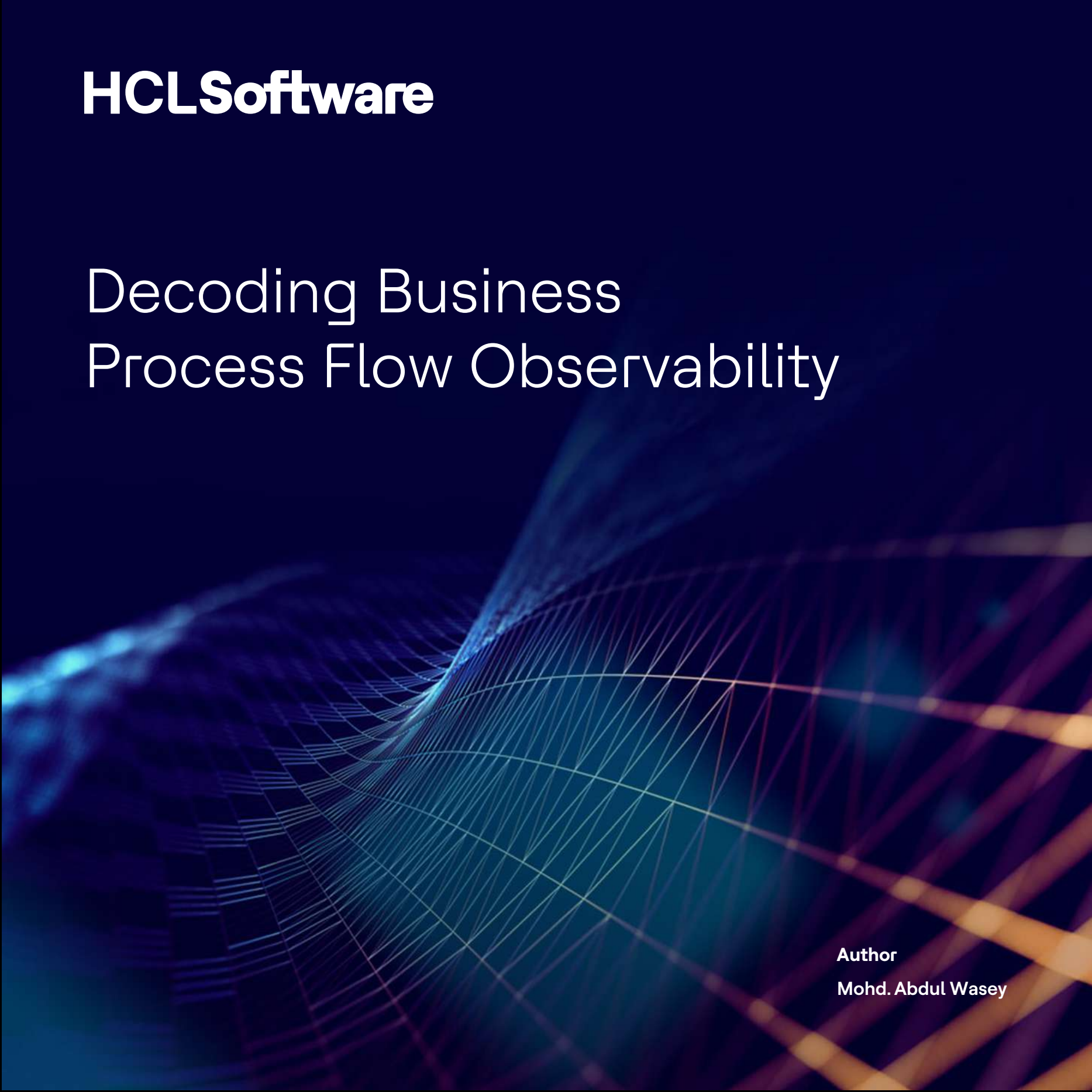




HCLSoftware

Decoding Business Process Flow Observability

Author

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Observability with business context

The current state of technology and business operations

The business landscape is facing many challenges to remain competitive and grow its businesses. Transformation programs to improve operational efficiency and provide strong foundations for growth are taking place across all industry segments.

For example, the shift to run more applications in the cloud, automation of processes as well as use of artificial intelligence and prediction capabilities to optimize operations and scale for growth.

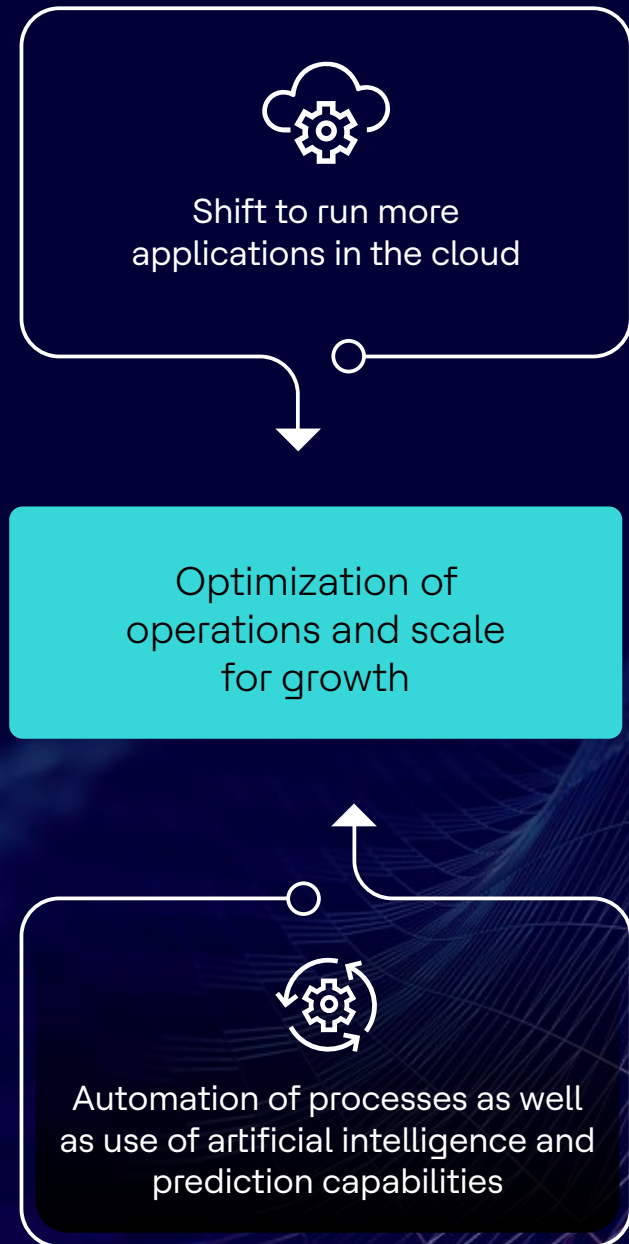


Fig.1 Improving operational efficiency by transforming programs



In this paper, we will look at

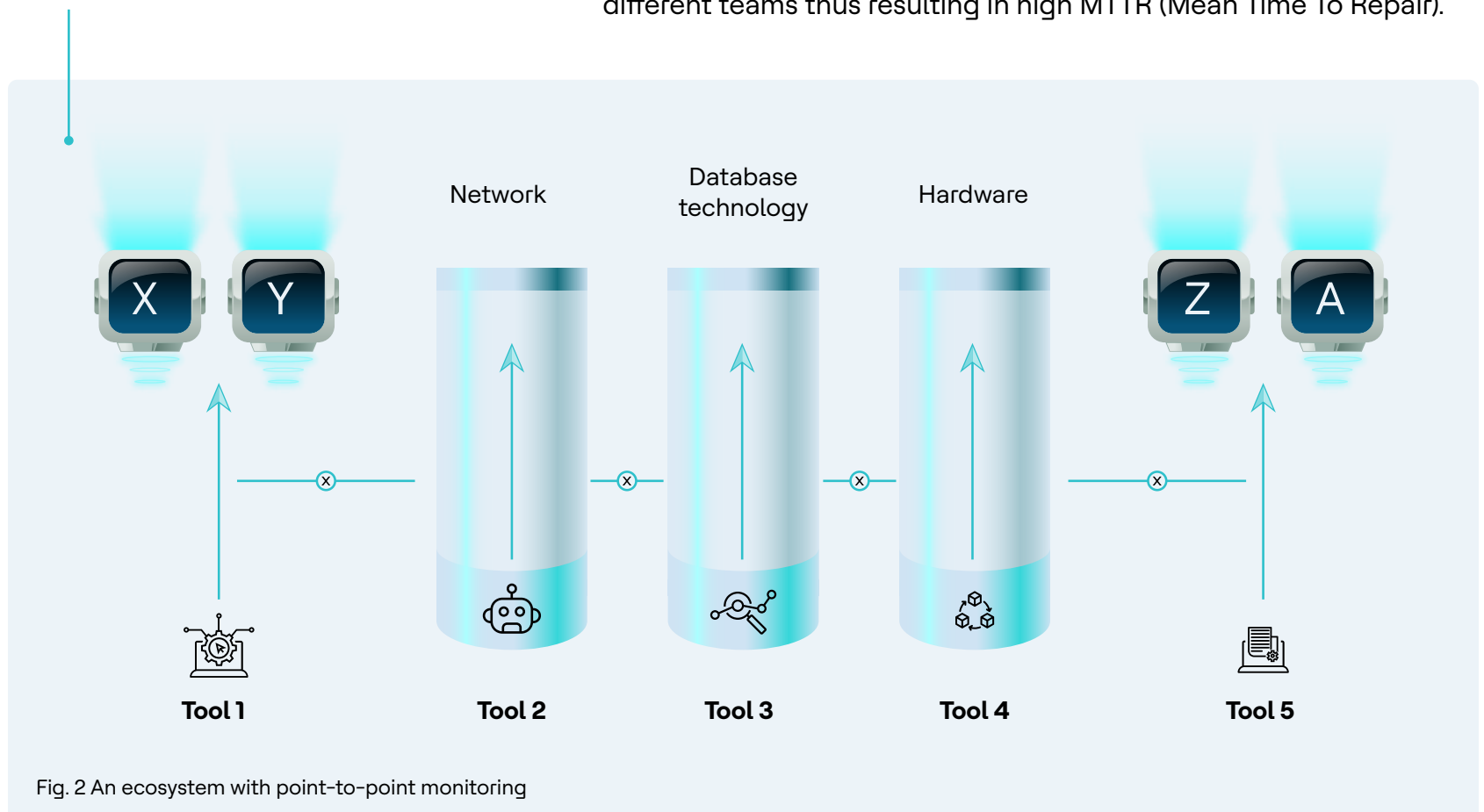
- 01 One aspect of technology tooling and approach that can help improve operational efficiency and help improve the stability of IT systems by working more proactively to manage the business and the supporting IT platform.
- 02 The traditional (or current) approaches to monitoring and their gaps.
- 03 How new approaches can address the gaps and provide a good basis for a proactive mode of working to improve operational efficiency and provide a platform for growth.

