

Delivering Value with
Process Analytics
Process Mining adoption
and success factors

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Foreword

Over the past two decades, Process Mining transitioned from an emerging scientific discipline to a mature approach to improve processes supported by dozens of commercial Process Mining tools. People that see Process Mining results for the first time cannot believe that it is possible to discover the actual processes, including bottlenecks and compliance problems. Moreover, in all applications that I have seen, the processes uncovered by Process Mining are very different from what people expect. However, after the initial excitement, stakeholders ask questions like:

- How does this help to improve my processes and save costs while reducing response times?
- How to turn performance and conformance diagnostics into actions that address the problems identified?
- How to embed Process Mining in my organization?

The Deloitte Process Mining Survey 2021 addresses exactly these questions. It is a very interesting read, providing a good understanding of the current adoption of Process Mining. The survey also identifies several key success factors.

Process Mining research started in the late 1990-ties, looking at the problem of process discovery. After several failed workflow management projects, I got interested in automatically deriving process models from event data in systems like SAP, Oracle, PeopleSoft, JD Edwards, and Baan ERP. The hypothesis was that we could only support processes well if we really understand them. Our first process discovery techniques showed that this was a scientifically challenging problem and that processes were often very different from what people expect. From 2000 to 2006, we created the first process discovery and conformance

checking techniques, all implemented in the open-source tool ProM. After this, the first commercial Process Mining tools became available (e.g., Futura Process Intelligence and Disco by Fluxicon). Many other vendors followed (e.g., Celonis in 2011), leading to the over 30 commercial offerings available today. The practical use of Process Mining was limited until 2015. However, over the last couple of years, the adaption has been accelerating. In some regions (e.g., Germany and The Netherlands) Process Mining is well-known and widely used; in other regions, organizations are not aware of the existence of Process Mining. This survey reconfirms this skewed geographic distribution and also shows that there is a lot of growth still possible, also in organizations that are already using Process Mining.

My personal experiences align well with the findings in this report. Process Mining is most effective when it is done in an enterprise-wide manner. It makes perfect sense to start with small pilot projects to gain experience, but the real benefits come when Process Mining is applied to many operational processes throughout the organization in a continuous manner. Moreover, Process Mining can be used to identify (or even predict) performance and compliance problems. However, these insights need to be turned into concrete actions. This requires support from C-level management. Process Mining projects that do not have such support, but that are expected to provide a high Return on Investment (ROI), are doomed to fail. Also, Process Mining often reveals data quality problems that need to be addressed anyway. Such factors should be taken into account when making ROI calculations. If the data is in good shape, it is possible to get results almost immediately. Process Mining is an amazing highly-generic technology, but its value highly depends on how it is used.

Next to increasing the scope of Process Mining, it is crucial to better identify improvements that have a high value. Most processes follow a Pareto distribution, i.e., 80 percent of the cases are executed as planned or expected, and 20 percent are not. However, the remaining 20 percent of cases account for 80 percent of the variability and operational friction (e.g., rework and delays). The problem is that the remaining 20 percent of cases are heterogeneous and it is not easy to identify the deviations that matter. This requires an analytical and value-driven mindset. Therefore, this survey recommends selecting high-value processes and establishing a clear data-to-value strategy.

Enjoy reading!



Prof. Dr. Ir. Wil van der Aalst

Chair of the Process and Data Science group at RWTH Aachen University
Chair of the IEEE Task Force on Process Mining

Introduction

With all the hype around Process Mining in today's business circles, it's only natural to wonder whether there is any measurable business impact. For us, Process Mining is one of the most exciting technological innovations since the advent of digital transformation and looks to be all set to continue its massive growth.¹ Guides on how to increase the maturity of Process Mining from a scientific perspective already exist.² This survey has been designed to provide a practice overview on global Process Mining adoption and tackle one of the most pressing issues: Does Process Mining deliver value? And if so, how?

The focus of our survey is on companies that have already adopted Process Mining or those that are looking to start their first Process Mining initiatives. We are highlighting two key aspects: the increasing adoption of Process Mining and the best way to make your Process Mining initiative a success from the start.

We surveyed two groups of adopters: mature or scaled practitioners willing to share their first-hand experience with Process Mining and early stage adopters about to embark on their Process Mining journey. Why these two groups in particular? Mature adopters can facilitate practical insight from the forefront of Process Mining implementation – particularly for the many executives in our survey that acknowledge they are still in the dark about Process Mining and its potential applications.

So, what are the key insights? The results of our survey indicate clearly that companies are bullish on Process Mining and have clear expectations to expand these practices on a global scale. The majority of companies are satisfied with the outcomes

of their Process Mining projects, even though it seems to be challenging to deliver quantitative results. Besides the “hard” benefit realization, many respondents believe there are valuable qualitative or “soft” benefits in areas such as transparency, process monitoring and process improvement through process augmentation via intelligent automation or real process transformation. To address the “soft” to “hard” benefits realization hurdle we included further practice guidance.

Last but not least our survey identified a range of success factors for sustainable and accelerated value creation with Process Mining which may serve as practical guidance for organizations that are planning, evaluating or executing Process Mining initiatives.





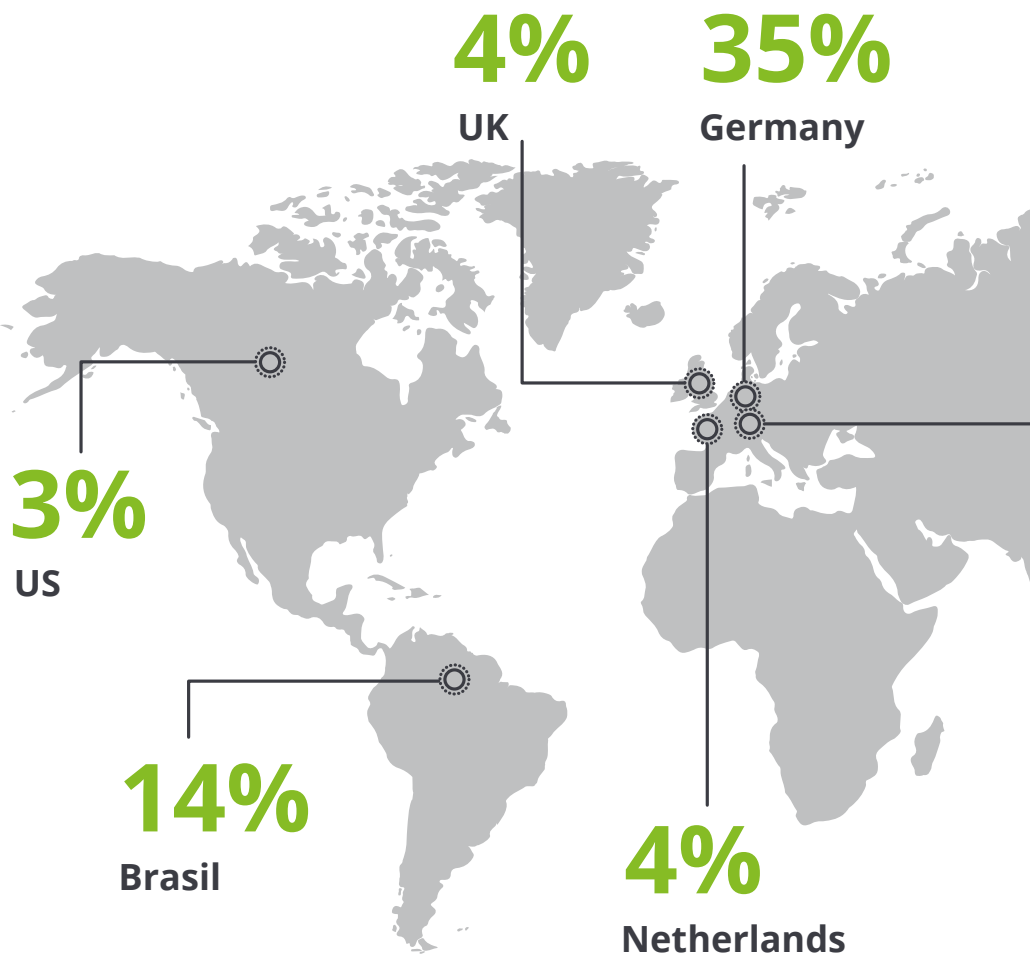
About this survey

The Deloitte Global Process Mining Survey – our first in this area – was conducted by the Deloitte Center for Process Bionics (CPB). Despite the fact that Process Mining is not a brand new technology³, large scale adoption across many industries has just started to pick up pace. The number of adopters has only recently reached a level that allows us to make valid assessments.

