mavim
change it

mine
design
improve

MINE,
DESIGN,
IMPROVE

CONTENTS
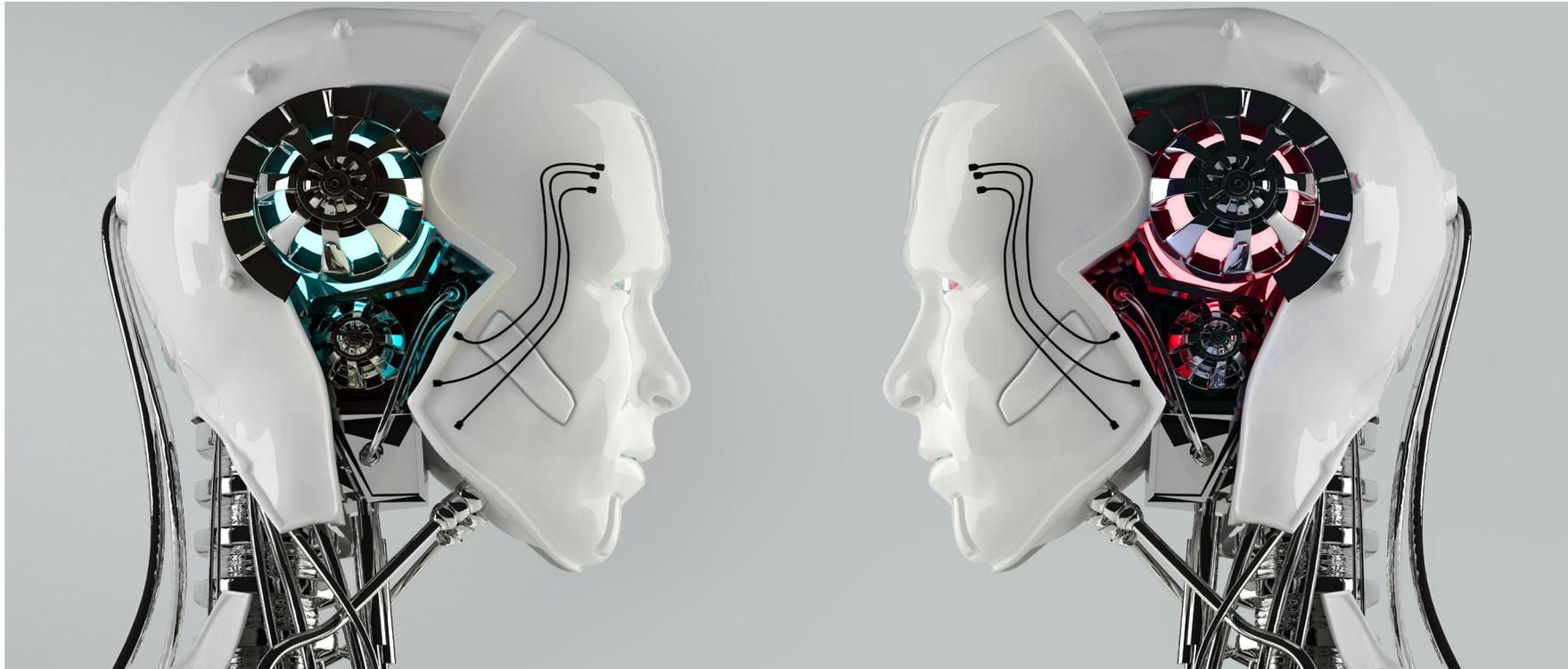
BUILDING A DTO:
RAPIDLY RE-DESIGN THE ENGINE TO UNLOCK PRODUCTIVITY

Previous decades saw the rise of lean management, as companies sought to improve cost efficiencies and the customer journey. Yet, as macroeconomic conditions continue to put pressure on margins cross industry, newer and cheaper ways to increase productivity are necessary. This leads to questions about what else can be done – and what role does digital play?