Point-to-Point Monitoring Approach

Today, a multitude of tools are used to monitor different aspects of technology; for example, one tool is used to monitor the network, another to monitor database technology, and another to monitor the hardware.

The key focus in point-to-point monitoring is to find out the specifically scripted 'knowns' i.e. being concerned only with what we know we are looking for and use the appropriate monitoring tool to monitor the 'knowns'. However, there are many scenarios where issues arise due to unawareness of the underlying issue as it is not being monitored i.e. the 'unknowns'.

All these tools are providing simultaneous alerts, and issues are often taking a long time to resolve. One of the main reasons for delays is the identification of the root cause which takes considerable analysis and frequently requires collaboration between different teams thus resulting in high MTTR (Mean Time To Repair).



The other main issue with the current approach to monitoring the stack is that there are too many alerts with some overlapping and **the most important issues (that impact the business and customers) are 'lost' amongst the sheer volume of alerts.**



The reason for this is that there is no direct correlation on which item is having the biggest impact on the business (and customers) as there is no business context; different units of the IT and business organization are working in silos and are not at all aware of the holistic view of the entire business flow. Teams are only able to identify and address issues after they have already caused disrupted business operations which is too late.



Relying on reactive identification and resolution of bottlenecks is no longer a viable solution for addressing the challenges as modern-day businesses are completely different from the traditional operating models. The information technology (IT) leaders are unable to cater to the agility demanded by these businesses. Businesses on the other hand are not able to estimate the magnitude of losses due to IT failures.

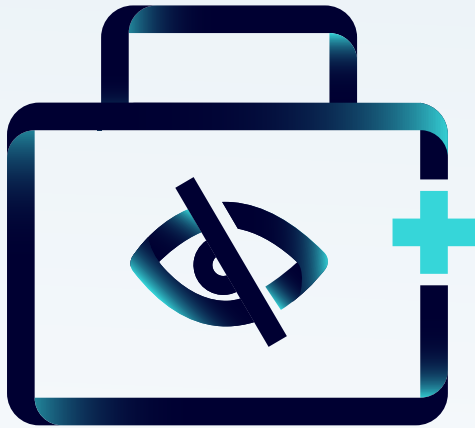


Therefore, organizations today need to shift towards a more proactive monitoring approach, which utilizes **machine learning to predict and prevent, and observability to identify early warning signs of potential issues**. It is necessary for catching issues before they cause significant impact and help mitigate the impact of IT disruptions on the business.

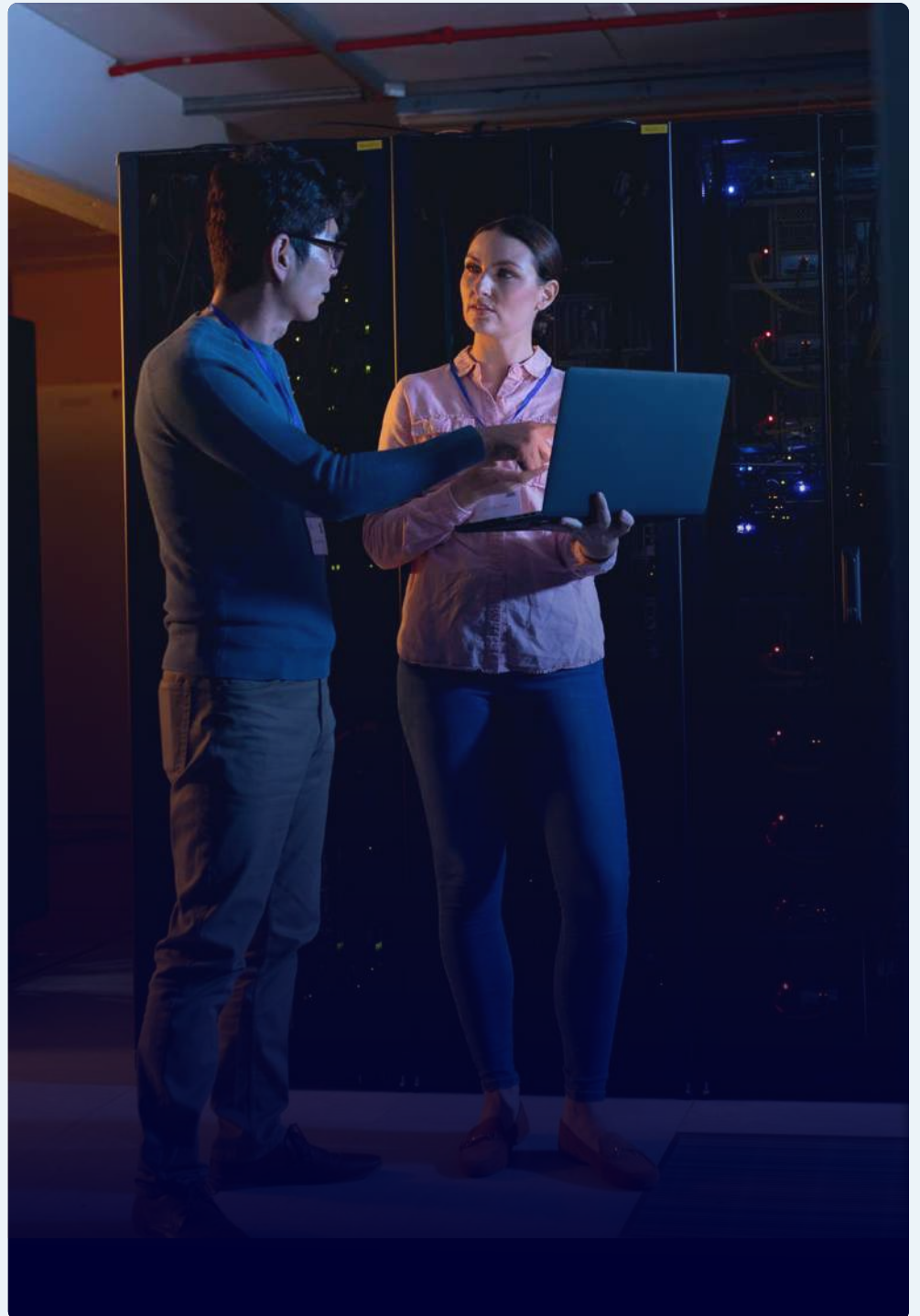


Providing Business Visibility Across Silos

Businesses, in general, are organized in silos and one function may be broken up into multiple silos, with each silo operating independently and without full awareness of what is happening upstream or downstream.



This disconnect leads to obscurity and hence both business and IT units do not have a complete view of the performance of end-to-end processes, thus affecting decision-making and eventually translating to a loosened control over their end outcomes.





