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Trends In Process Improvement And Data Execution

How Organizations Are Improving Processes And Turning Process Data Into Real-Time Action

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Executive Summary

With greater moving parts comes greater complexity. For today's business decision-makers, that can take a variety of shapes and introduce a myriad of challenges, not least of which is the herculean task of determining how to make sense of multiple systems and processes, as well as boost performance.

More than ever, organizations are tasked with navigating increasingly complex processes. The art of simplification — a useful business principle in theory — has, for many companies, evolved into problem-solving by adding, not subtracting, technologies. For others, it has meant wishfully throwing automation at complex processes, only to see a lack of fit lead to disappointing results. To optimize business performance, brands must quickly and objectively identify process inefficiencies and gather realtime understandings of their inner workings at scale to meet company goals and successfully compete.

In September 2021, Celonis commissioned Forrester Consulting to evaluate the current state of process improvement and data execution within organizations. Forrester conducted an online survey of 818 respondents and four interviews with process owners and business execution decision-makers across industries in October 2021 to explore this topic. We found that organizations stand to benefit from increased process visibility and real-time data as a means to activate richer insights across the organization and capitalize on business opportunities.



Key Findings

Process complexity is at an all-time high and is

overwhelming companies. Employees are dealing with high process volumes and interconnectivity that make process visibility a real challenge. Although there are technologies that can provide greater visibility (e.g., process mining), few organizations are using them and discovering their potential.

Real-time insights are elusive and hamper execution.

Given challenges with visibility, companies are struggling to gather real-time data to improve their processes. This means employees are tasked with making decisions and executing without insights and objective recommendations when they need them most.

Organizations are failing to optimize processes, losing out on key opportunities. Companies are struggling to put objective, process-based data to use across key systems and processes. Meanwhile, automation has hardly proved a silver bullet, given the lack of process visibility necessary to deploy it effectively. Daily actions are suffering, leading to higher costs, greater inefficiencies and manual rework, and fewer business opportunities, such as improved customer satisfaction.

Organizations must leverage process improvement technology to take hold of their processes. Organizations need help understanding which processes are causing inefficiencies and breakdowns in addition to establishing process baselines. Encouragingly, firms are planning to invest in process improvement technology to boost productivity and performance. Organizations have historically struggled to develop, document, and track process baselines. Now, with ever-growing calls for process innovation, speed, and scalability — in addition to COVID-19's challenges (i.e., remote work on a greater scale, less proximity to clients and colleagues) — firms are running into even larger issues as process dependency grows more critical. In surveying 818 respondents, we found that organizations aren't optimizing their process improvement or their execution because:

- Process volume and interconnectivity add to complexities. Employees are tasked with managing business processes that run across a multitude of disparate systems and applications, with 71% saying they use 10 or more business applications to execute their primary business processes. Meanwhile, 83% said their business units' processes are reasonably to highly interconnected or dependent on others, suggesting that processes are rarely isolated or stand-alone in nature. Additionally, omni-channel and digital transformation considerations commonly compound and amplify these complexities - another reason why executives see cross-functional alignment as an essential ingredient for success.¹
- Manual controls limit process visibility. Two in five decision-makers lack IT tools — such as process mining and business intelligence (BI) tools — to help with process visibility, instead using manual controls, which can be tedious, time-consuming, and error-prone (see Figure 1).

Figure 1

"Which of the following approaches do you take to obtain that level of process visibility?"



Work with internal employees and consultants to document and report on processes (e.g., manual process review)



Use IT tools to analyze process data (e.g., process mining or business intelligence tools)

Base: 818 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight

Source: A commissioned study conducted by Forrester Consulting on behalf of Celonis, October 2021 Just 27% said they use business process management (BPM) or process mapping tools, while only 13% said they deploy process mining technologies to address their organization's processes (see Figure 2). Importantly, this implies process visibility is still in its grassroots phases, as organizations have yet to harness its full benefits. However, the study revealed that process mining is poised to play a vital role in enabling organizations to improve business processes; six out of 10 decisionmakers are collectively evaluating (33%) or planning to adopt (28%) this technology (see Figure 2). Similarly, though just 15% of decisionmakers currently use task mining, 35% plan to use it in the next 12 to 24 months, with another 26% currently evaluating its services.

"It is very rare to have an internal, independent set of processes. ... I don't know of any process that we've looked at that is self-contained and insulated from an outside system, or an external environment."

President of digital solutions at a technology and AI organization

Figure 2

"What technologies do you plan to use to measure and/or improve your organization's business processes?"