It was our goal to obtain a global perspective on the various ways organizations adopt Process Mining technology, manage their initiatives and assess the overall benefits and important success factors of Process Mining initiatives.

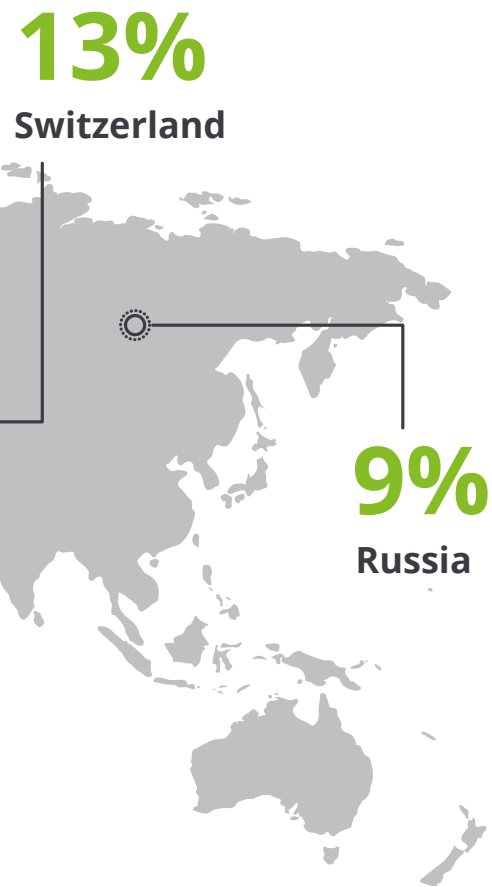
From October to December 2020, we surveyed 106 IT and business executives from 24 countries (Germany 35%, Switzerland 13%, Brazil 14%, Russia 9%, Netherlands 4%, United Kingdom 4% and United States 3%).

Fig. 1 – Global distribution of participants



Our participants were part of one of the following groups: they use Process Mining tools on an operational level (in their daily business), make or influence decisions around Process Mining, serve as a subject-matter expert for Process Mining technology, develop Process Mining strategies, manage or oversee Process Mining implementation, set Process Mining spending or approve Process Mining investments (e.g., business leads), advise on Process

Mining projects (e.g., as external or internal consultant) or, last but not least, they do not use Process Mining at all. The participants represent a wide variety of roles across the organizational hierarchy (Fig. 2). To complement the survey, we conducted in-depth interviews with Deloitte Process Mining professionals.

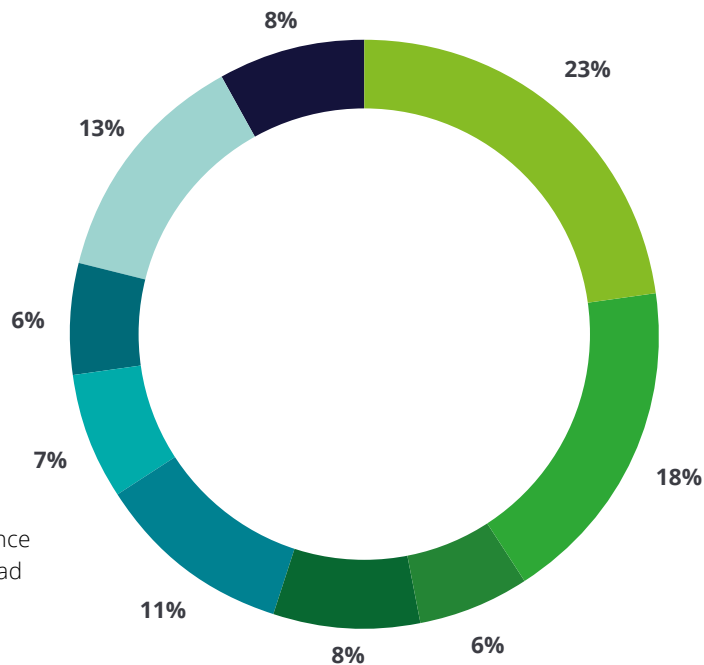


The Center for Process Bionics (CPB)

The CPB is a global Center of Expertise with the mission to serve as one-stop-shop for bundling Process Mining and Data Science expertise. Our ambition is to sustainably transform business processes. With the Process Bionics concept, Deloitte is turning Process Mining into a data-driven management approach. Our goal is to find new dynamic and sustainable ways to apply the insights gained from corporate processes and

drive impactful, fact-based transformation. Our approach mimics the process of natural evolution as applied to technology adoption in the area of AI/machine learning, hyperautomation and next-generation business process management. We aim at taking insight-driven process transformation to the next level by combining latest technology expertise with a human-centered, data-to-value approach.

Fig. 2 - Participated roles



- C-Level/Management
- Process Management/Operational Excellence
- Innovation Lead/Digital Transformation Lead
- Process Mining Lead
- Process Mining Expert (IT)
- Process Owner/Process Manager
- Business User/Process Specialist
- Inhouse Consulting
- Other

Expectations of Process Mining

Based on what we have seen in the recent past, software vendors have high expectations and fairly elaborate fantasies about the unlimited possibilities of Process Mining. This might be one of the reasons customers have put a lot of hope in this technology. According to software vendors and service providers in this market, the technology has multiple benefits and can deliver everything in a single package – basically it is portrayed as an all-round talent and jack-of-all-trades technology. The purported advantages range from enterprise-wide process transparency, above-average ROI and faster cycle times to automation potential, cost savings and tracking compliance – to name just a few. Many adopters say Process Mining can boost business performance when combined with other automation technologies such as Robotics Process Automation (RPA) and lead to higher employee productivity. It will help visualize end-to-end processes, they say, or even highlight problem areas and eliminate redundancies⁴. Based on the prevailing narrative, Process Mining is the solution for everything. But is that really true?

What are the clients' expectations?

When asked about their expectations of Process Mining, our respondents listed the benefits they hope to achieve with the technology (Fig. 3). The list is very long and shows a very diverse set of expectations. The most common expectation of our survey respondents is “process improvement”: 77 percent put it in the top spot,

followed by “process transparency” at 57 percent. Respondents also expect to optimize operations: 46 percent of respondents expect to benefit from cost reduction, 42 percent from process monitoring and 39 percent from process standardization or process compliance (35%).

Key expectations are process improvement, transparency and cost reduction

We can summarize the expectations in two groups: direct or indirect benefits. Direct benefits result from the use of Process Mining itself, e.g., process transparency, automation potential and process monitoring, without any additional effort in terms of time, expense or know-how. Indirect benefits such as process improvements, cost reduction or process compliance require organizations to define and implement optimization measures and follow-up projects (e.g., process automation, restructuring, training and enablement). Process Mining alone will not reduce costs, for example; adopters will also have to change the way they work. Hence, the expected results cannot be achieved through Process Mining alone. Even when Process Mining results are actionable, actions still need to take place.

To sum it up, our recommendation is for companies to identify and harvest the

quick wins (i.e., direct benefits) of Process Mining and use it in parallel to identify follow-up initiatives that promise even bigger benefits but may take a certain lead time to become effective.