Years of process management have resulted in piles of PowerPoint & Word documents. As processes in our systems proliferated, so did the documentation, ensuring total chaos for the individual wanting to gain a view on how the constituent parts influenced the whole. One view of the company's operating model was hard to find, and what was found had very little connection to reality.

mav!m

MINE, DESIGN, IMPROVE

THIS IS WHERE PROCESS MINING COMES IN. THE ABILITY TO VISUALIZE AN ORGANIZATION'S PROCESSES (AND ALL EXISTING VARIATIONS) BASED ON AN EVENT LOG IS THE GAME CHANGER THAT WE'VE BEEN WAITING FOR. NO LONGER IS IT NECESSARY FOR CONSULTANTS TO HOLD LENGTHY AND EXPENSIVE INTERVIEWS TO GET ONE VIEW OF HOW PROCESSES RUN! THIS CAN BE VISUALIZED IMMEDIATELY TO CREATE A FOUNDATION UPON WHICH FACT-BASED DISCUSSIONS CAN BE HELD.

But process mining alone can't account for all processes and process steps that make up an organization's operating model. In most industries, humans still play a very important part in core processes. Additionally, process mining alone won't be able to give information about what *should* have happened; process mining just shows you what *did* happen.

To understand the context within which a given process happened, you need to be able to design your target operating model, including risks, roles & responsibilities, related applications & infrastructure, as well as connection to strategy by way of process specific KPIs.   Together, the operational context and drill down into the live data form a **Digital Twin of an Organization**. The promise of a DTO is radically enhanced efficiency, reduction of operational risks, improved customer journey touchpoints, and increased productivity.
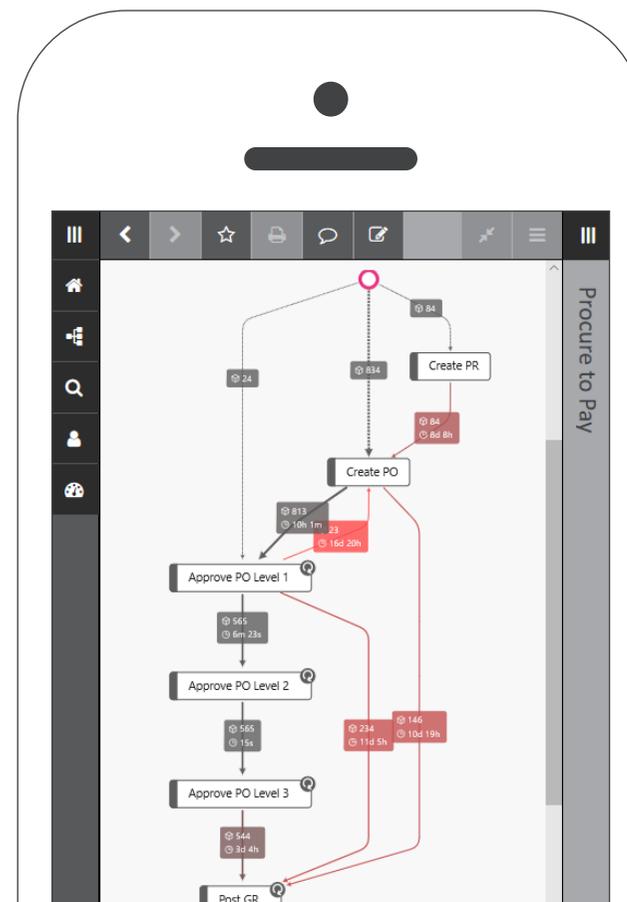
THE MICROSOFT BASED DIGITAL TWIN OF AN ORGANIZATION

If it was so simple – why haven't we all gotten started?

Why haven't we seen the results of this promising technology?

This answer is as complex to fix as it is simple to answer. Legacy. The legacy of the past twenty years has ensured that every company has twenty (or twenty thousand) different solutions that address a different piece of the puzzle. One tool for risks, one for process documentation, one for business intelligence, one for strategy mapping, one for software assets, etc. This patchwork quilt of applications means that the ways systems interact with one another is key to unlocking value.

