Process Intelligence

Guide

processmaker

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Every business function and company runs on hundreds or millions of processes. Every employee has their own processes and tasks, whether they are documented or not. This shift is part of a broader digital transformation that is reshaping how businesses operate and compete. For decades, these functions have been analyzed and improved through different forms of process analysis.

In more recent years, advanced technology, including artificial intelligence, has emerged to take the analysis of processes to a new level by adapting proven business intelligence methodologies. As a result, process intelligence software has emerged as one of the hottest topics in business operations. In this guide, we go through key concepts, best practices as well as advanced topics.

Why is process intelligence so popular and what can it be used for? We'll get into that - but let's start first with some core definitions.

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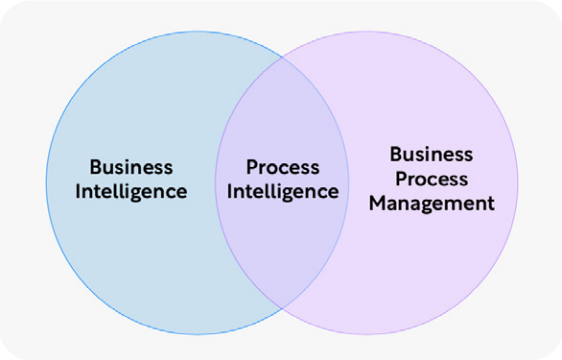
What is process intelligence?

Process intelligence is the use of business intelligence methods and tools in business process management. Process intelligence can remove bottlenecks, improve operational efficiency, and guide business process redesign.



For a process analyst, business process intelligence is the practice of collecting and analyzing business process data to identify bottlenecks and improvement opportunities. The goal of process intelligence is to improve operational excellence, streamline workflows, or increase the pace of digitalization by leveraging the benefits of process intelligence.

Five steps of process intelligence analysis

Process intelligence analysis is the technology-driven analysis of process data and delivering actionable insights for process efficiency and improvement. It has its roots in business process analysis - one of the core aspects of business process management. Process mining tools play a crucial role in this analysis by examining real-world data to identify inefficiencies, though they often face limitations in connecting with various data sources and monitoring processes in real time.

On a high level, process analysis can be segmented into a number of individual steps, such as:

1. **Process and task discovery** - exploring and documenting the "as-is" state of processes in a team or organization.
2. **Process mapping** - the visual representation of processes based on expert interviews or software analysis.
3. **Process re-engineering** - the documentation of how processes should be improved to achieve set business results.
4. **Process implementation** - the important step of actually driving process improvements across teams and systems.
5. **Process monitoring** - the continuous or repeatable evaluation of how teams conform to agreed processes.

In the past, process analysis was the domain of specialized process analysts who fulfilled analysis manually based on expert interviews, surveys, or by data-crunching process information on a needs basis. Each company and analyst would have their own methods, so the analysis itself would not be as standardized. It would not be uncommon for analysis to take up to 6 months and because of the manual nature of the method, companies spend 3-5 years between process discovery audits.

Why analyze business processes?

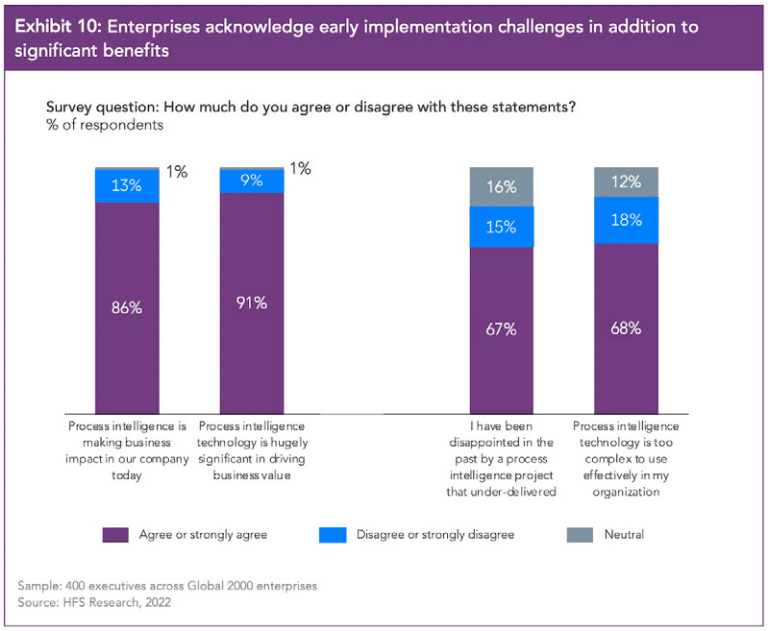
Some of the common reasons for using analyzing business process data include:

- **Process discovery.** Discover the true state of processes within a team or organization,
- **Process analysis.** Deep-dive the individual tasks or process steps within complex workflows,
- **Workflow analysis.** Exploring and analyzing in more detail the end-to-end workflows in business operations,
- **Conformance checking.** Visualize variations of key processes to map conformance to agreed processes,
- **Root cause analysis.** Explore the root causes of inefficient processes,
- **Process optimization**. Track progress to key process improvement initiatives and company targets.

Process intelligence enables organizations to uncover inefficiencies, optimize operations, ensure compliance, and enable continuous improvement. By leveraging process intelligence, organizations can gain valuable operational insights that drive continuous improvement and strategic decision-making. Process analysis is a well-defined practice - and soon we'll find how it has been taken to the next level through process intelligence software.

Why is process intelligence important?

To understand why process intelligence is important for businesses, we can look at fresh research published by HFS Research, which highlights the significance of process visibility in driving business value.



Importance of process intelligence Source: HFS Research

According to a survey of executives in large (global 2000) enterprise businesses, 91% of respondents saw process intelligence as hugely significant in driving business value. Almost 86% of respondents also felt the impact of process intelligence in their business today.

However, the same research points to the challenges of process intelligence technology and projects. Over 2 in 3 respondents had been disappointed in past process intelligence projects and also over 2 in 3 respondents felt process intelligence technology is too complex to implement effectively.

A conclusion reached by many in the HFS Research and beyond is that process intelligence is hugely important for effective enterprise businesses to maintain competitiveness, while laggards in investments into process intelligence may see themselves falling increasingly behind in value creation.

How does process intelligence work?

There are many different ways process intelligence can be implemented, ranging from automated process discovery tools to self-built process analytics. They mostly follow an extract-transform-load (ETL) flow familiar to business intelligence solutions where raw process data is organized automatically for advanced data analysis.

1. **Extract** - data is collected from enterprise resource systems or from employees completing tasks on workstations.

2. **Transform** - the collected raw data is processed and transformed for analysis, for example through cleansing and de-duplicating.

3. **Load** - data is moved to a database or data warehouse where it can be analyzed and visualized in dashboards

Intelligent process automation (IPA) plays a crucial role in process intelligence by combining artificial intelligence and automation to create adaptable business processes. IPA significantly enhances efficiency and productivity while reducing processing time and manual efforts, thereby improving overall business performance through strategic insights gained from process intelligence.

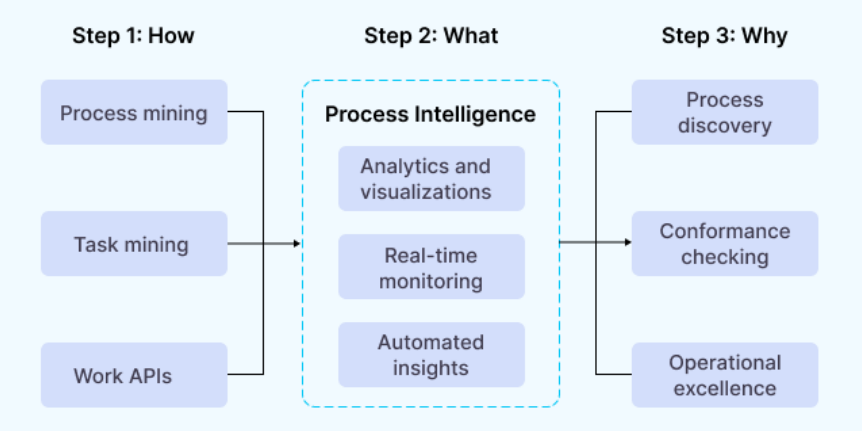
Once the data collected is made available in a database, process mining algorithms are often applied to produce a time-and-motion view that can be visualized as a directly followed graph. In other words, the process and task steps can each be time stamped and shown in a sequence, helping the process analyst understand the flow of work.

In most cases, process intelligence is done automatically through dedicated software solutions that can provide real-time or near real-time analysis using web browser -based analytics.