Fig. 3 – Expectations towards Process Mining

What do you expect from process mining? (Multiple answers)

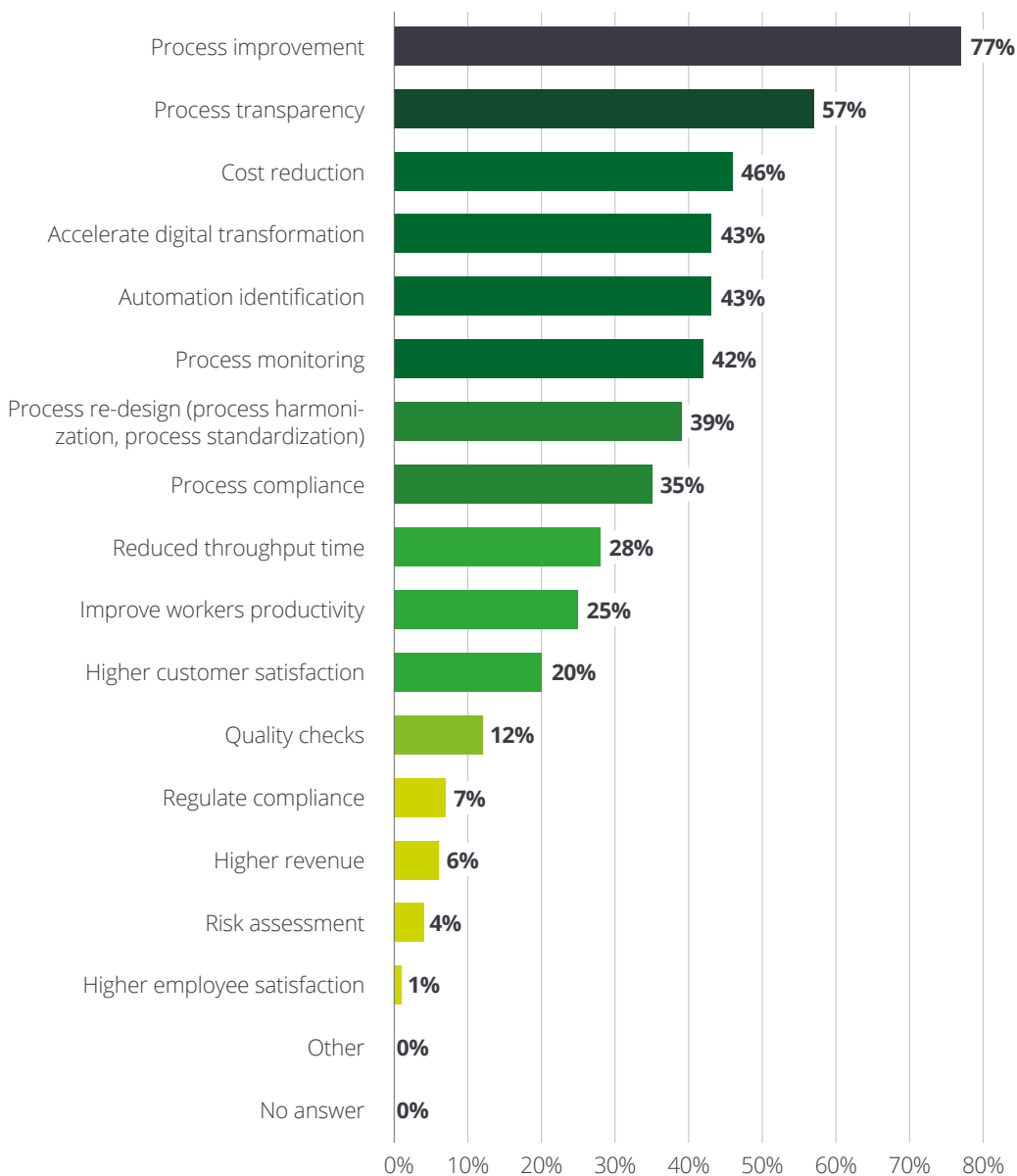
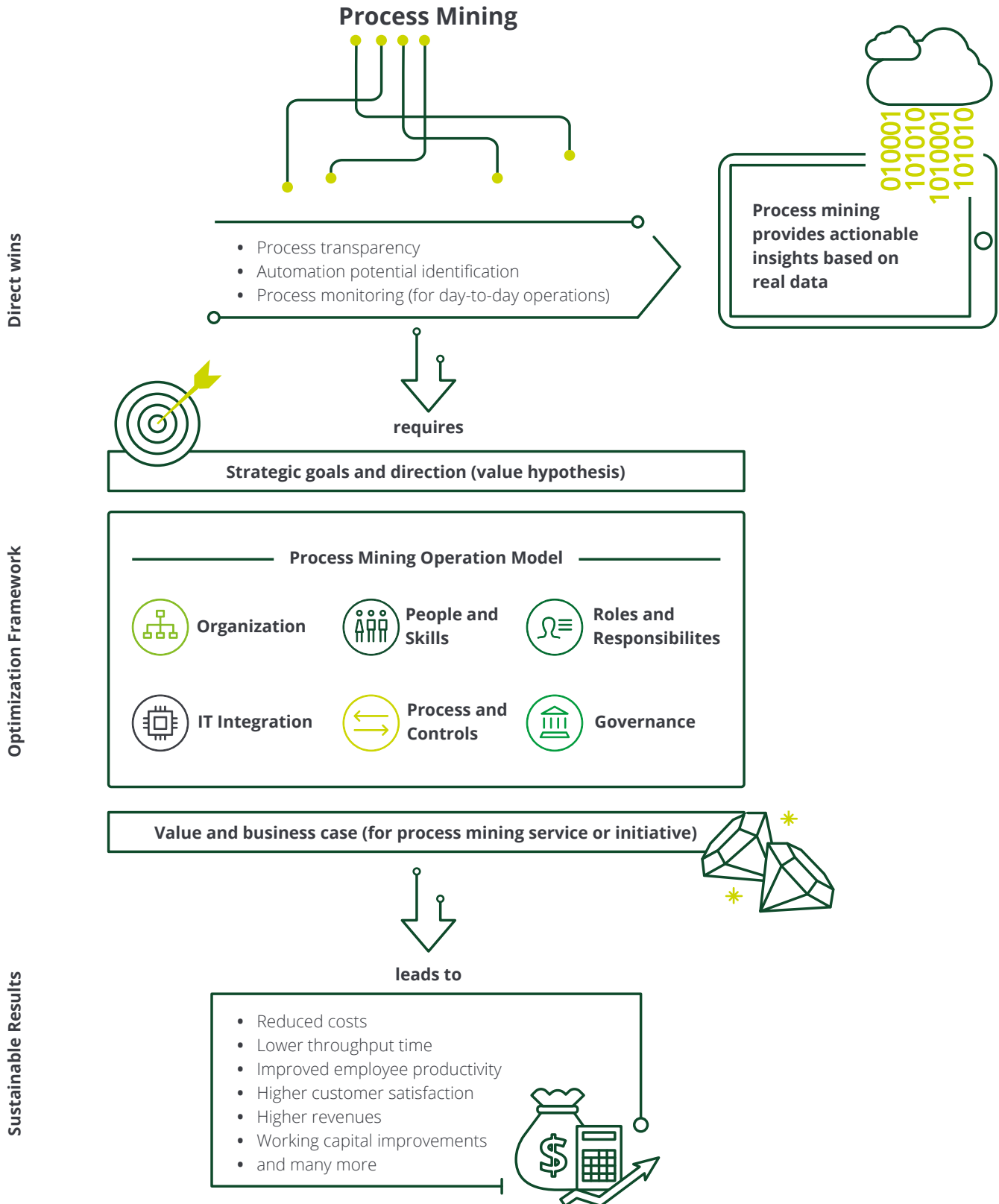




Fig. 4 – Optimization Framework



Adoption of Process Mining

Keep moving - there is still room for more!

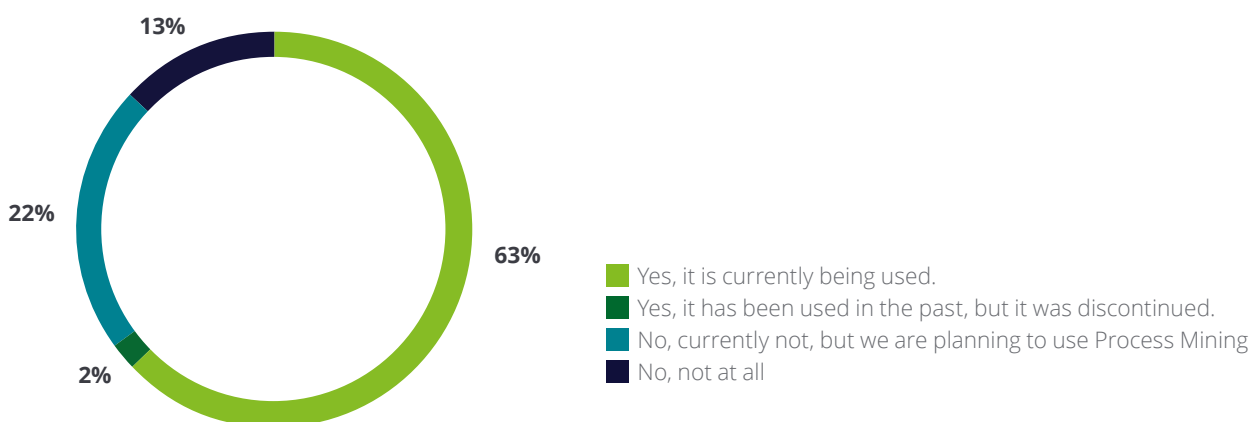
How do companies embark on a Process Mining journey? The majority of our respondents, namely 63 percent (Fig. 5), have already started to implement projects in this area. Since Process Mining was discovered eight years ago, it has been on an upward trajectory in the business world. However, there is still a great deal of untapped potential: 22 percent of respondents said they plan to use it in the future, leaving only 15% non adopters. The growth potential in this area is real: we expect the Process Mining market to grow by over 70 percent (CAGR) in the next few years.⁵

Process Mining is in high demand

Process Mining is becoming more and more powerful as companies across multiple industries recognize the importance of operational excellence⁶. While the market in Europe, especially in Germany and the Netherlands, seems a lot more mature than the rest of the world, other regions such as Russia, the US, South America and South-East Asia are starting to catch up.