To remedy this, Mavim has built technology on top of the Microsoft stack. We are a leading provider of DTO Technology because we provide the functionality to mine, design, and improve your business processes based on the productivity systems already in place. Not only are Microsoft technologies the worldwide standard, but they are easy to use and continuously get updated to include the latest technology available on the market at a fraction of the price. Still not convinced? Here's how it works.

HOW TO BUILD A DTO IN THREE STEPS
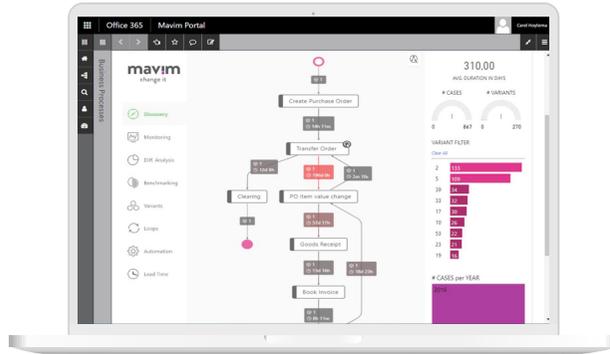
MINE

Mavim makes use of the BI market leader, Microsoft PowerBI to provide process analytics based on an event log from a transactional system. Bring transparency to your most important processes and understand where you can optimize for the greatest impact. There is no need for additional tools when you can extract data, analyze the results, and re-design the process all in PowerBI. Business analysts who make use of PowerBI are empowered with preconfigured dashboards that include information about lead time, automation rate, and most frequent variants.
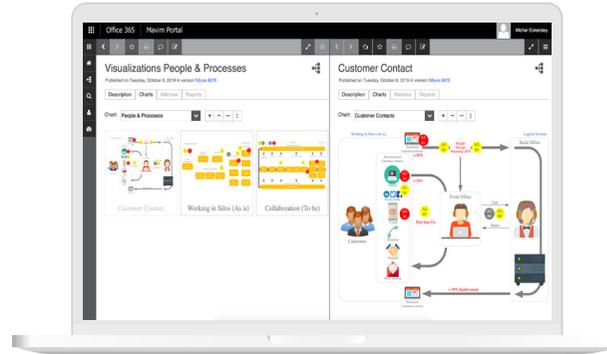
DESIGN

Mavim makes use of the BPM market leader, Microsoft Visio to make it simple for process owners to design their operating model in their modeling language of choice. Explain the flow of work across the organization to business users by using PowerPoint like visuals. In Mavim, you see processes represented as a graphical flow model, which depict and orchestrate the flow of work across organizational units in the language of business users. By visually exposing processes, both managers and participants are encouraged to work at the process level rather than an application or task level.
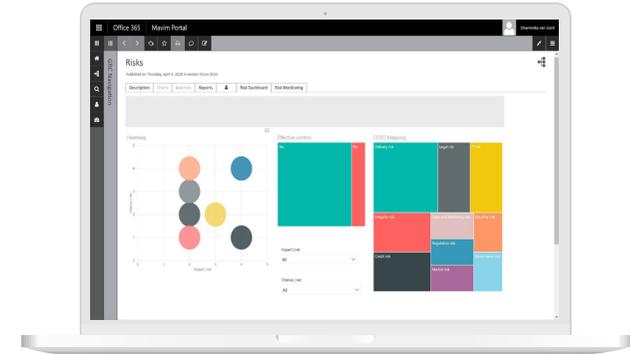
IMPROVE

Mavim makes use of the worldwide collaboration standard, Office 365 for the publication of content and sharing of documents. Mobilize your organization to change by visualizing the current way of working versus the desired way of working. With Mavim, you can enrich your target operating model with data from your systems of record. This allows you to visualize how work happens for all stakeholders. With this insight, you can mobilize everyone in your organization to change the way they work and ultimately transform your business.

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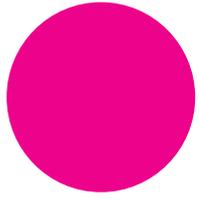
CONFORMANCE CHECKING

WHAT IS IT?