Process intelligence vs process mining

Process intelligence and process mining are easily confused but are not the same thing, as process mining is a method within the broader field of process analytics. While process mining software is a method to achieve the “how” of data mining process information, process intelligence is the “what” of adapting business intelligence methods to business processes.

Let's see it visually in the graph below.



Process mining describes the "how" and process intelligence the "what" of automated process analysis.

Process mining is one of the most common ways to automatically collect process data for process intelligence. Other methods include task mining and hybrid process intelligence.

Today many process mining vendors are also utilizing task capture capabilities and many analyst firms have recognized the different solution offerings belonging to the same use-case of enterprise process analysis. However, the solutions are not mutually exclusive. It is possible for enterprise organizations to utilize more than one process intelligence solution.

Benefits of business process intelligence

Each organization will have unique requirements and expected outcomes for process intelligence. Some of the most common benefits of process intelligence include:

- ***Improved efficiency:*** Business process intelligence can help to identify processes that are inefficient or ineffective, and allow for faster, more efficient process execution.
- ***Risk mitigation:*** Business process intelligence can help to identify risks and alert organizations to potential problems before they become critical.
- ***Improved visibility:*** Business process intelligence can provide an overview of the entire business process, allowing organizations to better understand their operations and make more informed decisions.
- ***Improved compliance:*** Business process intelligence can help organizations ensure they are compliant with industry regulations and standards.
- ***Increased productivity:*** Business process intelligence can help organizations to optimize their processes, leading to increased productivity and cost savings.

Process intelligence helps enterprise leaders discover the real state of tasks, processes, and workflows today in order to improve operational excellence in the future.

Process intelligence is important because it provides a systematic and data-driven way to make improvements to business processes by eliminating bottlenecks, identifying automation opportunities, and improving operational efficiency.

Tools and software used for process intelligence

If you're looking for process analytics tools, you're spoiled for choice. There are over 25 different process intelligence software solutions on the market today - and many more solutions offering task mining or different forms of process analysis and management. Process mining tools play a crucial role in process intelligence by analyzing real-world data to identify inefficiencies, though they often face limitations in connecting with various data sources and monitoring processes in real time. Broadly your options include:

1. Self-built process analytics running on business intelligence platforms (such as Microsoft PowerBI, Qlik Sense, or Tableau.)
2. Dedicated process mining software that extracts process intelligence from event logs in enterprise resource systems.
3. Task mining software that collects process information from the workstations of specific teams or groups of employees.
4. Process discovery software that focuses on the discovery element of process and task mining.
5. Hybrid process intelligence solutions that combine process mining and task mining into the same solution.

Download a whitepaper on how to combine process mining and task mining through a new hybrid intelligence method.

Process intelligence vs business intelligence

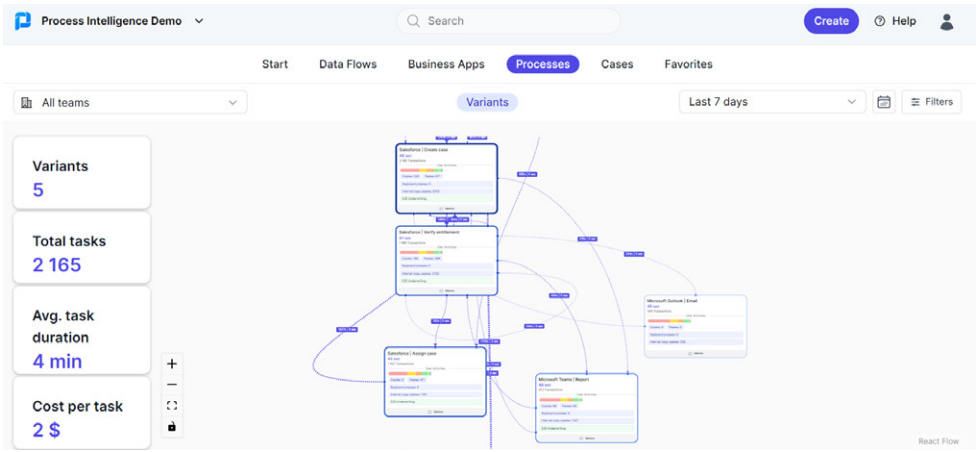
While process intelligence can be run on business intelligence tools, such as PowerBI or Tableau, many enterprise leaders choose to go for dedicated software.