Fig. 5 - Status of Process Mining adoption

**Is process mining currently being used in your company?
Or have you ever used it?**



Why organizations have not yet begun their Process Mining journey

One of the main reasons cited in our survey is a focus on other, higher-priority projects, followed by budget restrictions and lack of management buy-in (Fig. 6).

The main hurdles for adoption to scale are lack of priority, funding and management attention

Even among those respondents not currently using Process Mining for the reasons mentioned above, 87 percent plan to conduct pilot projects or a Proof of Concept to try it out (Fig. 7) and 13 percent plan company-wide adoption.

Many early adopters are looking to scale their Process Mining initiatives

Fig. 6 – Reasons for not using Process Mining

What are the reasons for not using process mining?

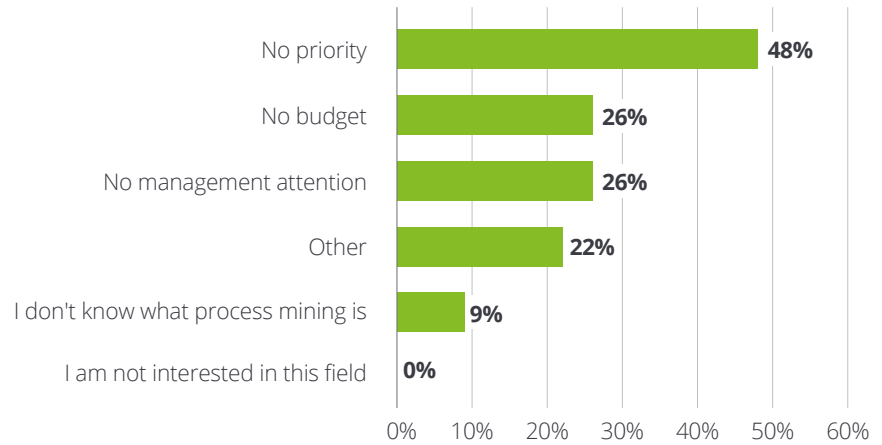
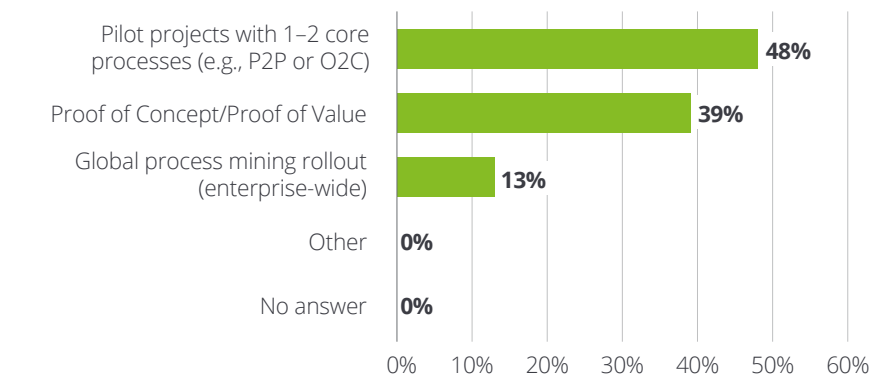


Fig. 7 – Planned future use of Process Mining

To what extent are you planning to use process mining in the future?



Adopt an enterprise-wide mindset!

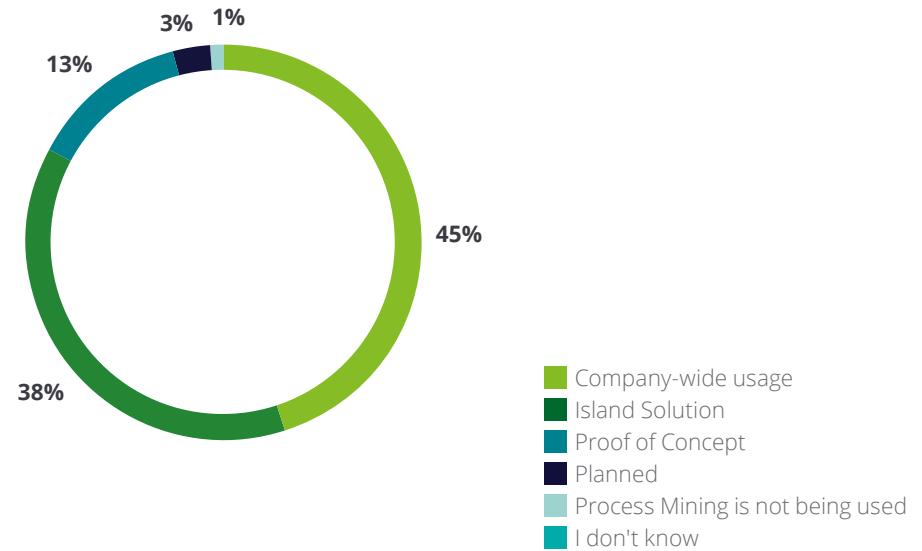
Process Mining solutions can be applied to many processes across the entire enterprise. Adopters should evaluate the benefits for the organization as a whole, not just in terms of individual processes. It appears that most companies are starting to recognize this. Organizations already using Process Mining are taking it beyond the initial steps into continuous improvement and vertical expansion across different business units. They see the potential benefit and scale of these initiatives. Among those organizations that have already embarked on the Process Mining journey, 45 percent are using it enterprise-wide (Fig. 8), 38 percent have implemented individual Process Mining processes and another 13 percent are just starting on the journey with Proof of Concept testing (Fig. 8).

Start with high-value processes!

It is not only important to consider vertical process scaling; horizontal Process Mining adoption across different processes is also key. The respondents in our survey have already deployed a wide variety of processes: a majority say they have started with processes that are straightforward and have highly standardized data sets. Popular starting points are purchase-to-pay and accounting processes, followed by order-to-cash and IT service management processes (Fig. 9). In other words, the first processes most of the respondents are tackling might have high efficiency potential but low impact compared to corporate core processes - and this needs to change. In our experience, businesses that start with high-value processes are more likely to leverage the most improvement potential.

