



Prolifics[®]

Cost-Saving Automation Opportunities Uncovered for Leading Chemical Co.

What Does Process Mining Tell You?
“This is Where You Need Help.”

CLIENT | CHALLENGE | ACTION | RESULTS | TECHNOLOGY





▶ Our Client

Our client is a leading producer and distributor (LPD) of chemical fertilizer products for the agricultural industry. Prolifics has provided LPD test automation services for years; this story represents the first expansion of our offerings to them related to process mining and automation.

▶ Challenge

LPD had become aware of process mining as a way to uncover inefficiencies for potential automation in different areas, and we engaged with LPD to run a pilot program to demonstrate opportunities and benefits.

We worked with LPD to identify its “procure to pay” systems as the pilot program/test case. These systems involve LPD’s interactions with its suppliers.

Process mining uses a company’s own data to find a better way of doing things.

Customers, vendors, and the workforce generate data – “digital footprints” – any time they use company systems. Process mining follows this digital trail and automatically creates a map of the process – visualizing and diagramming the actual flow, including variations, exceptions, gaps and siloes. The company can now address these issues, often with automation in its different forms, from robotic process automation (RPA) to automation employing artificial intelligence/ machine learning (AI/ML).



▶ Action

Prolifics' Arup Datta is a Senior Consultant and line-of-business lead for our business process management (BPM) practice. "We did an initial workshop with LPD to help them select a candidate scenario or candidate use case. In the workshop we asked them a bunch of questions; we spoke with their business segments and together we selected these three processes within procure to pay: requisition, purchase order, and vendor invoice."

"We helped them prepare and gather the input data necessary for the process mining analysis. After performing the analysis, we came up with business-level dashboards, analysis reports, different types of analytics and some recommendations for the three processes."

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One of the benefits of process mining is that it can identify "quick wins" by the early finding of inefficient tasks in processes. These specific tasks can then be partly or fully automated, saving time and money almost immediately. Because process mining is based on real data – not mapping assumptions or opinions – clearly measurable, positive impacts from process changes can be documented and guaranteed. Process mining is the fast track to cost-optimizing automation.

Salem Hadim is Prolifics' Head of Digital Solution and Cloud Solutions Consulting Segment. "With the first set of process mining data, we were able to narrow things down and find potential improvement opportunities, areas that we really wanted to explore and find those sweet spots for automation. We were able to show opportunities well beyond what we wanted to prove in the pilot."

The business-level dashboard Prolifics provided information on any kind of inconsistency in the three LPD processes: inefficiencies and any type of compliance, execution, or data quality issues. It looked for any type of deviation from what Hadim and Datta call "the happy path" – the way the processes were meant to work.

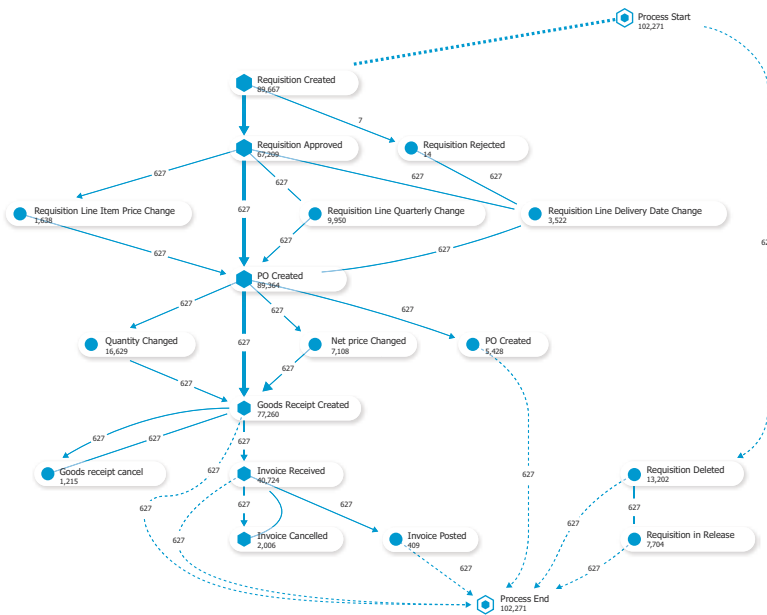
Results

Through the process mining exercise, Hadim, Datta and their Prolifics team found about 6,000 different deviations in LPD's happy path flow. "This kind of analysis was a sticker shock to them," said Datta. "Their business users said, 'We had no idea about this.' Execution inconsistency was one big thing."