Plan to use within the next 12 to 24 months Currently evaluating 28% 33% Process mining 35% Task mining (e.g., user desktop data collection) 26% BPM or process-mapping tools 23% 36% ERP 24% 29% Integration platform as a service (iPaaS) 15% 37% BI 31% 17% RPA 27% 19% Workflow automation/low code 20% 9%

Base: 818 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight Source: A commissioned study conducted by Forrester Consulting on behalf of Celonis, October 2021

Whereas task mining provides insight into human engagement with computers via logged desktop interactions, process mining combines data logs with process management to produce current and objective insights and recommendations for process improvement at scale. It drives common understanding and consensus to critically guide execution and automation efforts.²

• Firms lack real-time visibility and tools at their fingertips. Over half of daily actions related to executing processes are driven by data insights over a day old — with just a small minority of decision-makers leveraging real-time insights to execute these actions (see Figure 3). Similarly, fewer than half of decision-makers said they have high or complete visibility into their

"You've got this focus on insight-based or outcomebased execution, where data science and analytics are becoming much more critical than they've ever been. It's not transactional anymore that's important; it's outcome performance data that becomes really critical."

President of digital solutions at a technology and AI organization

business processes. Unequipped to turn process data into actionable recommendations when needed, decision-makers aren't empowered but instead hamstrung by the added complexities.

Figure 3

"Approximately what percentage of the daily actions associated with executing organizational processes are driven by data insights that are...?"

		MEAN
	less than 1 minute old	7%
	greater than 1 minute, but less than 10 minutes old	12%
Y /	greater than 10 minutes, but less than one day old	28%
	more than one day old	53%

Base: 778 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight Source: A commissioned study conducted by Forrester Consulting on behalf of Celonis, October 2021

Process complexity, limited visibility, and a lack of real-time data mean organizations are challenged to input objective, process-based insights to carry out key decisions (see Figure 4). Furthermore, just one out of two decision-makers (56%) feel they're able to incorporate all systems involved in their department's processes to create an end-toend view of those processes. Crucially, improved integration of systems and processes would allow them to better understand how process data impacts core processes, how they can better drive process execution, and which processes can and should be automated.

"It's not a one-size-fitsall [approach]. It's a colossal waste to throw every automation at everything, [and expect] something's going to stick and I'll be OK."

> President of digital solutions at a technology and AI organization

Figure 4

"Which of the following challenges do you experience in gaining visibility into your processes?"

Strongly agree
Somewhat agree

Our understanding of our processes is more subjective (i.e., based on employee interviews and reports) than objective (i.e., based on process data).

It is difficult to aggregate and understand process data because we are lacking internal process experts.

It is difficult to compose process performance because process data varies across departments, regions, and/or processes.

It is difficult to aggregate and understand process data because it resides in rigid and disparate systems.



It is difficult to trust our process data because it involves manual user input or other unreliable factors.

Base: 818 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight Note: Percentages in chart include top-two results

Source: A commissioned study conducted by Forrester Consulting on behalf of Celonis, October 2021

Gauging where and how to automate processes has been a particular pain point for companies in recent years. A common misconception is that automation is a one-size-fits-all software that's thrown at complex processes. However, some processes are too complex for automation, while others require intervention and a human touch to determine targeted automation approaches. When rushed and haphazard, automation can expose companies to serious risk, reputational damage, and loss of customer trust.³ Together with a lack of real-time process insights, disappointing automation outcomes are hampering business recommendations and daily actions, leading to:

- Higher organizational costs. Nearly half of companies (44%) said they're spending more as a result of process-related issues (see Figure 5). Without real-time insights, they're struggling to assess and optimize allocation of company resources. For example, companies have been caught in a robotic process automation (RPA) dilemma. They've invested heavily in automation capabilities, only to see undesirable ROI and ongoing costs given the limitations of RPA to provide flexible, datadriven automations in complex process scenarios.⁴
- Higher organizational inefficiencies and manual rework. When companies don't get process improvement right, they lose valuable time and spend more hours manually fixing and correcting key tasks. Decision-makers said that a majority of daily actions do not require manual interaction from an employee. This suggests that while most daily actions are automated in some form, companies still aren't receiving the ROI and benefits they're looking for from automation technologies. This is another sign of businesses not truly understanding their process baselines and challenges.

"We can't wait six months for an analyst to pull up the data, to do some research to make those recommendations to leadership that should be automated."

Director of global strategy at an insurance organization

Missed business opportunities. Higher costs and greater inefficiencies mean companies lose out on other opportunities. This can take the shape of revenue-generating business decisions (e.g., acquisitions, product extensions), but also customer-driven and more aspirational outcomes, like customer satisfaction and trust, that are critical for sustained performance and differentiation. This aligns with previous Forrester research from 2020 that showed customer experience as a primary driver for process improvement initiatives.⁵ While customer experience should be a top priority for all companies, the current research shows that North American decision-makers in particular (36%) are feeling the impact of lower customer satisfaction from process issues compared to their EMEA counterparts (25%).