Fig. 8 – Current status of Process Mining initiatives

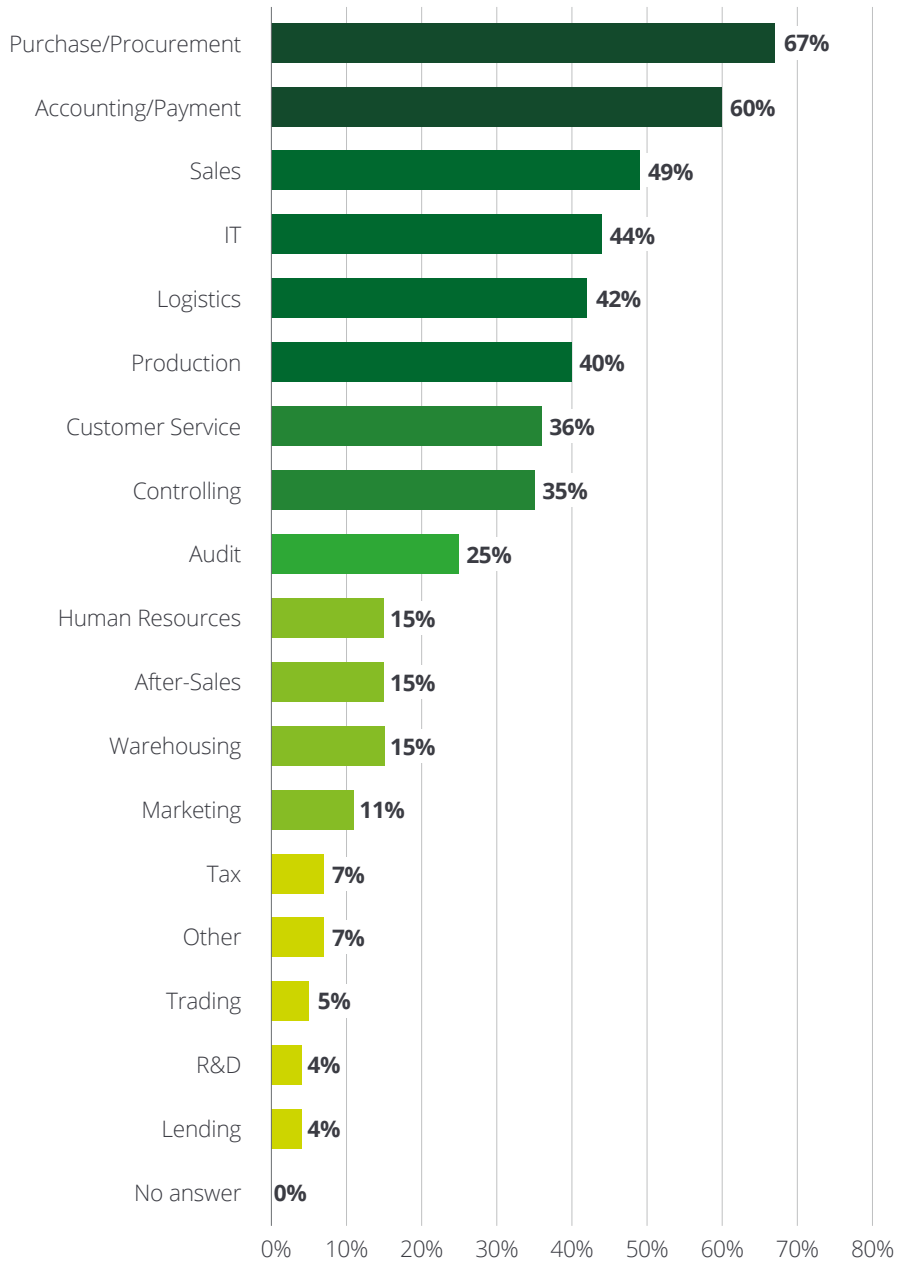
What is the current status of your process mining initiative?



Support processes with high efficiency but low value potential are the most common starting points.

Fig. 9 – Areas of Process Mining application

In which areas do you utilize process mining? (Multiple answers)



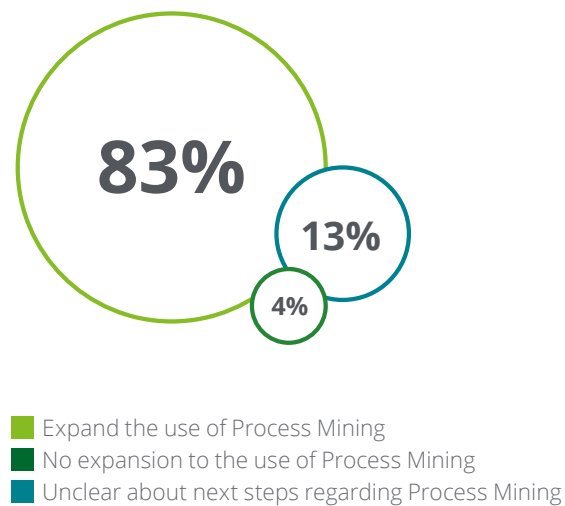


Once you have started Process Mining, you never go back to business as usual.

Organizations that start on a Process Mining journey are in it for the long run. Process Mining is a crucial step on the way to operational excellence. Our survey shows that once organizations start adopting Process Mining, they tend to become more ambitious about expanding it.

Fig. 10 – Next steps in Process Mining initiatives

What are your next steps?





In total, 83 percent of the participants plan to roll out initiatives in other areas (Fig. 10). 97 percent of companies already using Process Mining on a global scale plan to expand their initiatives, as do 77 percent of respondents that currently have island solutions and 67 percent of respondents that have recently launched a Proof of Concept plan (Fig. 11). What is more,

71 percent of the C-suite respondents say they would like to expand their current Process Mining initiatives (Fig. 12). This aligns with the increase in market potential we are expecting over the coming years⁷ and also with our impression that Process Mining is set to grow further and become even more essential to corporate performance.

Fig. 11 – Next steps in Process Mining initiatives (specific examples)

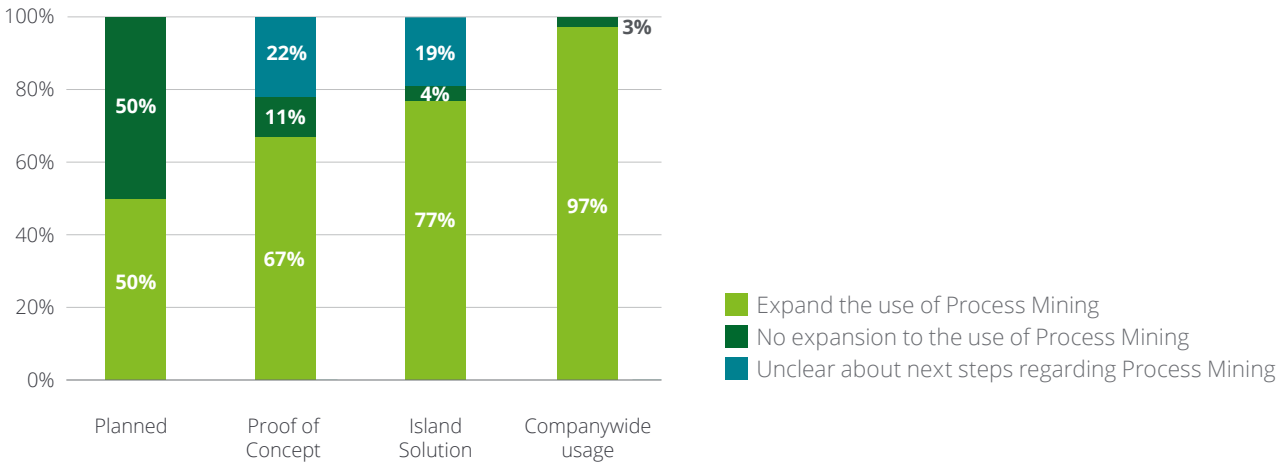
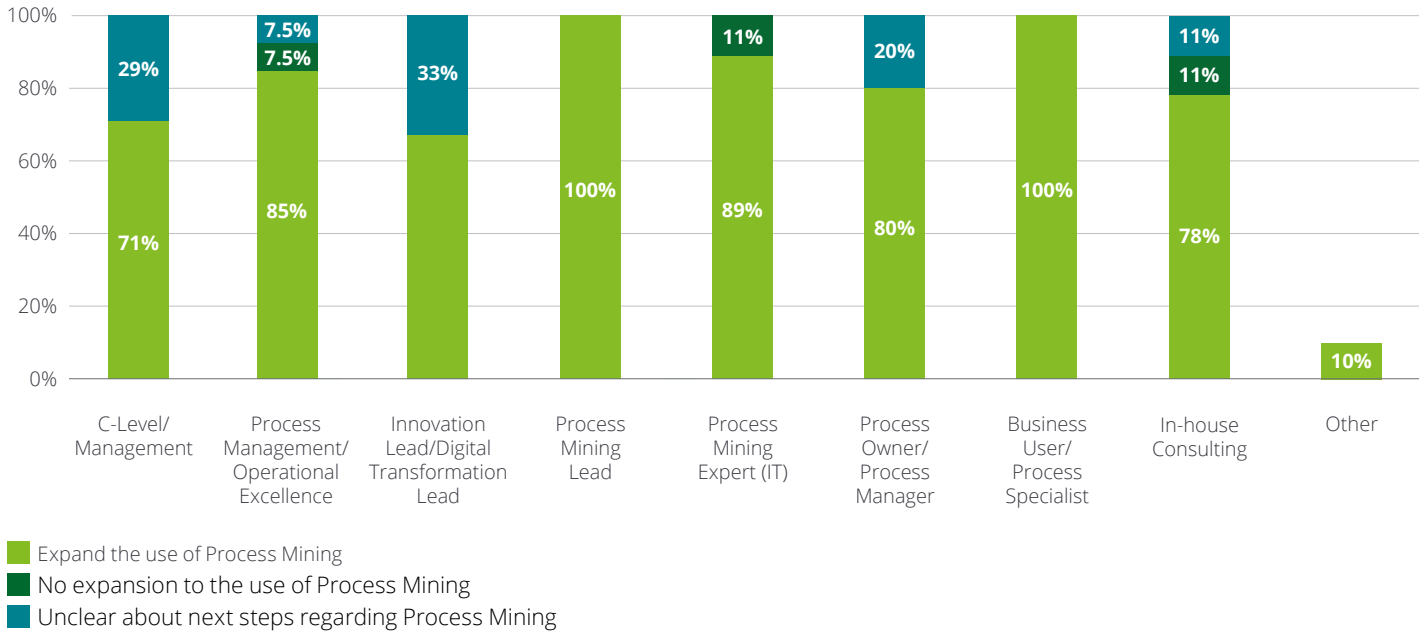


Fig. 12 – Next steps (by role of survey respondent)



Think quantitatively – Turn your Process Mining insights into tangible results!

