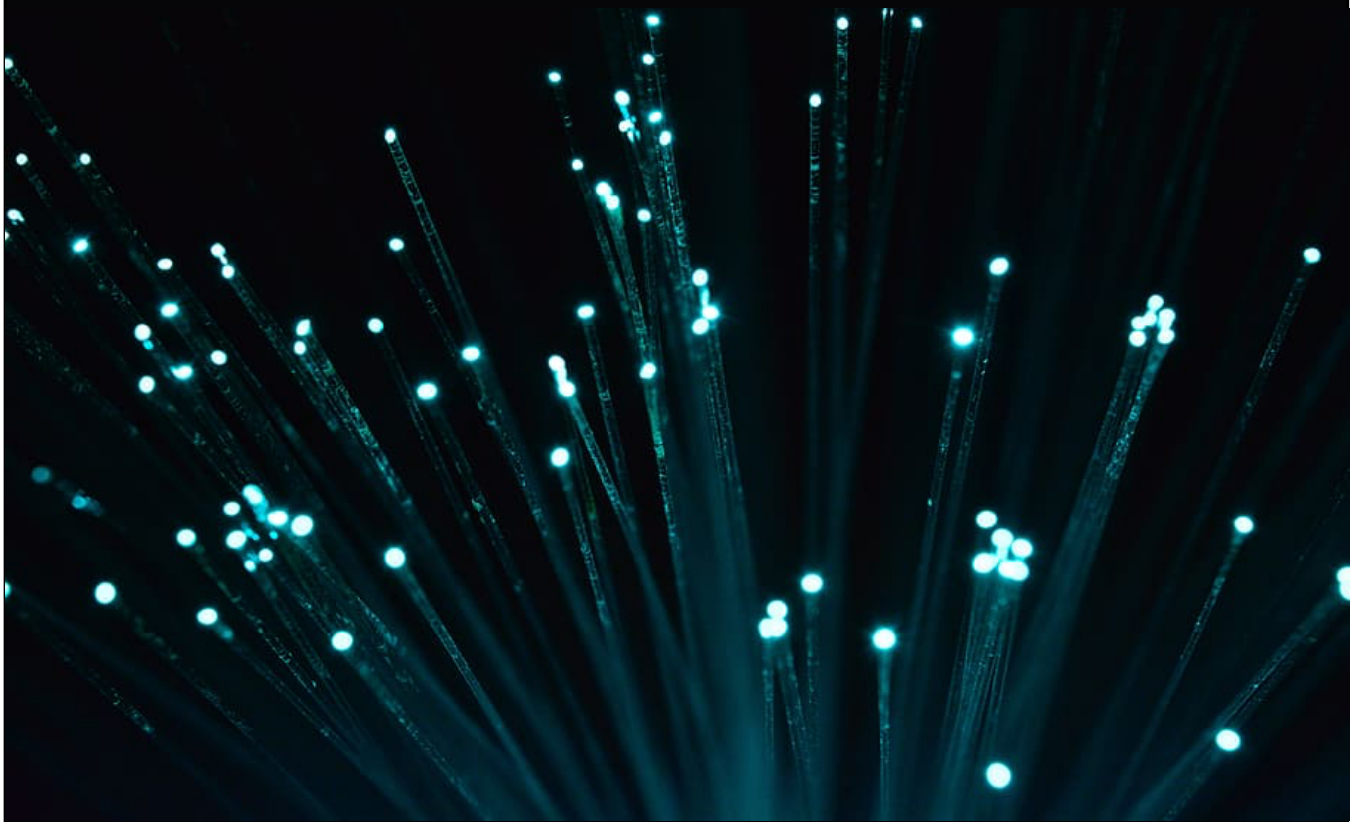
CKS Consulting

PROCESS MINING & PROCUREMENT

How to better leverage your Procurement data to improve the efficiency of your S2C & P2P processes



INTRODUCTION

THE NEED TO USE DATA

Historically, Procurement organizations have been slow to join the digital revolution, prioritizing short-term results (quick hits – quick wins) rather than integrating with innovative technology to create value on a mid-long term.

