementing process optimization

Mature enterprises indicate that conducting system transformation with a focus on process optimization has helped them achieve superior business benefits, including:

- **Strategic impact:** sustainable operations, business continuity and agility, better RoI from system transformation, higher customer satisfaction, and better employee experience
- **Operational impact:** higher operational efficiency and quality, shorter turnaround time, and better process governance/compliance
- **Cost impact:** lower operational costs and reduced technical debt

Mature enterprises tend to achieve far greater impact and improvement than other organizations as compared to before implementing system transformation when they carry out process optimization (see exhibit 9).

EXHIBIT 9

Impact on key metrics with and without process optimization

Source: Everest Group (2022)

Improvement on a scale of 1 to 7, with 7 being the highest improvement

Key outcome/impact metrics	Improvement without process optimization	Improvement with process optimization	% change in improvement
Standardized and streamlined processes	3.8	5.3	37%
End-to-end process visibility	3.9	5.2	35%
Accurate documentation of processes	4.0	5.1	29%
Business continuity and agility	4.2	5.1	22%
Process governance and compliance	3.9	5.0	29%

The primary goal of conducting process optimization in system transformation is to enable a digital-first business with not only the most relevant and modern systems but also lean, resilient, and agile business operations. Scaled technology adoption is also helping enterprises overcome the limitations of manual techniques for process optimization. These technologies offer diverse capabilities and can be leveraged across the various steps that enterprises need follow to enable continuous process optimization.

The role of technology in driving data-driven process optimization

Complete and accurate process visibility is a key requirement to ensuring successful system transformation. While enterprises realize the importance of process optimization, a majority of them rely on manual discovery and analysis techniques. Manual techniques are highly ineffective in accurately representing the as-is state. This is due to challenges in identifying the right stakeholders/SMEs and their availability, resistance from stakeholders to share their work information, time-consuming and opinion-based inputs resulting in inaccuracies in discovery, and documentation. In addition, the inability to monitor processes in an ongoing manner to ensure continuous improvements, puts the to-be process at risk of non-conformance.

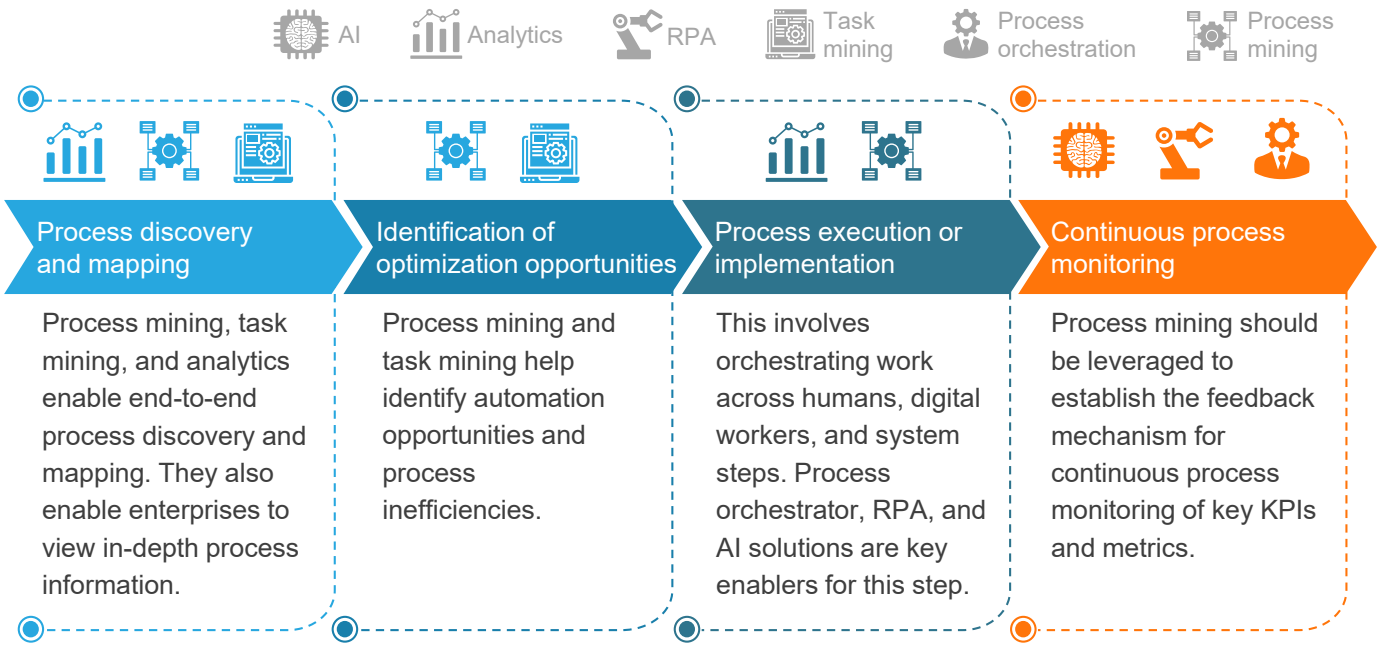
Technologies such as process mining, automation, and process orchestration can add significant value to traditional process analysis and optimization techniques, which rely solely on process owners' knowledge and experience in discovering and improving processes. A technology-driven fact-based approach, with limited reliance on human bias and opinions, is easier to scale and provides greater depth and breadth of information, thereby facilitating operational transparency.