Business process conformance checking is the name of the technique used for comparing a process model to an event log of that same process.   The purpose of conformance checking is to discover two primary types of discrepancies – namely, behavior in the log file that doesn't fit the model, or behavior allowed in the model and never observed in the log.

With this capability, it becomes easy to validate statements like:
"We always deliver our product in time and then send an invoice."
"Our location in Madrid spends eight days waiting on approval for purchase orders."

Most organizations are surprised at how low their conformance is between their design v. actual processes. We see an average conformance around 50 – 60% which illustrates just how many other activities are either being missed in the design or steps that are interfering with execution.   Most problematic of all is that the areas of non – conformance often indicate exceptions where more effort and time (read: money) is needed to achieve the same result.

USE CASE

A multinational Fast Moving Consumer Goods company was forced to start focusing on operational efficiency because their margins were lagging behind those of their competitors. To be able to improve their process performance, it was essential to document all of their processes properly. Documenting all of these turned into a lengthy and costly exercise and much to their surprise, after two years had not led to any concrete operational improvement realization. This led to the valuable insights that their documented processed only depicted their perception of reality instead of the actual situation. The identified solution was to add fact-based analysis of their most common core business processes based on process mining technology.

With Mavim's integrated process mining technology they were able to visualize how each Operating Company's processes were actually running in reality. As these analyses were based on fact-based data, the results were unambiguous and showed exactly to what degree each OpCo was conforming to the documented "process standards" and where and to what degree they deviated from them. This is how they discovered for example that on average:

- OpCo's used more than 600 variants to complete the same process.
- 6,3 changes were made to every created purchase order leading to more than 12 million euro's worth of manual inefficiency on a global scale.

These insights also showed the impact of these deviations, both in financial impact and in indicated transformation efforts to get (back) to the standards. This led to the start of a concrete and impactful improvement portfolio, supported by fact-based data and quantified into a concrete business case.

MAVIM FOUND

## 600

VARIATIONS
OF THE SAME
### **PROCESS**

VALUE FOR MANAGEMENT

The company leadership was now able to make impactful fact-based decisions on where to start and how to run their overall transformation, as they now had insights in the actual process conformance of each organizational entity and the related diversified transformation efforts for those entities.

VALUE FOR WORKFORCE

The employees are empowered in their day to day work as they now have insights available to help them run their processes in the desired way and to help them support their claims about how and where to make process improvements.

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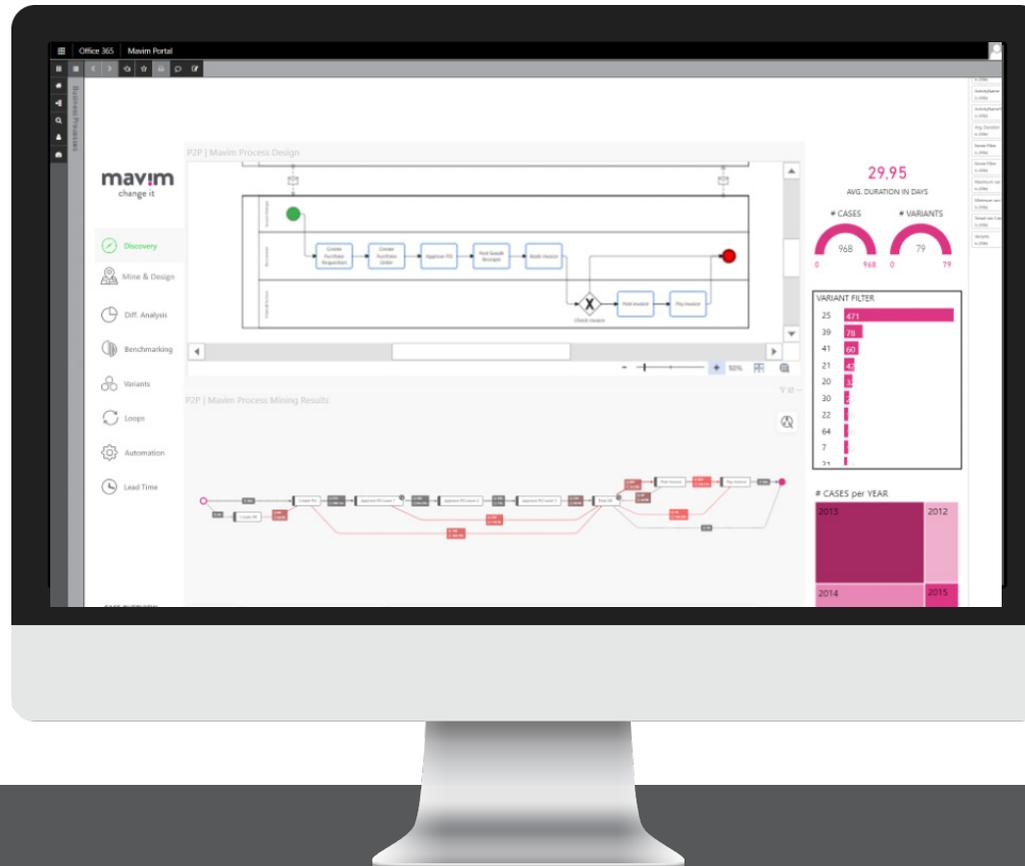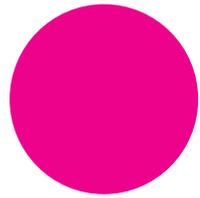
BENCHMARKING