What are companies hoping to achieve with Process Mining? We asked respondents if these tools actually deliver value. The results of this survey underline and amplify what we have learned implementing Process Mining projects for clients in our practice: 84 percent of respondents agree or strongly agree that these initiatives deliver value (Fig. 13).

84 percent of respondents believe that Process Mining delivers value

Fig. 13 – Value delivered by Process Mining

Process mining delivers value.

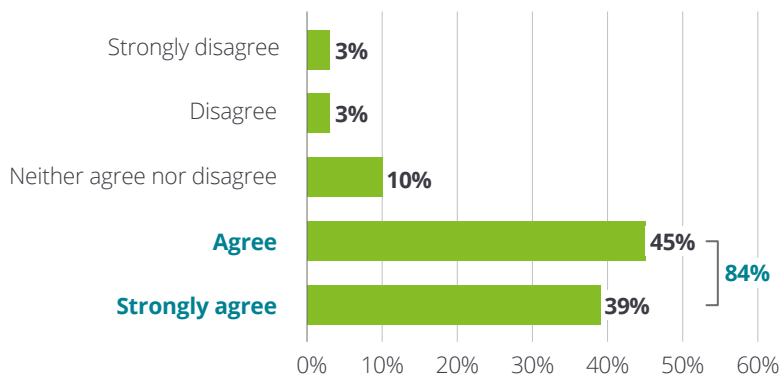
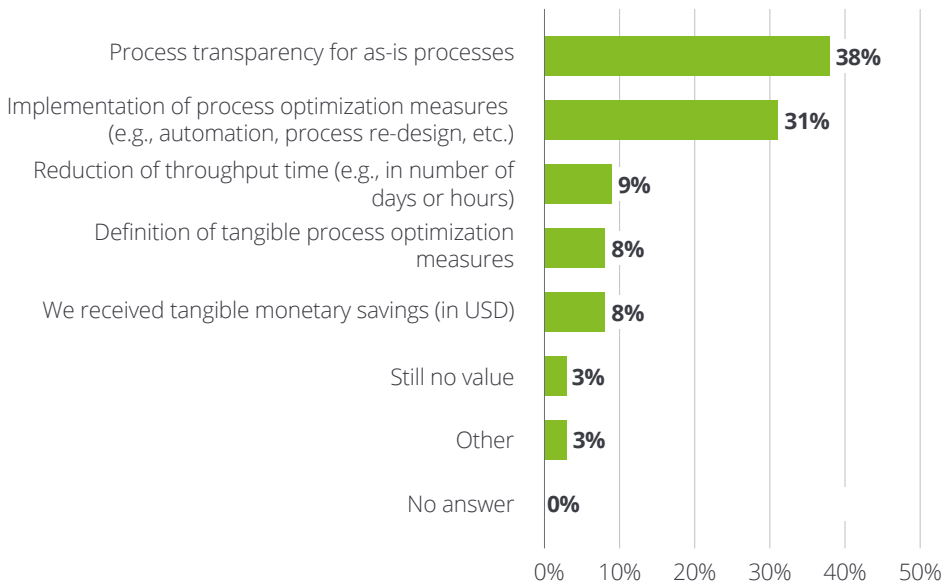


Fig. 14 – Value delivered by Process Mining (specific examples)

What form of value did process mining deliver for you?



However, the key question is: what kind of value does Process Mining deliver? We will try and answer that question in the following section and further investigate whether the respondents have added value through Process Mining and whether the process has met their expectations as outlined in Section 4.

The main added value among the participants is “process transparency for as-is processes”. 38 percent of the respondents say that they believe Process Mining has made their processes more transparent, which is not surprising. However, we still define added value based on a narrow view of process optimization – as yet no one has addressed the real value add.

The real value of Process Mining needs still to be tapped

31 percent of respondents say that process optimization measures (like automation) have delivered value, while 8 percent were even able to pinpoint the specific process optimization measures (Fig. 14).

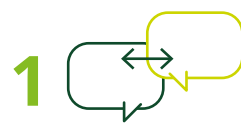
That said, only 9 percent of respondents report lower throughput times and 8 percent real measurable savings from Process Mining. For 3 percent of the respondents, Process Mining didn't deliver any value at all.

Process Mining itself does not deliver value “out of the box”. There are many examples where companies have implemented initiatives with this technology but have yet to identify any tangible benefits.⁸ We cannot think of Process Mining as a plug-and-play technology. Using it successfully requires advanced industry-specific and technical skills as well as our Process Mining optimization framework (Fig. 4). Organizations also need deep process knowledge and business expertise to turn the Process Mining output into valuable insights.⁹ Without case-oriented dashboards and Process Mining practitioners focused on maximizing added value, businesses will not be able to gain valid insights and tangible outcomes from Process Mining.

Success factors of Process Mining Initiatives

What are the critical success factors for an organization to thrive with Process Mining and unlock its full potential? 55 percent of the participants see cross-departmental alignment between business and IT as the top success factor, followed by good data quality at 51 percent. 47 percent favor clear target setting and 42 percent say that these initiatives need leadership commitment. The fifth most important critical success factor for our respondents is the availability of “dedicated resources” at 38 percent (Fig. 16).

Fig. 15 – Top five success factors



1
Cross-departmental alignment between IT and business



2
Data quality & transformation



3
Clear targets & value hypotheses



5
Dedicated resources availability



4
Leadership commitment

Reflecting on the past ten years in which I worked with some of the largest global organizations on their Process Mining journeys, the key success factors presented in this study are all too familiar. Each one is intricately linked to how frictionless such a new way of working can be adopted. Let me share some additional, complementing perspective on the two factors that are arguably straightforward if considered early, but can make it quite difficult to correct course later down the road.

Re. #3 Clear targets & value hypothesis

In addition to establish a clear set of targets that link to company-wide, strategic goals as described in this study, we often find a mismatch of optimal timeframes underlying the respective targets. Due to the exploratory nature of process discovery and the novel way of

interacting with process flow evidence, feedback cycles should be designed around few, bite-sized targets and a maximum timespan of three months to allow for iterative recalibrations. While the link to strategic, often annual goals remains crucial, the frequency and evolutionary phases of Process Mining projects must be kept independent to retain agility.

Re. #1 Cross-departmental alignment

Iterative decision making and agile concepts have found their way both into IT, as well as the management practices preached today. However, inside many organizations the operating models governing all interaction between business and IT have been structured with a much more phased approach in mind. Process Mining by design facilitates, but also requires a very close interaction between these departments and hinges