Exhibit 10 illustrates the key steps that enterprises need to follow to enable continuous process optimization and the underlying technologies that can be leveraged across these steps to ensure better outcomes and faster time-to-value.

EXHIBIT 10

Key steps to enable continuous process optimization

Source: Everest Group (2022)



Our survey indicates that process mining and BPM / process orchestration are the key technologies that mature enterprises leverage to perform process optimization.

Over 50% of mature enterprises indicated that they leverage **process mining** as a key technology to drive process optimization.

Process mining blends the power of data-based analysis techniques, including data mining, sequence mining, clustering, association rules mining, and Machine Learning (ML), to help organizations discover as-is processes and identify process optimization opportunities.

Process Mining provides in-depth process information and generates a process map with different process variants, enabling users to deep dive into each variant. It provides clarity and objective certainty to enterprises about the areas of a process that are working well and those that are not. It displays cases in which the process steps were skipped or not executed in the right order as compared to the reference process model. It helps organizations compare and standardize their process performance across teams, units, and geographies, as well as enables a comparison of existing processes with industry benchmarks to identify and implement best practices. Enterprises can use process mining to discover as-is KPIs and monitor process performance against set KPIs/metrics in near-real time.

Process mining also helps to design the nest automation strategy. One can easily identify automation opportunities and provides data-driven insights on performance and productivity, ensuring that automations are established to enable optimal execution. Further, enterprises can take actions within time sensitive business moments. They can trigger alerts/notifications via email or present notifications on KPI breaches and SLA violations. Transactions in underling systems such as SAP, and CRM can be automatically updated from within the platform via automation triggers that include RPA robots to carry out tasks based on business rules. Enterprises can calibrate the impact of process redesign on metrics such as RoI and cost savings through process mining's simulation capabilities. Hence, process mining plays a significant role in helping enterprises achieve the desired benefits from their process optimization efforts.

The key applications of process mining solutions include process discovery, process conformance, and process monitoring, among other applications, as listed below in Exhibit 11.

EXHIBIT 11

Key applications of process mining solutions

Source: Everest Group (2022)

INSIGHTS

Process discovery
Capture and visualize process information across all variants

Process conformance
Compare the discovered as-is process with the reference model

Process standardization
Standardize processes across business units and geographies

Process optimization
Identify potential gaps or inefficiencies in the process

Automation identification
Identify processes/tasks for automation

Process simulation
Visualize the alternative to-be scenarios of processes

Process monitoring
Continuously monitor process KPIs and identify bottlenecks

Workforce intelligence
Uncover the productivity of individual users

Action triggers – automatically trigger actions based on the insights generated

Challenges in the journey and best practices to drive process optimization

Challenges that enterprises face to include process optimization in the project scope

Enterprises that carry out process optimization in system transformation projects face multiple challenges

More than half of the surveyed enterprises faced challenges related to obtaining leadership buy-in for process optimization initiatives and balancing between business and IT objectives.

Exhibit 12 ranks the top five challenges that enterprises face in conducting process optimization as part of system transformation initiatives.