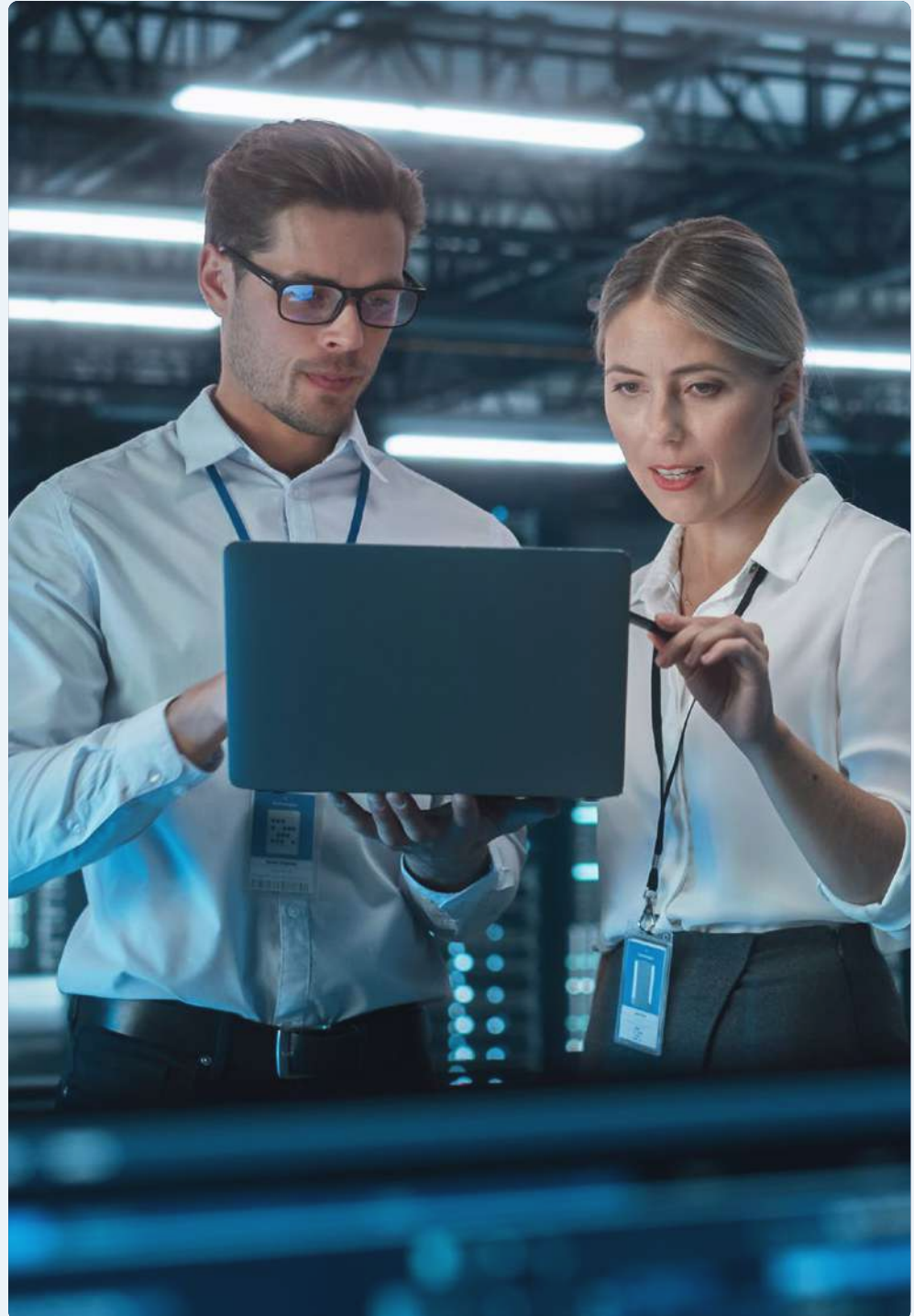
Hence, businesses are demanding more responsible, transparent, and effective alternatives that'll enable them to gain deep insights derived from technological data. But, in a contextual business language enabling them to make quick, informed decisions, maintain customer perception, and improve their effectiveness, and responsibility.

What is Observability?

While it might seem like a recent buzzword, the term originated decades ago with control theory. In control theory, observability is the ability to infer the internal states of a system by examining the system's external outputs.

Expanded to the business landscape, the goal of Observability is to understand what's happening across the entire **business ecosystem** and **interconnected technologies**

so you can detect and resolve issues proactively, preventing any impact, hence keeping your businesses efficient and reliable and your end customers happy.



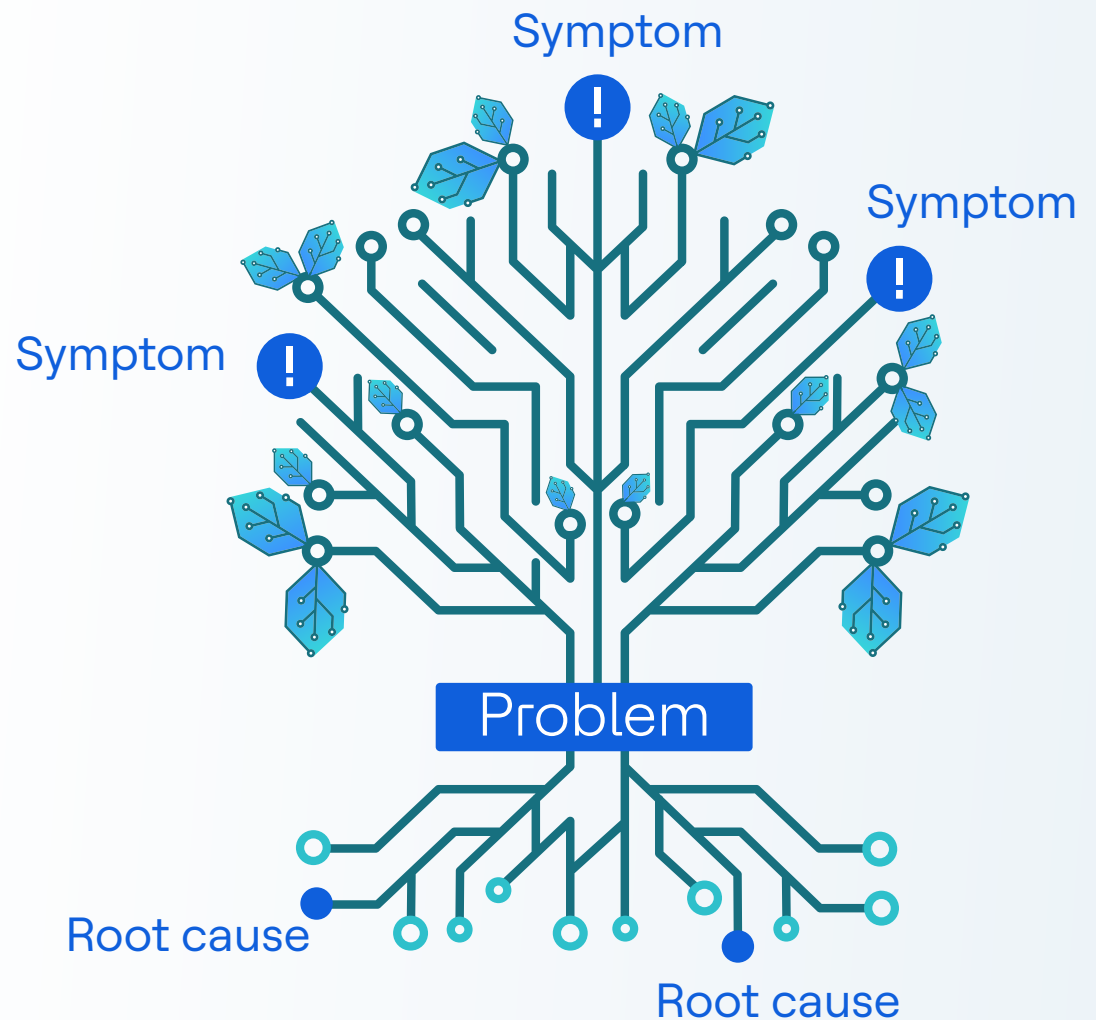
A simple way of describing observability is how well you understand the complex state of your business operations.

According to Gartner

“

Observability is a holistic, data-centric monitoring philosophy. It is a characteristic of software and systems that allows them to be **“seen”** and allows questions about their behaviour to be answered.

”



Leveraging Observability in business ecosystems allows to:

Proactively tie business outcomes to underlying data.



Understand what caused an issue and why.



Enable controls for Business, Operations, and Technology Leaders into the entire business landscape.



Eliminate the blind spots and pinpoint the exact areas which require attention and immediate actions.



Identify manual-prone errors and opportunities of automation which can lead to cost-effectiveness for the organizations.



Enhance root cause analysis for organizations, and enable them to achieve their SLAs more efficiently.



Enable transparency across systems, processes and applications and establish clear ownership for different functions.



Find and connect effects in a complex chain and trace them back to their cause.



Think beyond transactional information and promote observing the holistic participation of people, processes, and technology.