WHAT IS IT?

Business process benchmarking is the technique of comparing processes of different organizational entities, either to one another or to a selected model in order to determine a plan for improvement. In practice, this capability is used to understand the differences in performances among peer groups. However, it is also possible to benchmark individual processes against a chosen model.

With this capability, it becomes easy to validate statements like:

"Our office in London takes two days longer to pay invoices than our office in Sydney."

"When compared to the best practice model, our office in Denver takes 14 days longer to approve a Purchase Order."

USE CASE

Over the past decade, a design & engineering company has expanded internationally into more than 14 countries. They have minimal central overhead and tried to build autonomous country organizations, since each country supposedly knows the local market best. However, lately there have been discussions about increasing central control. These discussions arose after it became apparent that each country executes processes (that should be mainly similar) in a different way, supported by different systems and apparently also yielding different margins, which over the entire line were declining. They wanted to increase control, create a continuous improvement culture and increase predictability of cost optimization and profitability.

The company decided to implement Mavim for their core processes globally following the MINE, DESIGN, IMPROVE! approach. In the MINE phase they started with implementing Mavim process mining to discover how their core processes were running in practice in all of their countries. After data access was realized in all of their countries ERP systems, they were able to identify fact based how their actual processes were running for all of their major ERP process domains within 2 months! The insights of this fact-based analysis showed them how each of the countries were currently operating.

This is when they learned that:

- in the Asia region they used 3 more activities for the same process as Western European countries.
- In the Unites States the average duration of an entire Order to Cash Cycle was 67 days compared to just 34 days in the Asia Pacific region.
- In The Netherlands the delivery reliability was 12% lower than in the US and was highly dependent on specific suppliers of raw materials.

In the DESIGN phase, based on these performance measurements they were able to ventilate a best practice way of working and started comparing countries to this desired state. This enabled them to determine the transformation effort for each country based on fact-based data. In the IMPROVE phase, they implemented this new Way of Working including proper governance and risk management in each OpCo. To sustain this new way of working and its added value to the company, they implemented continuous monitoring to identify deviations from the new way of working in real-time.

ORDER TO
CASH CYCLE

2X

LONGER
IN THE US THAN ASIA

VALUE FOR MANAGEMENT

The leadership was now able to compare the different countries' performance based on fact-based data and design a well substantiated improvement roadmap per region based on the obtained insights.

VALUE FOR WORKFORCE

Employees were now able to compare their own process performance to that of other regions and identify and contact other champions in the organizations to be able to share best practices and create a learning culture.