EXHIBIT 12

Top five enterprise challenges in conducting process optimization

Source: Everest Group (2022)

Rank	Challenges	Percentage of enterprises that indicated the factor as a top challenge
1	Lack of leadership support to expand the scope of the system transformation project and include process optimization	54%
2	Difficulty in sourcing the skills required to execute the process optimization initiative	46%
3	Lack of a strategy to balance business and IT objectives	50%
4	Limited collaboration between process owners and the IT team	46%
5	Heavy reliance on manual techniques for process optimization	32%

Key success factors to achieve superior business outcomes

To successfully implement system transformation and maximize the benefits from their investments, enterprises should:

- **Secure leadership buy-in and sponsorship:** It is crucial for organizations to obtain buy-in from their business and IT leadership, as well as other relevant stakeholders. Executive support is vital to continuously identify optimization opportunities and execute against them. Interested teams should develop a business case to illustrate clear benefits of process optimization to the leadership to secure buy-in for these efforts
- **Actively collaborate with process owners:** Traditionally, IT has been regarded as the primary owner of system transformation projects, but this perception is changing gradually with increasing involvement of business teams. With organizations starting to realize the importance of process optimization in other projects, it is vital for organizations to shift their mindset and actively collaborate with process owners to ensure success
- **Understand end-to-end processes:** Organizations should ensure accurate and comprehensive process understanding and documentation to prioritize areas for system transformation and carry out process optimization meaningfully. Areas for which the process visibility is high, the process is comparatively structured with limited variations, and simple optimization efforts can create an impact should be prioritized
- **Select the right technologies:** Many enterprises still rely on manual techniques, which are time-consuming and error prone. They should consider next-generation technologies, such as process mining, task mining, Robotic Process Automation (RPA), and process orchestration, which enable a fact-based approach to discover, monitor, optimize/automate, and manage end-to-end processes. These technologies continue to evolve rapidly; hence, it is vital for organizations to identify the right technologies based on their unique context and requirements and select the best-fit solution/provider to achieve desired value
- **Institute a change management program:** System transformation projects should be treated as change programs, as they change or modify both systems and processes, thereby impacting employees. It is important for organizations to develop an organizational culture that embraces innovation and involves relevant stakeholders and process SMEs for inputs and regular feedback. They should also inform employees about the changes so that they can adapt to the new processes and systems with greater ease

Conclusion

System transformation is a key enabler of digital transformation, as modern systems are a foundational element of a digital-first organization. Our survey with 68 enterprises indicates that both business and IT leaders strongly align on the importance of system transformation, but with different objectives. Business objectives include improved scalability, enhanced customer experience, and improved process efficiency, whereas IT objectives include data security, improved systems efficiency, and reduced technical debt. Moreover, while a majority of organizations are achieving positive outcomes from system transformation projects, there is a clear difference in the impact achieved on both outcome and efficiency metrics by enterprises that focus on process optimization as part of their system transformation projects. This is due to the fact that the lack of process visibility and documentation is a key challenge faced by enterprises in realizing the desired value from system transformation projects.

A strong focus on process optimization as part of system transformation is a key differentiator for enterprises, helping them realize superior value. Such enterprises focus on improving understanding of their as-is processes, standardizing and streamlining the processes, and establishing a feedback mechanism for continuous process improvement. They adopt a technology-driven approach to process optimization and deploy process mining for the same. In fact, process mining is a key enabler of process optimization efforts in many ways, as it helps discover as-is processes, detect bottlenecks in the process, identify automation opportunities, and monitor the processes continuously against key KPIs/metrics.

As organizations begin focusing on process optimization, they need to be aware of certain challenges such as leadership buy-in and sourcing the required skills, that may come their way. To tackle these challenges effectively, they must learn from the best practices of mature adopters. They should move from traditional and manual techniques and identify the right technologies to carry out process optimization. They should also obtain executive buy-in, actively collaborate with process owners, and institute a change management program to achieve the desired outcomes from system transformation.

System transformation promises a great deal, and most enterprises today are barely scratching the surface of this opportunity. Focusing on technology-driven process optimization and embedding it into the organization’s system transformation strategy can help enterprises unlock exponential value and benefits.

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