The key advantage of process intelligence software is the speed-to-insight, where dedicated solutions can adapt templates, integration capabilities, and process mapping to provide valuable process insights.

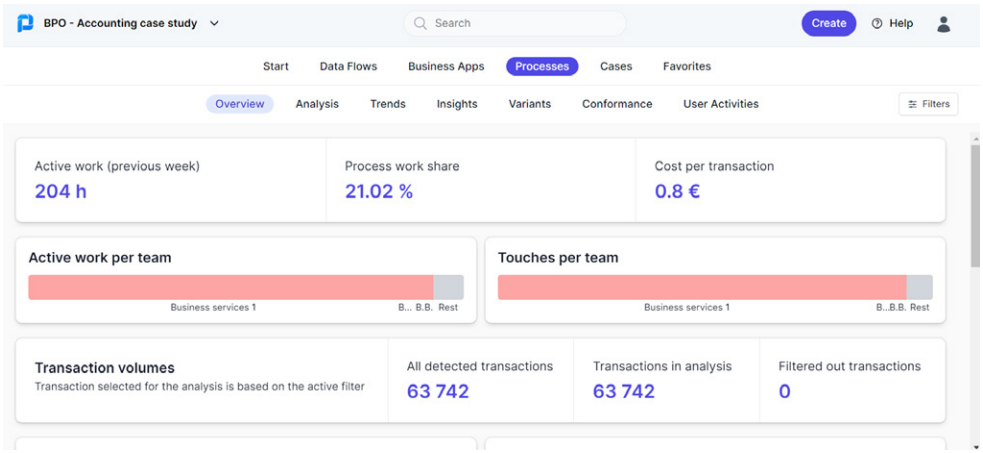
Another advantage of process intelligence tools is that process discovery and process performance measurement can be quickly configured based on pre-existing templates. For example, many process intelligence tools offer ready-made configurations for key use cases, such as finance operations or procurement, or key industries like banking, financial services, and insurance.

Examples of process intelligence dashboards

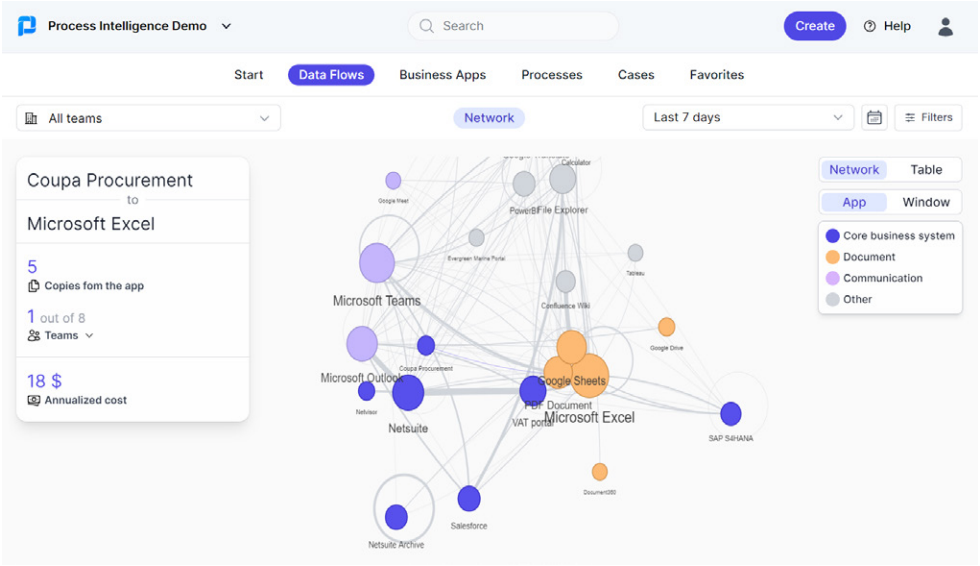
Below is a real-world example of process intelligence software in the form of a process variants analysis, showcasing the power of process visualization in understanding workflow execution of an accounts payable workflow. In this popular type of process intelligence visualization, you see how a standard process is executed in different ways or process paths from start to end with average times taken in each process step.



Below you see another example of process intelligence in the form of a process overview dashboard including both process and task-level insights identifying key performance indicators for an insurance company, such as cost of work and throughput time.