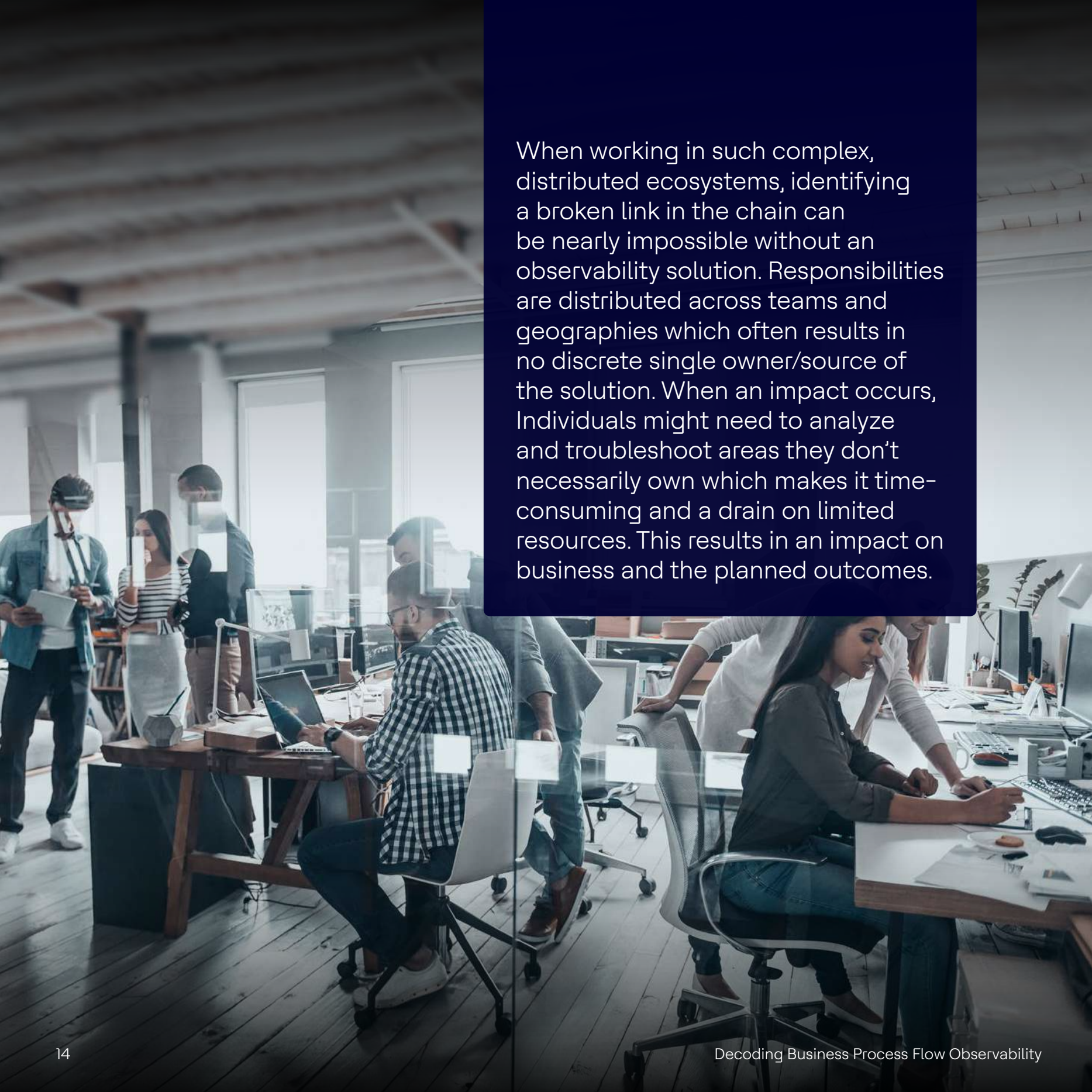


Why is Observability important?



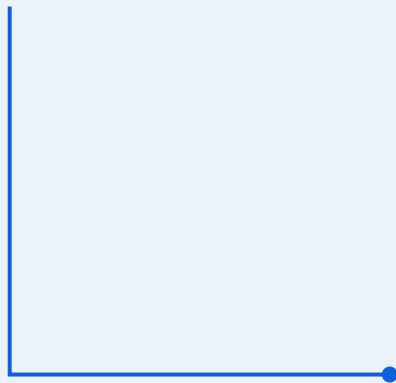
When things went wrong in the days of centralized, static operations, understanding why something went wrong was simple. The technology stack failed due to recurring issues. As businesses became more complex, monitoring tools were introduced to shed light on performance data. These solutions were able to provide point-to-point monitoring i.e., monitoring the knowns. One could trace IT, or Application performance by monitoring data and analytics. But it was still very technical for businesses to understand.

Today, the possible causes of failure are infinite. **An outcome might be impacted by hundreds or even thousands of end-points, and any single one of them could be the possible cause.**



When working in such complex, distributed ecosystems, identifying a broken link in the chain can be nearly impossible without an observability solution. Responsibilities are distributed across teams and geographies which often results in no discrete single owner/source of the solution. When an impact occurs, Individuals might need to analyze and troubleshoot areas they don't necessarily own which makes it time-consuming and a drain on limited resources. This results in an impact on business and the planned outcomes.

To cater to such complexities, one needs a unified tracing system that allows to track issues across all parts of a distributed business landscape. And that is what observability is about.



Compared to **traditional monitoring** i.e., the **outside-in approach**, **observability** is all about **inside-out monitoring** i.e., the applications reporting on their behavior (monitoring the unknowns).

Observability is important because it gives you greater control over complex business ecosystems.

It is best suited for the unpredictability of diversified complex business operations, mainly because it allows you to ask questions about your critical business KPI behavior as anomalies arise, for example. **Why is my process broken? Or What is causing latency right now?**

Observability makes it easier to enhance operating efficiencies and drives the potential for innovation and growth.

For example, **an Operations leader can leverage an observability platform to understand the leakage in core operational processes, prevent the impact through proactive visibility on dependencies, and if required notify on areas of modification within the business process to prevent the bottlenecks from recurring.**

Observability ties raw data back to more useful business metrics, providing impact-driven knowledge to leaders enabling them to create an efficient business ecosystem and elevate user experience and satisfaction.



Other benefits of observability include

A single source of truth for
Business and Operational data



Greater operating
efficiency

Key details to make better data-
driven business decisions



In-depth understanding of
the real-time deviations in
business performance

Enhanced troubleshooting
and proactive issue
resolutions



A culture of innovation

Observability vs Monitoring

Monitoring and observability are distinct but interdependent concepts. **Monitoring enables visibility over the state of pre-selected known technical parameters** (e.g., increased response time and network inefficiency caused by low disk space, network downtime or performance deterioration caused by fluctuations in CPU temperature, unexpected spikes in network traffic, etc.).

Leveraging acquired knowledge from monitoring, users can analyze and conclude what is going wrong. **But being able to analyze, learn and identify entirely new unknown challenges falls into a completely different category called Observability.**



For Example



We can set up an alert if CPU utilization exceeds **80%**, and monitoring alerts you when the threshold is triggered.

The CPU could be running at **75-79%** for a considerable amount of time.

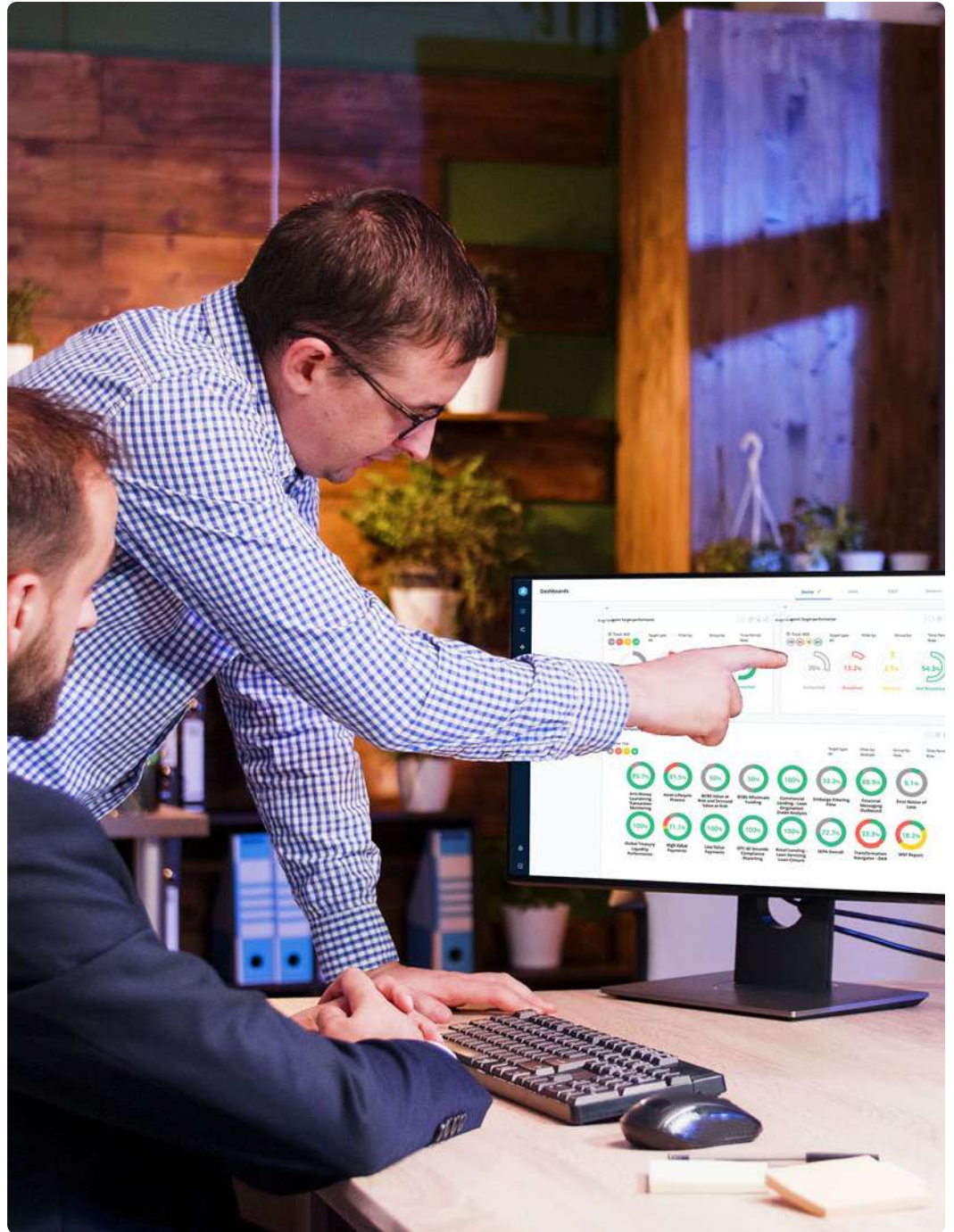
This in turn is causing backlogs and delays in processing from time to time which will eventually cause failures if not resolved.