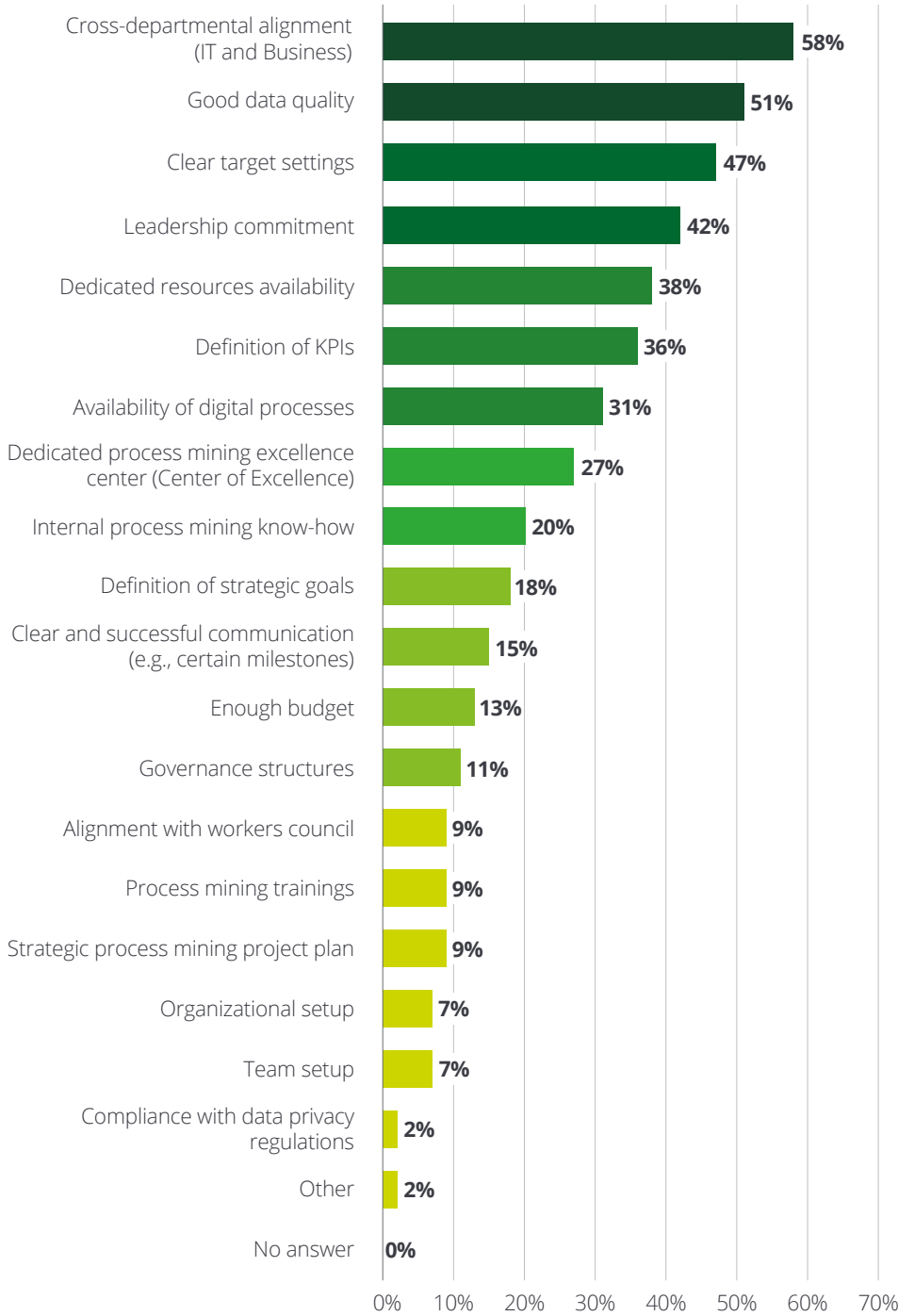
on the ability to refine requirements quickly as a result of new insights. Sometimes the most impactful analyses stem from requirements that could not have been defined upfront. Rather than excessively hedging in effort estimations, I am advocating to embrace this exploratory nature and embed mechanisms to work with elevated uncertainty.



Julian Leberz
Steering Committee Member
IEEE Task Force on Process Mining

Fig. 16 – Value delivered by Process Mining

What are the top five most critical success factors? (Multiple answers)



Get leadership on board!

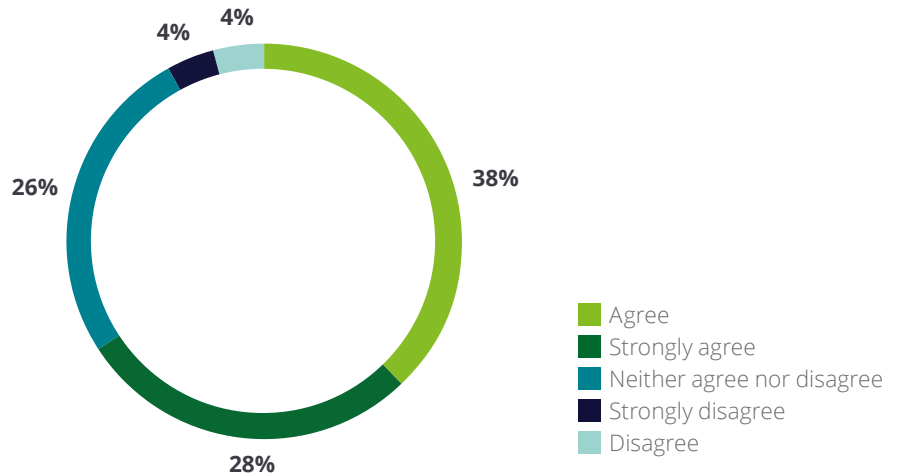
Implementing Process Mining enterprise-wide, giving your workforce the tools it needs, working with the technology on a daily basis and embedding it in your company DNA requires leadership commitment and advocacy. As we noted above, both Process Mining professionals and survey respondents cite leadership commitment as one of the top five success factors for Process Mining. Our survey results also show that 66 percent of the respondents say their C-suite leaders actively support Process Mining (Fig. 17).

No success without leadership buy-in

Having leadership commitment is extremely important, as it impacts all of the other success factors. It is, after all, the leaders who set and align corporate strategy. When you have a powerful advocate promoting Process Mining within the organization, you can overcome resistance from individuals or teams, win over additional supporters and advocates, and foster an exchange/alignment between departments (cross-business alignment). High-profile advocates can also accelerate decision making, i.e., allocating more – as well as dedicated – resources. Last but not least, the reputation and standing of an advocate when he or she promotes a flagship project internally will benefit the initiative and pave the way for further progress. In the end, Process Mining is more about enabling the organization and making a positive impact on the business than the technology itself.

Fig. 17 – C-Level support for Process Mining

Process mining is actively supported by your C-Level.



Bridge the gap between business and IT!

Our respondents named cross-departmental alignment between business and IT as the top success factor for organizations implementing Process Mining initiatives. If companies want to succeed with these projects, they need buy-in and commitment from both business and IT leaders. One of the main reasons there is a gap between business and IT is that they often have conflicting goals.¹⁰

Organizations that don't involve all of the relevant stakeholders in Process Mining initiatives have been known to fail – particularly when it comes to building a sustainable and skilled Process Mining workforce designed to earn user-oriented acceptance. A lack of user buy-in or attention from business leaders could bring a Process Mining project to its knees. In our experience, projects driven by IT without business buy-in (or vice versa) tend to fail. In companies where IT opposes Process Mining projects because of the excessive number of tools on the market and high costs, the business side may set up a shadow IT team¹¹ to move their initiative forward. Your best bet is to get business and IT aligned before you kick off a Process Mining project!

The Business defines what adds value. Without IT its hard to deliver any.

What constitutes added value is determined by business leaders. Delivering Process Mining outcomes via technology implementation, however, is a joint endeavor. Buy-in from both sides, business and IT, is absolutely crucial. The majority of Process Mining projects (45%, Fig. 15) is driven by business departments or cross-functional teams (36%), for example with dedicated process excellence or Lean Six Sigma teams. Only 9 percent of these projects are launched by IT departments. Why? Because enabling transformation and proactively driving innovation is not generally part of an IT department's SOP. Obviously, the IT department is responsible for data extraction and data modelling, as reported by 59 percent of our respondents, as well as for building a scalable, secure Process Mining infrastructure and for tool lifecycle management, architecture integration and source system connections, real-time data refresh, data extraction, data loading and data modelling. Some companies take a hybrid approach: 19 percent of our respondents report that cross-functional teams do some of the backend work as well.



Process Mining requires dedication: from dedicated resources to a dedicated organization.

Make sure you have sufficient resources!

38 percent of survey participants say the availability of dedicated resources is a critical success factor for Process Mining (Fig. 13). Another 27 percent believe it is equally important to have a dedicated Center of Excellence (CoE), i.e., a team of experts working toward a single purpose. Allocating dedicated resources is an indicator of commitment and reduces the risks of delays (e.g., if employees switch between multiple projects or get re-assigned) and of failure (e.g., if budget is reallocated to different objectives in a crisis). Having a

CoE, i.e., establishing a separate unit within the organization with its own budget, staff etc., shows strong commitment to the objective. This can have a huge positive impact on other relevant success factors. The CoE not only helps to secure resource availability but also to align business and IT. In our experience, companies that bundle their Process Mining initiative within a scalable CoE are more likely to have management buy-in, a clear roadmap and aligned strategy. 36 percent of the organizations in our survey have already established a CoE (Fig. 18).