A third example of a process intelligence dashboard is the work view - where you can see the interactions of different IT systems within a process flow. You can also see in more detail where information has been transferred (eg. copy-paste) from one system to another.



How to build a case for process intelligence

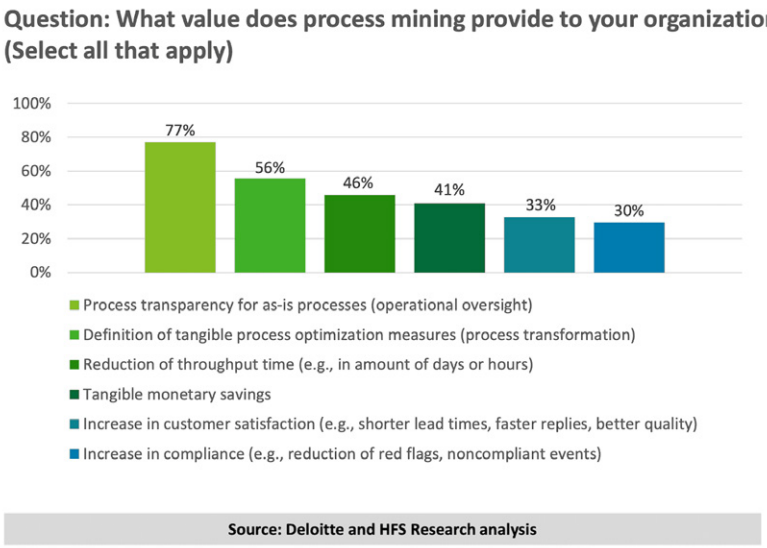
The best way to create a business case for process intelligence is to identify the potential benefits and savings that can be achieved through the implementation of process optimization strategies. These benefits and savings can be quantified in terms of time, money, and resources. Additionally, it is important to identify the potential risks associated with the implementation of a process intelligence system, so that these can be weighed against the potential benefits and savings. Finally, it is important to assess the cost of implementing the system, as well as any ongoing costs associated with maintenance and support.

Here are a few elements of a good business case for process intelligence:

- Align your key objectives with company strategy and goals.
- Get the right people on board.
- Explain your expected benefits in simple terms.
- Build the case on realistic costs and outcomes.

Use cases for intelligent business processes

As you're building a business case for process intelligence, you may consider the business value drivers and process automation solutions you aim to communicate with key stakeholders.



A recent study by Deloitte and HFS Research uncovered a number of use cases for process mining (and relevant also more broadly to process intelligence.)

- Creating a single source of truth / system of record for processes and workflows.
- Helping prioritize the process development backlog in a data-driven and measurable way.
- Development and management of process automation techniques and tools.
- Continuous monitoring of the real-time health of your processes, workflows, and work efficiency.
- Development of agile process optimization methods and helping the change management in digitalizing work.

These use cases can be applied to a variety of industries (eg. insurance or banking) or functions (eg. finance or procurement.) For more information on your use cases, request a demo.

When to request an RFP?

As you're evaluating your options, you may consider creating a request for proposal (RFP) for process intelligence solutions. An RFP may help you refine the case and requirements within your organization and help identify potential software or solution providers who can match your needs.

Some typical process intelligence RFP scoring criteria to consider:

- Are you looking for a process mining, task mining, or full-feature process intelligence solution that covers systems, processes, and work?
- Are you looking for a turnkey solution requiring limited implementation or more extensive deployment resources?
- Do you have or need the capabilities to deploy the solution across your organization, or will you require extensive support from the vendor or one of their partners?
- What is your timeframe and urgency for the project? Is it within weeks, months, or years?

- Are you looking for a solution that you can pilot and expand over time across your organization, or do you expect clear, measurable outcomes from the start?

- How important is the solution's current state, and how much weight do you give the vision and future roadmap of your chosen partner?

- Can you estimate the total cost of ownership of the solution based on the proposal answers, and will it meet your budget requirements?

Topic	Question	Answer
Coverage	Describe how your solution can map processes from business applications, eg. SAP S4/Hana	
Coverage	Describe how your solution can map processes from browser based web applications	
Coverage	Describe how your solution can map processes from documents, files or 3rd party portals	
Timing and cost	Describe the expected time and resources needed for a full implementation of the solution	
Timing and cost	Describe the expected time-to-value, for example when you can realistically expect to see meaningful insights	
Timing and cost	On average how long does it take for new clients to roll out your process intelligence solution?	
Timing and cost	Describe your pricing model, eg. SaaS, fixed fees and/or implementation costs.	
Timing and cost	Do you offer implementation support or is this covered by a 3rd party? What are the costs of implementation?	
Support	Describe in brief the training functionality offered for your product	
Support	Do you offer customer specific support?	
Support	What kind of product documentation do you offer?	
Support	How do you engage your customers in future roadmap planning?	