Figure 5

"What impact have the issues you selected had on your organizational performance?"

Higher organizational costs **44%** Less organizational efficiency 41% Missed new business opportunities 39% Lower organization productivity 38% Higher employee turnover 37% Missed organizational KPIs 32% Loss of organizational revenue 30% Lower customer satisfaction 28% Lower employee satisfaction 26% Loss of organizational strategic vision 21%

Base: 807 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight Source: A commissioned study conducted by Forrester Consulting on behalf of Celonis, October 2021

Organizations are starting to understand the importance of process visibility, the insights it can help generate, and the daily executions that benefit from greater process insight — but they need help understanding which processes are relevant and where they currently have process maturity and capabilities. Companies use a variety of tools to help with business processes, yet this approach has yielded mixed results to date; fewer than half of decision-makers (46%) agree they're able to easily automate workflows or processes to reduce manual effort.

"For companies to maintain their success, or expand their success, the process angle needs to be really examined and embraced. It's constant, instead of just leaving it status quo."

CEO and president at a technology consulting organization

DECISION-MAKERS PLAN TO INVEST IN PROCESS IMPROVEMENT TECHNOLOGY TO ACHIEVE KEY BUSINESS GOALS

Though technology-driven process improvement is still in its nascent stages, companies are beginning to take steps toward better, more efficient processes. Over the next year, 57% of firms are planning to spend more on process improvement technology in support of their goals; for companies already with highly interconnected and interdependent processes, this figure rises to 70%. Above all, these firms seek to:

- Increase productivity. Almost half of decision-makers (44%) ranked improved productivity a top process improvement goal over the next year, signaling there's untapped potential across systems and applications and that companies are hungry to recoup their lost productivity from recent years and months (see Figure 6).
- Reduce costs. Companies are similarly preparing to reclaim lost costs stemming from process inefficiencies and breakdowns. Nearly half (42%) ranked it as a top process improvement goal for their organization, suggesting they also foresee their bottom line benefitting from a shift to greater visibility and process-backed insights.

Improve customer satisfaction. That 36%
of decision-makers rank higher customer
satisfaction as a leading process improvement
goal suggests current ways of working are
having a detrimental — or at least limiting
— effect on the end user, in addition to the
company's bottom line. Employees and
consumers alike stand to benefit from greater
organizational productivity and reduced
costs, which open up possibilities for new
opportunities as well as differentiation.



Firms are noticing connections between better processes and better customer outcomes.

Figure 6

"What are your organization's top process improvement goals over the next year?"



Base: 818 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight Note: Percentages represent ranked aggregate of decision-makers' goals

PROCESS MINING ENABLES OPTIMIZATION AND EFFICIENCIES

Those currently using process mining most commonly leverage it to gather end-to-end processing data for enterprise resource planning (ERP), procurement/supply chain management, and/or information technology services management (see Figure 7). These early adopters have a leg up on their peers, including:

- Greater visibility of processes. Fifty-six
 percent of process mining users said they
 have high to complete visibility into business
 processes, versus 46% of non-users.
 Furthermore, 89% of process mining users
 report their departments' processes are
 interconnected, compared with just 58% of
 non-users, signaling they're better equipped
 to leverage system data to create an end-to end view of processes and reap the benefits
 of greater visibility.
- Easier resolution of process issues. Seventyfour percent of those using process mining agree that once their organization uncovers process issues, it's easy to resolve them, versus 69% of non-users.
- Greater confidence in their ability to meet employed process improvement objectives. Nine out of 10 decision-makers using process mining (90%) say they're confident they'll achieve their process improvement goals within the next 12 months, compared with 82% of non-users. This runs parallel with other, related findings; 66% of those who agree their organization is easily able to turn insights from processes into recommendations and actions are very to extremely confident they'll be able to achieve their process improvement goals in the next year, compared to 35% for others.



Those with complete visibility are more likely to:

- be very to extremely confident their organization will achieve its process improvement goals within the next 12 months (65% vs. 51% for others)
- agree their
 organization is
 easily able to
 turn insights from
 process data into
 recommendations
 and actions for their
 employees (67% vs.
 56% for others)

Figure 7

"Which systems have you deployed process mining technology against?"