Observability considers this scenario and alerts the user to take precautionary actions to prevent the impact.

Contrary to monitoring's outside-in approach, when you pick up data from the inside out and correlate, you can draw up a better view of the health and performance of the system

Analyzing outputs from Monitoring can tell you What has gone wrong, Observability lets you ask the question Why. Specifically, Monitoring is an action performed to enhance the observability of the system.

Monitoring tools enable a user to collect and analyze the system's data and translate it into actionable insights.



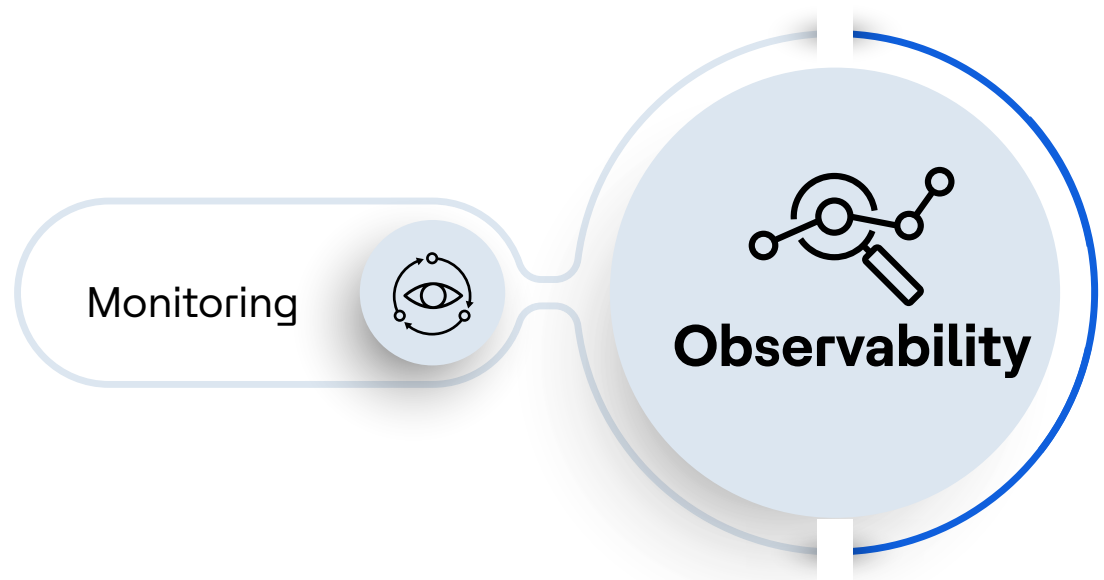
For Example



Analyzing data generated from monitoring tools can tell you if the production servers might crash due to a sustained high CPU utilization rate, if the network latency is going beyond acceptable thresholds due to low available memory, or if there is a problem with application performance caused by traffic surge.

Observability, on the other hand, leverages data and insights generated by monitoring to provide a comprehensive view and a holistic understanding of your system, encompassing its overall health and performance.

Whilst monitoring provides the status of a component being monitored at any point in time e.g., CPU usage, disk space, network traffic, Observability provides a better understanding of the application behavior (e.g., which jobs are taking the most time to compute, how many items are pending for execution and what is their average wait period).



Another important difference is that monitoring requires you to know what's needed to be monitored in advance.

Observability, on the other hand, enables you to determine what's important for you by providing visibility on how a process/function performs over time and giving you the answer to relevant questions about it.



Monitoring

Through Monitoring, we gather information from available sources, such as IT Infrastructure, Applications, APIs, and Logs.

Monitoring focuses on point observation

Analysing data generated through monitoring tools to derive technical visibility is often the sole expected outcome



Observability

While aggregating and leveraging this data, observability also analyses other key controls required to gain a holistic operational view.

Observability's focus is on end-to-end operational flows and their business outcomes

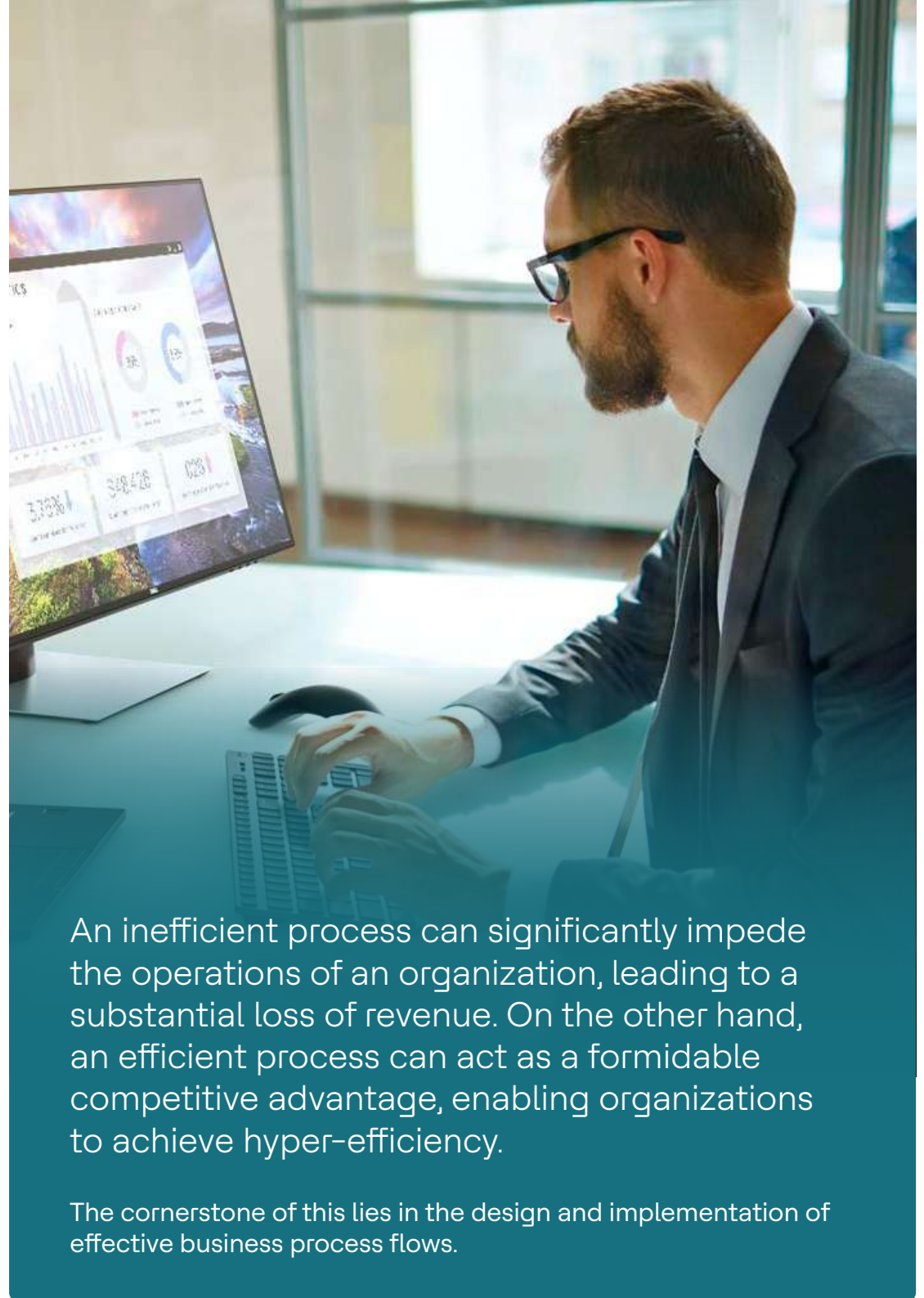
Observability connects that collated data to a process it contributes to, enabling stakeholders with visibility and control on outcomes.

What is Business Flow Observability?

What is Business Process flow?

Business process models are found in every organization and are key to understanding how the business is carrying out functions/tasks to achieve an end goal. They are used for business transformation programs to drive operational efficiencies. Business processes are the blueprint of business activities that need to be performed within an organization. In layman terms, **a business process refers to a sequence of steps taken to attain a specific outcome.** This outcome may encompass delivering a product, assembling a product, on-boarding new employees, processing invoices, or any other similar objects.

Processes hold immense significance in determining the success of an organization.