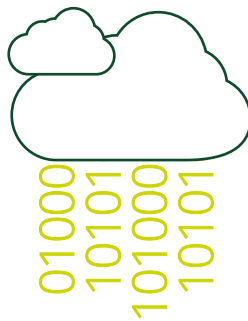
Fig. 18 – Responsibility for Process Mining





Data quality is key ...

... not only in Process Mining initiatives, but in any kind of business analytics. For high-quality results, you need high quality input. 51% of our survey respondents agree that data quality is paramount.



Data availability and quality makes the difference.



How to recognize high-quality data?

- We consider data as available if it is both accessible and complete. Accessibility means you have a good understanding of your systems and know where to look for a particular data set, but also that your IT department has the necessary expertise in both extracting and transferring the data. Completeness means your data set contains all of the information necessary to even attempt applying Process Mining and to deliver the desired analysis.
- We consider data as valid if it accurately reflects real process events in the correct way. Think of a customer service process, where an agent asks a customer various questions to help solve a particular issue. The resulting ticket, however, is created after the conversation and, in many cases, closed immediately, in which case the timestamps wouldn't reflect the actual time period of the event.



What else to watch out for?

- Our experts have also experienced systemic issues in some cases, e.g., if data are deleted, or values are moved during data extraction from a client's source system.
- Adopters should note that changes are sometimes made within the data set during the project, e.g., through archiving.
- Another frequent obstacle is time granularity, e.g. if some events only have a date and other timestamps have a much higher precision impacting the results and leading to random conclusions.
- Furthermore there may be challenges identifying a case notion, e.g. events may refer to an order, items, deliveries and customers. Flattening the event data may cause convergence and divergence problems, i.e. events are unintentionally duplicated or causalities get lost leading to unspecific spaghetti diagrams.¹²

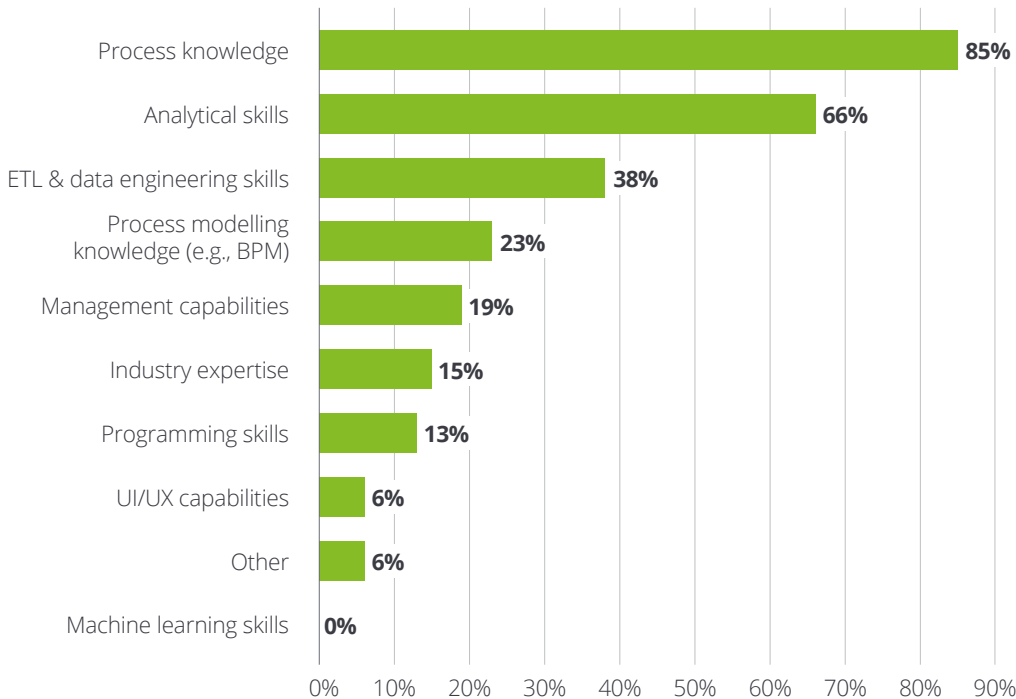


How to deal with low data quality?

- Our experienced professionals recommend validating your data as early as possible. You can use samples or draft first dashboards to check the data is accessible, complete and valid, challenging the results with process experts and IT.
- If you discover a pattern (e.g., future dates among exclusively historic data) you can correct the data set by reversing the logic or excluding questionable cases from the analysis, but both are just temporary fixes. You have to figure out the root cause to correct patterns like this. In general, discovering data quality issues (not to mention their root causes) is a popular side effect of Process Mining.

Fig. 19 – Critical skills needed for Process Mining implementation

What are critical skills for the success of a process mining implementation? (Multiple answers)



People and their skills are the secret sauce...

Implementing Process Mining projects and analyzing the results require specific expertise. Our respondents say that the lack of expertise in this area is one of the biggest challenges they face. The companies with the biggest Process Mining initiatives on a company-wide and global scale are those who have proactively and systematically built the necessary skills and structures internally. Those still waiting to start their Process Mining journey or struggling to secure management attention or project budget, among other factors, likely do not have the right skill-sets in place.

Our survey respondents had a different view of the skills that are critical for a Process Mining project. It is no surprise that process knowledge was considered the most important (Fig. 19), as it is the foundation for any Process Mining-related initiative. 66 percent of the respondents say having excellent analytical skills is important, followed by data engineering skills at 38 percent.

Other skills noted in the survey were Lean Six Sigma expertise as well as leadership skills like change management. These are indeed important, as Process Mining can be very disruptive and usher in an entirely new way of working – particularly if implemented enterprise-wide.

Interestingly, none of the respondents said that machine learning skills are critical, although this technology is becoming more and more important and actually merging with Process Mining. Machine learning is already a part of Process Mining today, with some vendors releasing similar features. In our experience with clients at Deloitte, we have worked on many projects where machine learning was required for Process Mining and customers planned to use it to predict future steps, events or behaviour. There is no doubt that the necessary skill set will change over the next few years.

As mentioned above, adopters need a wide range of skills to achieve real business value with Process Mining, e.g., knowing how to translate outcomes and analyses

into tangible results and profound process optimization. That's why it is so critical for practitioners to adopt a value-oriented mindset. Not every analytics expert has the skills to translate Process Mining output into insights that eventually deliver value to the organization. And conversely, process experts need certain analytical skills to be able to build and interpret Process Mining analyses. Creating a team that combines all these different skills is the key to success.



Scaling Process Mining

How do you take your Process Mining initiatives to scale?

As pointed out above, 83 percent of the organizations surveyed plan to expand their use of Process Mining, i.e., to take their initiatives to scale and realize enterprise-wide benefits. The greater the vertical (business units) and horizontal (process) expansion, the more appealing the business case for Process Mining becomes.

It is not just about the software itself: it is vital for adopters to also establish a clear data-to-value strategy. Integrating all stakeholders into a Process Mining initiative is a complex endeavor that requires a proper

operating model up front. Building governance structures that are driven by business value is important as well, especially when it comes to prioritizing the right use cases. Depending on the use cases selected, the organization must combine capabilities from both the IT and the business side based on agile processes as well as clear roles and responsibilities. Another key criterion is taking a hypothesis-driven approach to ensure you ask the right questions. And finally, as we said earlier, business leaders blaze the trail and strategy has to follow the value-add, which means use cases must be prioritized according to business value.

Process Mining Operational Model



Organization

Organizational setup based on increased use of process & task mining (e.g., introduction of a Center of Excellence)



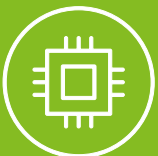
People and Skills

Long-term people strategy, changing skill requirement for process mining and management skills; adaptation of training and development strategy to changing workforce structure



Roles and Responsibilities

Role split between major organizational units, such as IT, business, shared services, an automation CoE and specialist departments as well as job descriptions for new process mining-related roles



IT Integration

Long-term, process mining technology strategy, embedding mining solutions within existing IT architecture, lifecycle management of the process mining solution(s) and robust security concept



Process and Controls

Definition of workflows such as business process intake and demand processes; compliance-related workflows impacts, audit procedures, KPI definitions, additional management review controls



Governance

Impact and definition of governance bodies, management of external technology partners (including license management) and governance concept for ongoing process changes due to automation

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