ERP	72%
Procurement or supply chain management (SCM)	62%
Internal IT service case management (ITSM)	56%
Spreadsheets	47%
Marketing automation or other communications systems (e.g., social media platforms, email marketing tools, etc.)	47%
Inventory management	45%
Data warehouse	44%
Customer relationship management (CRM) or salesforce automation (SFA)	39%
Desktop applications	37%
Claims handling	35%
Homegrown applications	33%
Customer service case management	33%
Human capital management (HCM)	31%
Finance and accounting	24%

Base: 108 global directors+ in technology, data strategy, or oversight roles (procurement, AP, etc.) who are responsible for the automation of business processes, the strategic/people aspect of data strategy, or data strategy oversight for organizations where process mining deployment happens

Source: A commissioned study conducted by Forrester Consulting on behalf of Celonis, October 2021

Key Recommendations

Forrester's in-depth survey of process owners and business execution decision-makers about process improvement yielded several important recommendations:

Identify processes to track and baseline before assessing which to improve or automate.

Decision-makers must first know their processes in and out before triaging and mapping out strategic plans for improvement. It isn't enough to use process mining for discovering automation opportunities; it takes a thorough, end-to-end view of processes to truly reach optimization. This is where realtime and complete visibility make a winning difference. A helpful mantra to remember and apply is "understand, reengineer, and automate processes" — in that order.

Go beyond process mapping.

Tools such as BPM offer a helpful starting point toward improving processes, but they aren't enough by themselves to realize robust process improvement. To achieve this, companies need tools that generate objective process-based data and real-time insights to improve execution and drive process transformation.

Use process and task mining together to provide the full picture.

Task mining focuses on desktop activities performed by end-users, logging all clicks, mouse movements, and keystrokes. It helps you understand users' behavior and interactions with their interfaces. Meanwhile, process mining analyzes system event logs generated by transactional IT systems. Only the combination of both technologies provides the full picture of process weak points and employee pain points from the applications they are using along a process.

Understand that the true value of mining comes with cross-system and cross-process discovery.

Processes that are covered by just one system (e.g., ERP or CRM) tend to benefit less from process mining than processes that span a multitude of systems. The same is true when mining a singular process as opposed to multiple processes in tandem. Therefore, process mining initiatives should focus on the multi-system and multi-process use cases for a high return from their mining investments.

Invest in process skills.

End-to-end business process skills are scarce, as enterprises are most frequently structured by function versus process. Hence, business process owner roles are hardly found, and if they exist, their influence is usually limited to updating process documentation. To really improve processes, company leaders must down-prioritize functional silos and emphasize an end-to-end process mindset. They must establish process mandates that allow overruling functional optimization with process optimization.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 818 process owning and business execution decision-makers at organizations around the world to evaluate the state of process improvement and data execution within organizations. Survey participants included decision-makers in director positions and above within technology, data strategy, or oversight roles. Questions provided to the participants asked about process visibility, execution, and improvement. Respondents were offered a small incentive as a thank you for time spent on the survey. The study began in September 2021 and was completed in October 2021.

Appendix B: Demographics

TOP COUNTRIES	
United States	13%
Japan	10%
Germany	10%
Nordic Countries	8%
United Kingdom	7 %

COMPANY SIZE

20K+ employees	11%
5K–19,999 employees	17 %
1K–4,999 employees	28%
500–999 employees	31%
>500 employees	13%

COMPANY REVENUE (USD)	
\$5B+	7 %
\$1B-\$4.9B	20%
\$750M-\$999M	20%
\$500M-\$749M	49 %
\$250M-\$499M	4%

TOP INDUSTRIES

Retail	9 %
Manufacturing	9%
Technology	7 %
Consumer services	7 %
Energy/utilities	7 %

LEVEL OF RESPONSIBILITY	
Final decision-maker	46%
Part of decisions	35%
Influence decisions	19 %

RESPONDENT LEVEL

Director	54%
Vice president	33%
C-level	13%

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

"Predictions 2022: Automation," Forrester Research, Inc., October 28, 2021.

"Ignore The AI Hype To Select The Right Robotic Process Automation Tool," Forrester Research, Inc., August 26, 2020.

Appendix D: Endnotes

¹ Source: October 26, 2021, "North America Planning Assumptions 2022: B2B Marketing," Webinar (<u>https://www.forrester.com/b2b-marketing/planning-assumptions-webinar/</u>).

² Source: "Now Tech: Process Mining, Modeling, And Documentation, Q4 2021," Forrester Research, Inc., October 4, 2021.

³ Source: "Predictions 2021: Automation," Forrester Research, Inc., October 22, 2020.

⁴ Source: "How To Avoid The RPA Investment Mouse Trap," Forrester Research, Inc., October 4, 2021.

⁵ Source: "The Convergence Of Process Mining And Task Mining Provides End-To-End Process Visibility," Forrester Research, Inc., November 17, 2020.

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