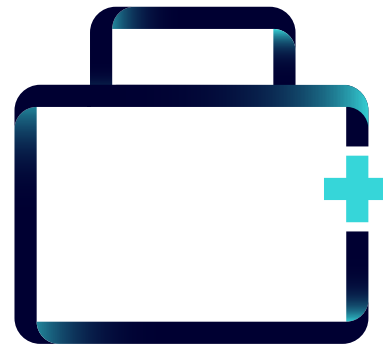
An inefficient process can significantly impede the operations of an organization, leading to a substantial loss of revenue. On the other hand, an efficient process can act as a formidable competitive advantage, enabling organizations to achieve hyper-efficiency.

The cornerstone of this lies in the design and implementation of effective business process flows.

A business process flow diagram constitutes the primary representation of a business process, providing a visual illustration of the progression of data as it transits from one task to another within the business process. This diagram facilitates the decomposition of a process into its constituent components.

The end-to-end business process can be broken down into multiple tasks, each assigned to its respective stakeholder. Each step or resource required for completion is regarded as an input, and the end outcome is the output.

The main objective of a business process flow is to standardize and simplify complex business processes to help ensure your team better understands how the business works.



At its simplest, **a business process flow is the sequential representation of a business process and its components, encompassing operational factors, required actions, resources needed, as well as the applicable timelines.**



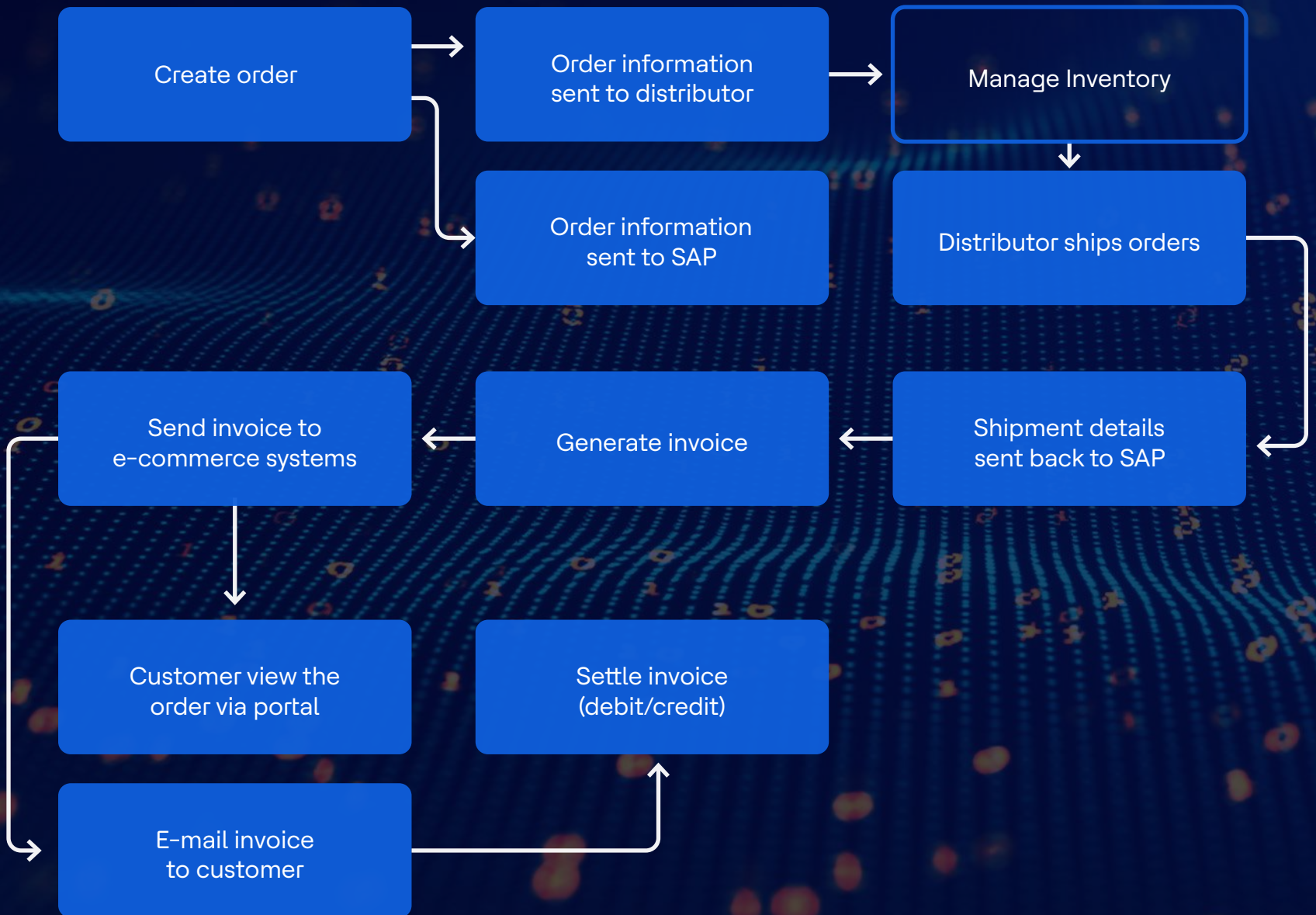
It is crucial to note that a business process flow can be devised for any type of work or process in any type of organization. Hence, it can be used just as effectively to outline the process of processing a purchase order by the finance department as it can be utilized by a sales team to pitch a new product to prospective clients.

Business process flows are prevalent across a wide range of industries, including Technology, Manufacturing, Healthcare, Supply Chain, and so on.



Creating a business process flow:

Typically, a business process flow chart looks something like this:



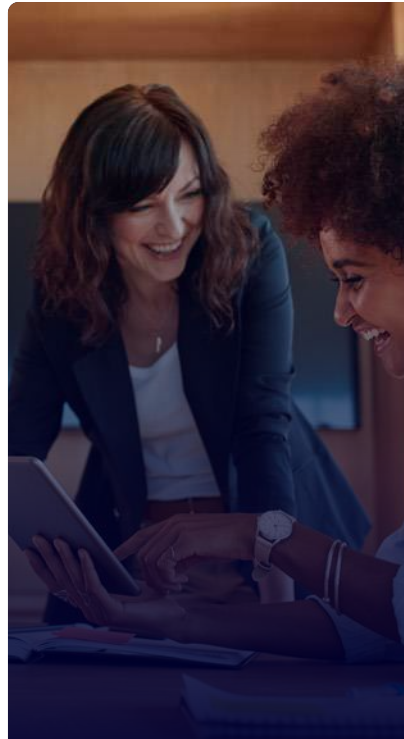
To create an ideal business process flow, below is the sequential list of steps needed :



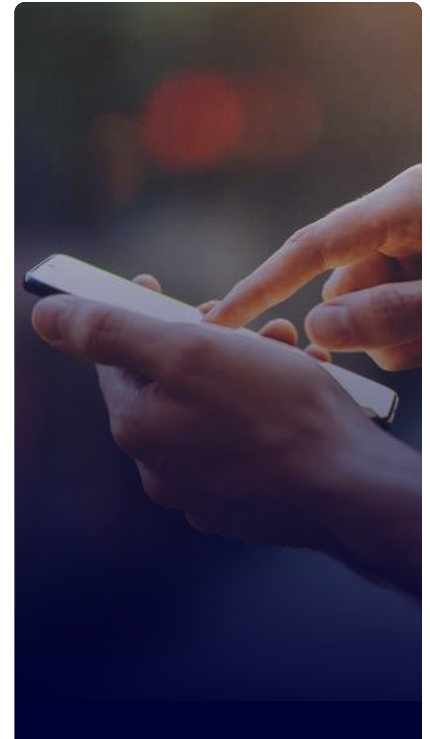
Compile a list of all the tasks required for the realization of the business outcome.



From the task list, separate the human tasks and system tasks. Human tasks are activities that require human approval or input and cannot be automated, while system tasks are those that can be executed independently without human intervention and can be automated.



With all the tasks finalized, decide the sequence in which all the tasks will be executed. The correct sequence will decide how the business process flow will look like.



You can also create alternate or parallel tasks, depending on the data going through the process flow.

What is the importance of Business Process Flows?