For example, Prolifics found multiple different redundant and duplicate activities – 27 percent of the tasks were reworked. Datta explains, "When we spoke initially with the business users, they said, 'Well, everything is happy path. I do this task. He does that task.' But when we actually looked into the data, it's like one group does a task, then another does the same task. Let's say I perform a task. I closed it. It's finished. Then, I come back to it after a week, I have to do this again, and then maybe this alarm comes back to it. Someone else has to do this again, and so on."

The following are key results from the LPD process mining project:

Key Insights Summary



Execution Inconsistency

- Very high number of process variants
 - ❓ 6,018 different deviations from the happy path flow

Process Compliance

- Maverick Buying
 - ❓ Variant #6 is potential candidate for maverick buying

Process Efficiency

- Redundant/Duplicate Activities
 - ❓ Significantly large number of goods receipt activities
- Rework
 - ❓ 27% of activities were reworked

Process Deviation

- Jumping key execution steps
 - ❓ Only 8% of cases go through "Requisition Release" activity
- Delayed Activities
 - ❓ Invoices are cleared with an average delay of ~6 months

Data Quality

- Lack of synchronized data
 - ❓ Invoice information is not in sync in BSAK, BKPF, and BSIK table

▶ Technology

Prolifics' Arup Datta is a Senior Consultant and line-of-business Lead for our business process management (BPM) practice. He explains the general steps in a process mining project:

When you have a process like procure to pay, you could have tens, if not hundreds, of your business users working in it. They go into multiple different systems to complete their tasks. They can go into system one, enter some data. They can go into system two, retrieve some data. They can go into system three, enter more data, retrieve more data. When they do these things, they leave digital footprints of what they exactly performed.

In process mining, what we do is we gather these digital footprints for our particular process domain that consists of all of the business users in the procure to pay process. What did the users do in one week to complete the hundreds of transactions in the process?

We gather all of these footprints and tag this data to create an event log. The event log is a filtered version of those digital footprints where the data is now connected. By connected, for example, let's say you have data that needs a process ID. Now, there will be a timestamp on when the data was captured and an ID/username of who actually performed something on this data.

If you'd like to learn more about process mining and how Prolifics can help you, email us at solutions@prolifics.com.

Now we have the created event log, telling us what data is connected and related to what other data. The event log is fed to the process mining engine, which goes through the event log and generates all types of dashboards. The engine is able to generate these dashboards because the event log is connected. All of these data points, all of the row and columns are connected to each other. It basically tells you who did what at what point of time. Was it successful? Was it closed? Was it open? Whatever it is.

Next, the process mining engine takes the connected data, reads all of it, consumes it, and then it applies some artificial intelligence and machine learning (AI/ML) algorithms on top of it to come up with results. The views and dashboards are basically, where are the reworks? Where are the processing inconsistencies? What are the process deviations? What are the process compliance issues? What are the data quality issues?

What process mining provides you is that it lets your C-level people know what's going right and what's going wrong. It gives them the tool and the view of what is happening on the ground with their processes. Now, the next step after process mining is telling the client where and how we can help them – and that usually means automation.



▶ About Prolifics

Prolifics is a global digital engineering and consulting firm helping clients navigate and accelerate their digital transformation journeys. We deliver relevant outcomes using our systematic approach to rapid, enterprise-grade continuous innovation. We treat our digital deliverables like a customized product – using agile practices to deliver immediate and ongoing increases in value.

We provide consulting, engineering and managed services for all our practice areas – Data & AI, Integration & Applications, Business Automation, DevXOps, Test Automation, and Cybersecurity across multiple industries – at any point our clients need them. Visit prolifics.com