In today's reality, advanced procurement teams have understood that data is a very important asset for organizations in the search of competitive advantage. Process mining seeks to link the areas of process management and data science, making it possible to highlight the actual processes carried out in information systems, therefore identify deviations and inefficiencies in the processes in order to generate ideas to improve it.

In virtually every industry, procurement is one of the most important business processes and also one of the less proficient (zero waste processes). Nevertheless, the actual resource expenditure, and thus the true savings potential, of the Source-to-Pay (S2P) process is often underestimated. For this reason, S2P has become one of the central use cases for Process Mining.

Even though, Procurement decision-makers have started to realize the importance of data to create value but most of them still lack guidance on how to successfully implement these solutions. Indeed, most solutions require a certain degree of personalization or data creation. This study will highlight how process mining can deliver value and why this technology represents a necessary step in the digitalization of your procurement department.

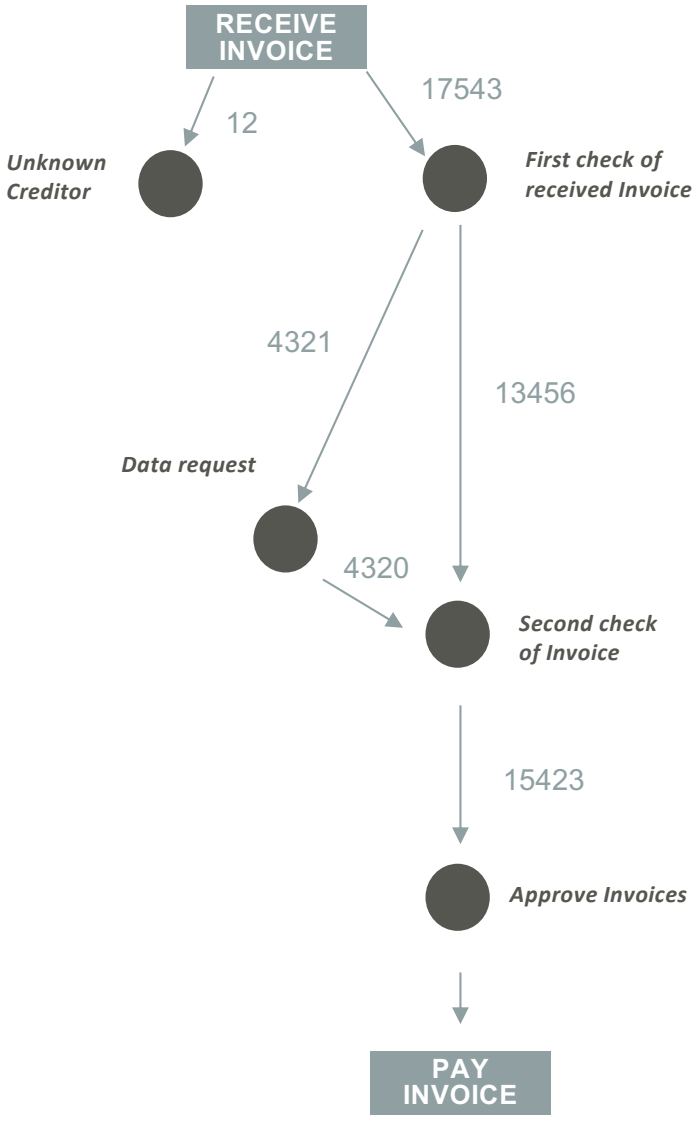
WHAT IS PROCESS MINING?

As mentioned before, Process Mining is uniquely positioned at the intersection of the Data Mining, Process Modeling and Analysis. These new tools seek to identify, compare and improve business processes, extracting knowledge present in **logs (event records occurred)** of the various systems used in an organization (e-Sourcing, e-Procurement, ERPs, CMMS,…)1.

Process mining collects all procurement events for process discovery and leverages analytics to create customized, precise visualizations that can help decision-makers assess and understand end-to-end procurement operations.