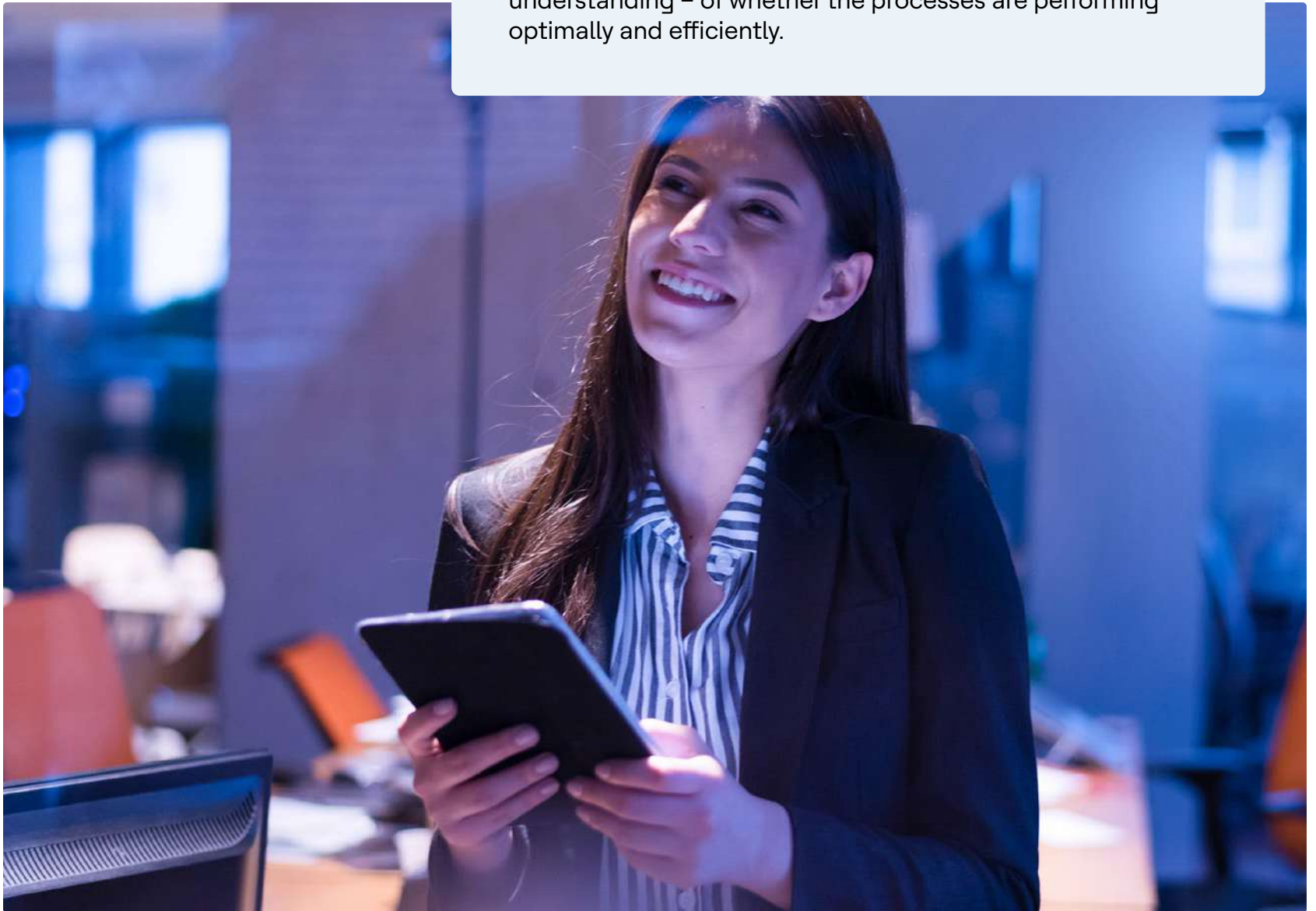
Although it may at first seem cumbersome to delineate and organize business processes, it ends up being in the best interest of everyone involved (from business owners to customers and those in between).

Some of the top benefits of designing a business process flow include:

 Better visibility and transparency With a business process flow, you can better visualize how processes are functioning within your organization. There ensures greater transparency that can give business leaders the much-needed visibility and team members a better understanding of the processes.	 Standardized processes Standardization provides corporations with the industry standard and time-proven models to refer to, and employees an established process to use.	 Agility Business process flows should ensure fewer (or no) bottlenecks, errors, and duplications, making for a more Agile business.
 Accountability Everyone is aware of their responsibilities and inputs/outputs are measurable.	 Cost minimization Understanding exactly how a process operates means that cost efficiencies can be implemented where possible.	 Process improvement opportunities Knowing each step of a process means being able to improve processes as needed. You can detect opportunity gaps and make the best out of them.
 Maximized resource utilization It's easier to distribute resources for maximum performance, once all the process components are identified. Time and resources are allocated according to needs and goals, thereby minimizing waste.	 Higher productivity When companies take advantage of business process flows, they can determine how a process would function under specific conditions and adjust the process to achieve optimal results. As manual tasks are automated, it eliminates redundancies and room for error, which in turn improves overall productivity.	 Ensure security and mitigate risks A carefully documented business process flow creates a framework for better security. Understanding your process means being able to identify potential risks and better able to mitigate them. Since each task in a business process is clearly mapped out, process flows help you detect and prevent risks more effectively. Through business process automation, many operational risks are avoided and/or reduced.

Achieving the state of observability for your organization with Business Process Flows

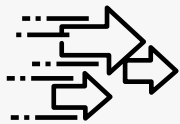
Business process flows form a core part of any organization. Efficient business process flows ensure seamless operations, minimal lags/downtime, improved customer service, and saves significant costs for businesses. Owing to technological advancements and diverse structures, **organizations in today's era end up with long complex chains of business process flows diversified across geographies and business units that operate in siloes.** They face unique challenges where the leaders and the process stakeholders do not have end-to-end visibility of the processes, let alone the understanding – of whether the processes are performing optimally and efficiently.



Steps to achieve the state of end-to-end observability for your organization:

01		Start by focusing on the areas where your organization is currently facing challenges.
02		Outline and define how these issues affect your productivity and ability to serve your customers. [Note: Context is critically important because it provides you with more ways to see what else might be affected, or what the things going wrong have in common.]
03		Move on to define what level of observability would you need to address these issues.
04		Identify the right data points which will point you to the root cause of the issues.
05		Optimize the platform for your specific use case, integrated with data points and processes to get a comprehensive view of the performance of the processes and its associated elements.

Benefits



Quicker impact
assessments and
faster response



Increased
resilience and
minimized risk



Clear
dependencies and
ownership

It's knowing what's important when and where within your business flow

Business Flow Observability with HCL iControl

HCL iControl delivers real-time business flow observability, offering insight to leaders from CXOs down to the level of on-ground operations teams into business-relevant controls by creating meaningful views from both business and technology perspectives.

HCL iControl is a Business Flow Observability solution, enabling the Enterprise Command Center, that provides organizations end to end visibility of their business operations, optimizing business processes, and enabling faster data driven decision making by allowing business leaders to visualize the end-to-end state of their organization on a page.

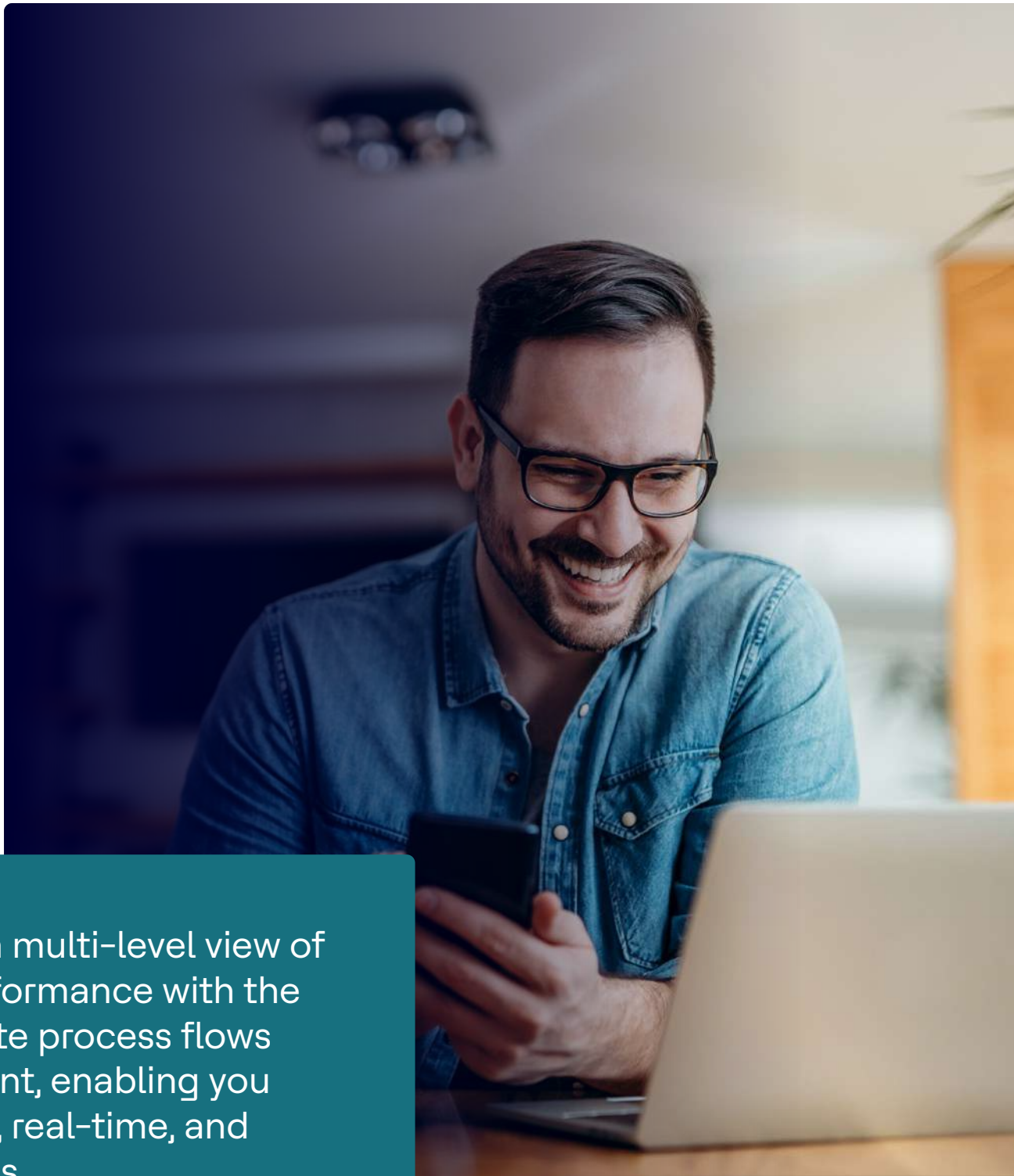


It enables operations and technology staff to ensure the seamless functioning of systems that powers the critical business flows on a 24x7 basis while empowering them to respond proactively and effectively to any issues, alerts, or failures. It is a next-generation business flow intelligence solution driven by observability, accelerating innovation, and built to enhance customer experience.

iControl gives you an end-to-end view of your core business flows by digitizing the entire flow and analyzing all the associated components, so you know when things are going wrong, what has gone wrong, why it has gone wrong and what the downstream impact will be, enabling early warnings, and providing insights to businesses and process stakeholders to take faster decisions.