Example questions to ask in a process intelligence RFP

Future of process intelligence

Process intelligence is a fast-developing new technology area where we expect to see significant process innovation and increased investment in the coming years. According to the findings from ProcessMaker PI expert interviews, there are five areas where process intelligence has a major role in the future of work.

Artificial intelligence will play a crucial role in the future of process intelligence, combining with other technologies to enhance business processes, predict outcomes, and optimize operational efficiency.

- ***Democratization of analytics and insights.*** Increasingly autonomous process intelligence solutions will reduce the need for tactical process mining and task mining. This will give business leadership and stakeholders access to the most valuable process data without the need for heavy investments in data science.

- ***Radically transparent business operations.*** As more process intelligence solutions combine process, task, and system data across end-to-end workflows, enterprise leaders can measure and improve operations in radically transparent ways across business units and teams.

- ***Data-driven BPM led by decision intelligence.*** Increased process intelligence enables operational excellence teams to shift from data-informed process management to data-driven process optimization.

- ***The AI-augmented workforce.*** Process intelligence uncovers ways that automation captures and enhances the subject matter expertise of the workforce, enabling them to focus more time on value-added tasks.

- ***The fully automated enterprise.*** Process intelligence accelerates the adoption of intelligent automation and robotic process automation resulting in the ultimately automated enterprise.

Process Intelligence FAQ

Why is process intelligence important?

Increasingly business leaders find process intelligence as a vital enabler for process excellence as it aids organizations in understanding and optimizing their operational processes. In today's fast-paced, digitally-driven business landscape, organizations need to be flexible, efficient, and adaptable. Process intelligence can help by identifying bottlenecks, inefficiencies, and risks in processes. It can provide the data-driven insights needed to redesign and streamline processes, leading to improved operational efficiency, reduced costs, and better customer experiences. Moreover, process intelligence also supports compliance by highlighting deviations from standard procedures, aiding in risk management and regulatory adherence.

What are the limitations of process mining for automated process discovery?

Despite its many benefits, process mining for automated process discovery has certain limitations. One limitation is that process mining relies heavily on the quality and availability of data. If the data is incomplete, inaccurate, or not available, the results of process mining will be affected. Furthermore, process mining can struggle with complex and flexible processes, often referred to as process complexity. In real-world settings, processes are often non-linear and involve multiple parallel activities. Process mining can sometimes oversimplify these complex processes, leading to a lack of precision in the results. Additionally, while process mining can identify patterns and provide insights into process performance, it doesn't necessarily prescribe solutions or strategies for process improvement. For that, the involvement of domain experts is often necessary.

How can you use process intelligence tools to improve process performance?

Process intelligence tools can be used in various ways to improve process performance. They can provide visual maps of the current processes, helping identify bottlenecks, delays, and inefficiencies that can be streamlined or eliminated. These tools can also generate process metrics and key performance indicators (KPIs) that allow organizations to track process performance over time and evaluate the impact of changes. Additionally, process intelligence tools can use machine learning to predict future process performance based on historical data, enabling proactive management of potential issues. Process intelligence can also support a culture of continuous improvement by enabling organizations to test and evaluate the impact of different process design options.

What is the difference between how process mining and task capture get process data?

Process mining and task capture acquire process data in distinct ways. Process mining extracts data from event logs stored in information systems. This means it uses existing data from business process management systems, customer relationship management systems, and other IT systems. These logs provide a detailed record of the events that occurred as part of a process, including what was done, when, and by whom. On the other hand, task capture, also known as task recording or process recording, captures process data by directly observing and recording the actions of the individuals carrying out the tasks. This can involve the use of screen recording software, keystroke logging, or other similar technologies. Task capture can provide insights into the specific steps involved in a process, including any workarounds or deviations from the standard procedure that may not be captured in event logs.

Get better business insights with a revolutionary hybrid PI approach. Kick-start your process intelligence journey and forget about process and task mining hassle.

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