Process mining leverages specialized **data mining algorithms** to identify trends and patterns contained in event logs recorded by information systems.

The data used in Process Mining come from multiple sources such as S2P software and **ERP systems. The data leveraged are diverse** (e.g., transactions logs, users connections, changing documents, users entries, time lapses, etc.)



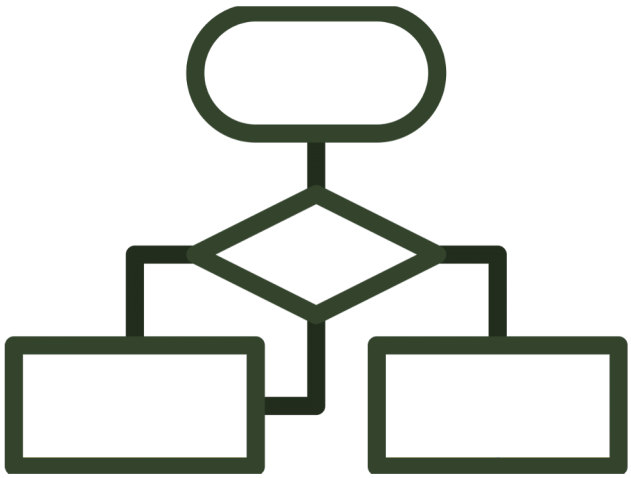
Process Mapping

In Procurement, every action (ex: calls for tenders, orders, invoices,…) is determined by many variables. By knowing every last detail that drives the journey, Procurement decision-makers can predict and adjust processes.

> *An analysis of processes in spreadsheets is hardly possible efficiently and prone to human error.*
> ***Even for process experts such an analysis is very time-consuming.***
>
> CPO Director, Automotive Industry, Europe

HOW DOES IT WORK ?

Process Mining relies on algorithms to help uncover specific elements. An algorithm is a set of rules to be followed in calculations or other problem-solving operations. This specific use of algorithms is what distinguishes process mining from other process discovery methods. It enables Procurement teams, based on their own data and fact-based rules, to see exactly how their process flows may be improved.



S2C & P2P systems record all events from purchase programming to invoice payment, marking when each event took place. From this data (potentially several millions of rows), Process Mining can propose a visual representation of the entire procurement processes.

With the addition of other data information, such as purchasing organization, payment terms, logistics, etc. It becomes possible to see where mistakes occur, time when they happen, or which categories are more prone to process deviations.

The goal is to offer the possibility to pinpoint where changes need to be made and focus efforts to optimize the entire Procurement processes. Data visualization new technologies enable to produce and monitor specific KPIs that indicate whether you have managed to save money by reducing unnecessary rework in your S2C & P2P processes.

TYPES OF PROCESS MINING

1

DISCOVERY
Takes an event log and produces a process model only with the help of Process Mining algorithms.

2

CONFORMANCE
The event logs and the corresponding process models are compared, and the resulting differences are identified, to diagnose the deviations between the your current processes and the ideal ones.

3

Enhancement
The system offers solutions to reduce data entry, correct automatically the data and therefore make the process more integrated and leaner.

GETTING RID OF HUMAN ERROR

A lack of automation in the S2C & P2P systems often means that values were are entered manually, opening the door for human error, when automation or other data-driven software would be a simple thing to implement.

30%

Estimation of total S2C & P2P processes that will be automated in the next 5 years[2]

WHAT IS THE DIFFERENCE WITH BI TOOLS?

Many of our clients do rely on traditional Business Intelligence (BI) tools. These tools have helped provide analytics to make more precise decisions by leveraging massive amounts of data collected. **However, BI tools have limitations.**

Obviously, BI software can help Procurement decision-makers better understand some business operations. Nevertheless, it has always required an assumption on where to start to see where things work well or improperly. In other words, users must know beforehand where might be the sources of optimization.