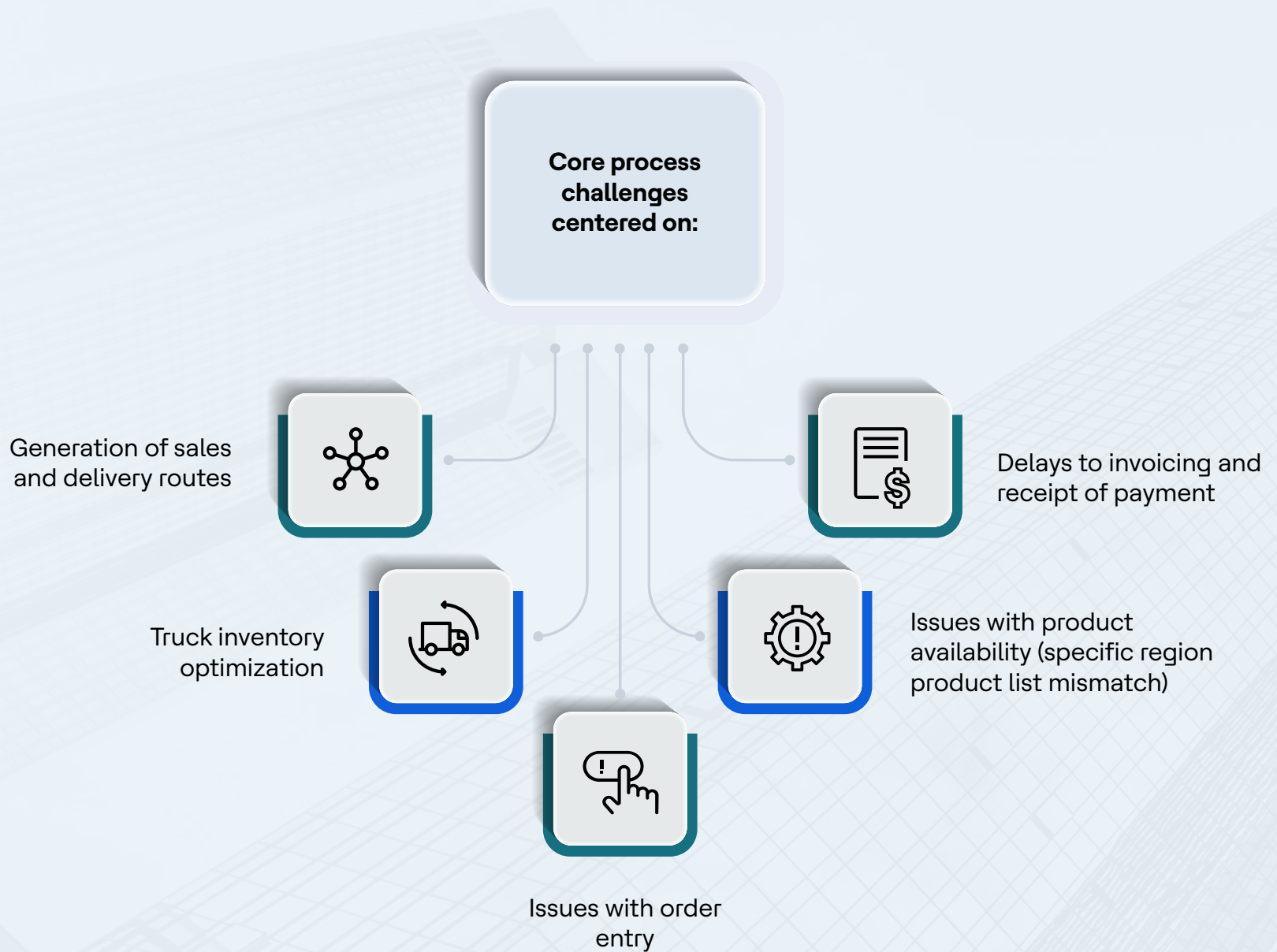
Business Flow Observability powered by iControl helps you to respond quickly and effectively by creating meaningful views for both business and IT operations and reduces the time taken to identify the root cause of problems, hence improving end-user satisfaction considerably.

iControl delivers a multi-level view of business flow performance with the ability to aggregate process flows from child to parent, enabling you to gain intelligent, real-time, and actionable insights.



HCL iControl in Action

A US retail giant undertook the adoption of Observability with iControl. As part of the client's SRE initiative, the goal was to provide a view of the end-to-end business health to sit alongside their expanding IT monitoring capabilities, to provide better understanding of where within the organization failures were occurring. The key process for the organization was their Sales to Delivery process, which is the key revenue generating process.



iControl was chosen as part of the SRE toolkit to provide real-time visualization of the FMCG firm's end to end process performance. The focus on sales to delivery allowed the firm to have a better understanding of their sales performance and identify where and when issues would potentially impact revenue.

The key use cases provided by the solution included:

01

Setting up business dashboards for the order-to-cash process, which showed both IT and business health in a single unified view

02

Creating alerts around the performance of the sales process, focusing on items such as:

- Average time spent with customers
- Ensuring trucks leave the depots on time
- Tracking product sales vs stock availability ratios
- Tracking number of late deliveries

03

Clear insight into current process performance, alongside historical metrics showing if the organization's performance was improving

04

Enabled Machine learning to allow the firm to move to a more predictive mode of monitoring and support of their business processes

Following the introduction of iControl for their sales to delivery process, the customer was able to quickly identify when and where within their process inefficiencies were occurring. Key items such as salespersons who were spending too long with customers, or depots that didn't have the correct products which dramatically affected the business. **Being able to track and resolve these provided great value for the business to effectively optimize their operations.**

Another major European Fintech organization enabled observability capabilities with iControl. One of the leading payment processors, which integrates large number of industry utilities and third-party vendor solutions to provide services to their subscribers which are mainly merchants undertaking e-commerce on their digital channels. The process flow is made of exchanges of data both at systemic and human levels among multiple internal and external platforms requiring several layers of monitoring and reviewing at various steps of the way. **As the nature of the services to the customer are mostly real-time, there is a need for constant monitoring and discovering the issues well-ahead of time to mitigate or avoid delay during outages.**



iControl helps business operations achieve greater transparency of technology layer. This helped collaborating among groups in more efficient ways. Also, iControl helped to improve the business operation and risk management by building up analytics on trends of issues and outages. **The business now has more visibility, more control, and more refined data about the capacity of the process which will help their plan for expansion.**

Conclusion

In today's highly competitive business environment, it is more important than ever for organizations to continuously re-evaluate their current practices to come up with new and improved ways of working. The areas of operational efficiency and IT stability have high stakes for businesses and will always have room for innovation and progress. A proactive approach to business operations is essential as it could enable resolving minor issues before they escalate and become significant to the point of impacting customers, regulators, and other stakeholders.

One such approach to becoming proactive is to embrace observability rather than just pure point-to-point monitoring.

Monitoring, which focuses on the performance and availability of specific systems, is not enough to provide a comprehensive understanding of how an organization is performing. Observability fills this gap by unifying business and IT data by leveraging common processes across an organization, providing a comprehensive and end-to-end view of organizational performance.



Enabling the prediction of future outcomes with predictive capabilities (using the vast comprehensive data that is available) can further provide a forward-looking approach to working.

And then finally, **a holistic business process view of operations can provide priority and focus teams to work better effectively and to reduce the time to remediate issues before they become significant.**

This enhanced understanding of organizational performance acts synergistically with the ability to predict and help businesses improve decision-making, achieve efficient operations, and better serve customers.

Thus, keeping up with all these changes during operations and analyzing issues on the go becomes increasingly complicated. That is where Enterprise Observability becomes crucial.

This e-book is our humble attempt to make our readers get further familiarised with Business Process Flow Observability and in turn, make their Observability journey smoother.

About the Author



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Abdul is a Business Observability expert. In his current role at HCLSoftware he heads the Product Management practice for Full Stack Observability. With his extensive work experience in the Technology industry, he has led cross-functional teams to deliver Data Analytics and Business Intelligence products. Abdul has a proven track record of driving innovation and growth for both start-ups and multinational organizations. With a passion for user-centric design, Abdul combines his expertise in product strategy, agile methodologies, and data analytics to create impactful products that solve complex problems, facilitate customer needs, and drive value for its end users.

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