It is not possible in a BI solution to assess gains according to scenarios of processes improvements/actions plans. BI tools are made for descriptive analysis while Process Mining aims to deliver prescriptive analytics. Technologically speaking, BI tools can be seen as outdated tools (difficult to use, limited options related to granular view of data, issues in handling millions of calculations, etc.). We have reached the end of a software cycle that has lasted for 20 years. This shift can be seen with the fact that historical players are being bought by traditional companies such as Tableau acquired by Salesforce. Moreover, new and affordable tools based on a PaaS model have brought a new wave of innovations (cloud-based, enhanced data storage capability, ELT features, better dashboards personalization, etc.).

Furthermore, Procurement processes tend to be rather complex, which means it is difficult to gain a detailed explanation of what is really going on. This is a problem because BI can display the operational metrics, but need to be interpreted by humans. When Process mining is more focus on the reasons why expected performance has not been achieved.

Process mining is an analysis tool while BI-dashboards are for monitoring and reporting[3].

CKS PREDICTION

By 2025, Procurement organizations will become a central connecting point among all corporate commercial, financial and supply chain functions. Moreover, the Procurement function will become highly automated through the use of AI-driven solutions such as Process Mining and self-improve with time.

HOW CAN PROCESS MINING HELP PROCUREMENT LEADERS

BETTER UNDERSTANDING

Representing processes in real-time and analyzing them can help Procurement teams for audits by highlighting weak spots in processes and implementing the right solutions immediately.

REAL-TIME DATA

Process Mining offers real-time, objective insights that help all Procurement decision-makers work from a shared situation overview. It is also possible to react quickly based on a recommendation system.

REACH OPTIMAL EFFICIENCY

Companies can analyze processes to detect deviations and exceptions to standardized process. This can help improve the transparency of workflows and eliminate manual reporting efforts.

FOCUS ON ADDED-VALUE & REDUCE REDUNDANT TASKS

Process mining helps free collaborators from rework to focus on strategic initiatives. Indeed by better understanding Procurement workflows, it becomes possible to allocate more time to strategic tasks.

SIMPLIFICATION

Process mining can help organizations simplify and automate processes while clarifying roles, creating greater cross-functional collaboration and integrating views of end-to-end procurement processes.

AND…

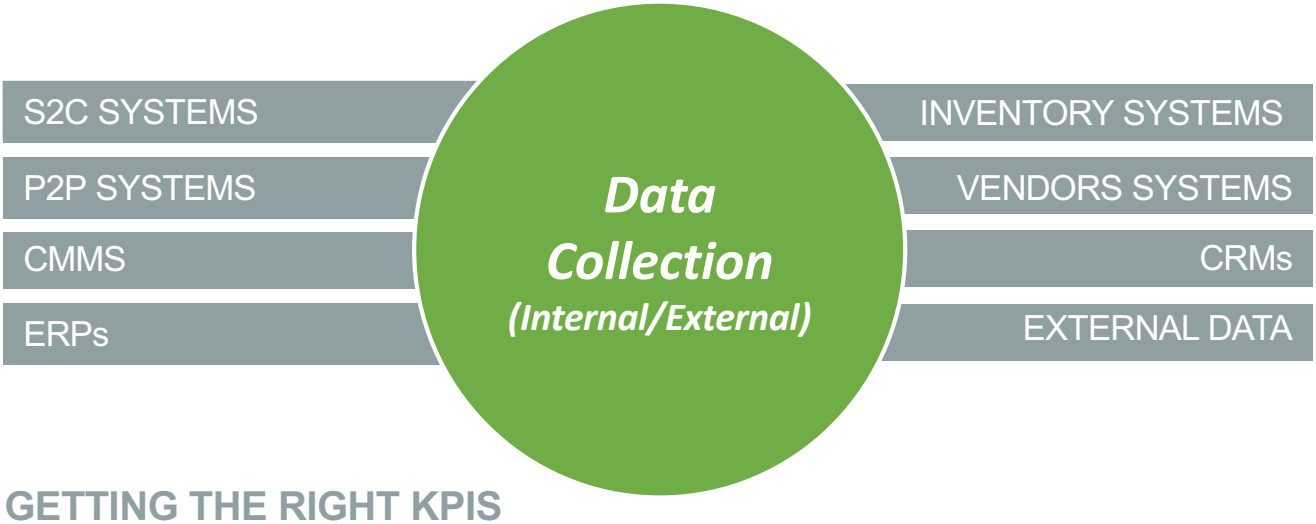
Process Mining helps identify savings potentials, prevent overpayment, helps smooth communication among departments and reinforces compliance rules

IMPLEMENTING PROCESS MINING

Building a Bridge Between Raw Data and your Organization

ANALYZING YOUR PROCUREMENT DATA

In order to better analyze both internal and external data, we have partnered with ForePaaS, a multi-cloud data platform. This partnership helps us process all data5. Indeed, advanced Process Mining can only successful if the seamless connection of the data sources and the continuous raw data transformation is well-managed. Our team analyzes your data to determine if your Procurement strategic goal is reachable. With the below-mentioned data we can already create a process model of how your procurement works.



GETTING THE RIGHT KPIS

The data analysis is only one part of the challenge. Indeed, procurement organizations need a tool equipped with data visualization techniques that can precisely display the information you need the most. Using key performance indicators (KPIs), process mining can show exactly where there are opportunities to correct or improve processes. We help our clients build personalized dashboards (based on precise procurement strategic issues) rather than having a one size fits all approach**. KPIs can include:**

S2C		P2P	
Tendering workload	Contract Management workload	Delivery lead times	Payment delays
Tendering Lead times	…	Workload related to prices updates	…

AI AND PROCESS MINING

Process Mining is a sort of Machine Learning (ML) technique. The technology uses Machine Learning to extract existing data from an organization's Information systems and build a visual representation of how processes perform.

AI algorithms can detect the root causes of variation—for example, they might point out that every time a new customer needs a credit check, the process is slowed down considerably.

On top of identifying root causes, Machine Learning can pinpoint the exact user actions or events that have largest influence on a desired outcome.

The most advanced Process Mining solutions can communicate relevant and personalized recommendations based on patterns identified and can execute preapproved actions directly in an organization's source systems.

Using machine-learning clustering algorithms such as "k-means nearest neighbors"4, it becomes possible to identify issues in processes.

CKS EXPERTISE

- ***60+ Procurement systems successfully designed and rolled-out***
- ***3bn€ purchasing savings recorded by our Clients***
- ***80+ Procurement audit programs successfully undertaken***
- ***3 months: Average time required by CKS teams to implement process mining***

A NECESSARY SHIFT

Without Process Mining, organizations will continue to stay reactive to problems. When monthly or quarterly reports are expected, buyers will be consistently checking trying to find the issues that have already been done, and in which cannot be changed.

CONCLUSION

CKS firmly believe that the adoption of new technologies for Procurement organizations has become a strategic issue. Indeed, companies are now able to create new competitive advantages through the use of Procurement data. Process Mining represents a perfect way to start leveraging data. One of the big advantages of process mining is that it starts with the data that is already there, and usually it starts very simple. There is no need to first set up a data collection framework.

Procurement decision-makers tend to worry about the lack of data culture when it comes to their organization. However, with the proliferation of workflow systems, SRM/CRM systems, ERP systems, etc. —most organizations have lots of data not always consistent and it will be dramatically less costly to use a PaaS solution to gather, reconciliate and visualize these data.

Our team has developed a unique expertise in helping Procurement organizations implementing relevant, scalable and easy-to-use Process Mining solutions based upon PaaS technologies.

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CKS Consulting

ABOUT

CKS Consulting

Present in France, Benelux, the United States and Spain, CKS is a recognized consulting firm specialized in the transformation of the procurement function. CKS' three main business lines are consulting, BPO and, within its subsidiary NEQO, the integration of best-of-breed procurement solutions as well as the development of enhanced business intelligence applications.

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ForePaaS

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