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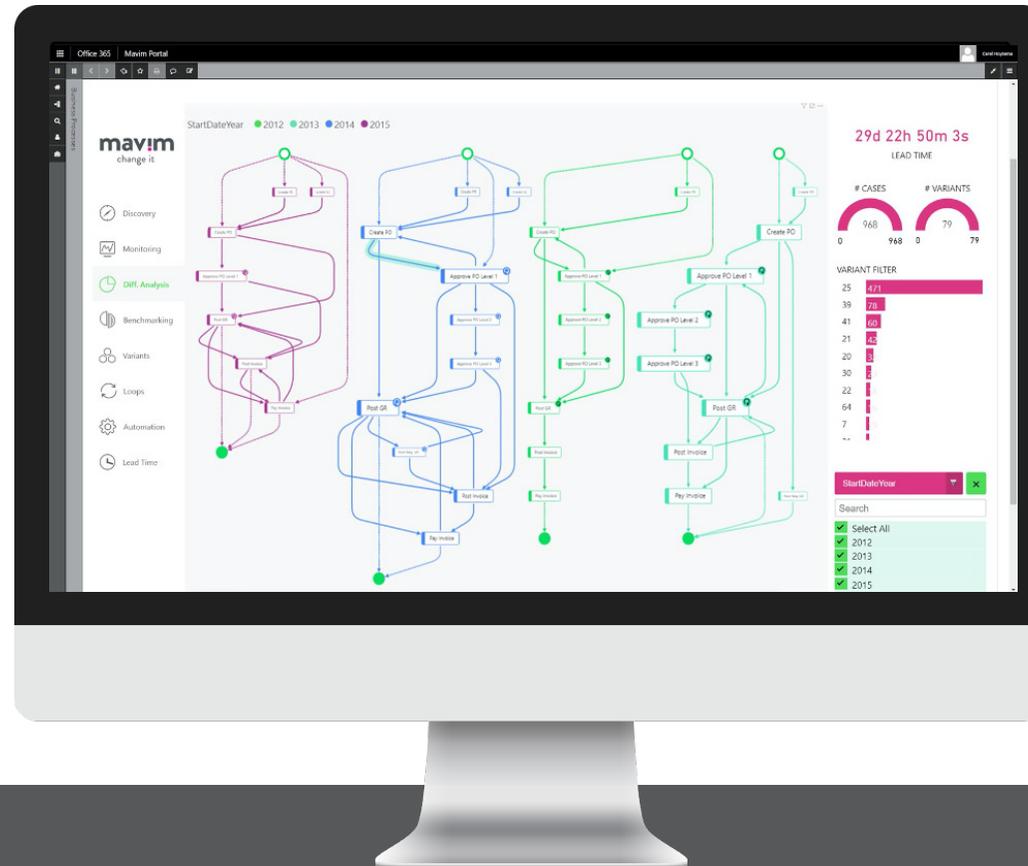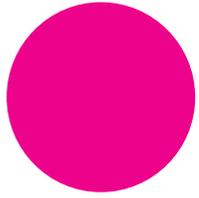
CONTINUOUS COMPLIANCE MONITORING

WHAT IS IT?

Compliance monitoring analyzes a defined compliance rule patterns, such as "activity A must be executed before activity B is executed" and apply them to a set of business process models to determine whether or not the process complies with the underlying rule.

With this capability, it becomes easy to validate statements like:

"In Germany 21% of sales orders are turned into deliveries without credit checks being performed"

"17% of invoices in France are paid without an approved purchase order related to it"

USE CASE

Every company is burdened by the need to comply to more and more regulatory standards. In the Financial Services industry in particular, compliance to regulations is imperative to prevent major fines and loss of operating license. This large insurance company was no exception. The company had been struggling for years to get in control of their processes. They were lacking basic insights into their process performance and compliance to standards and regulations. The situation was even more pressing as the standards to comply to were not documented or readily available for employees to access.

This led to the company going in to "shutdown mode" for 3 weeks every time they were about to be audited, to prevent major fines coming their way by the authorities. As they recognized the necessity for a solution, the company turned to Mavim.

As time was critical, they decided to implement Mavim's Mine, design, Improve methodology. In the Mine phase they used process mining to identify and visualize most of their core processes, ventilate a best practice process for every domain that was compliant to the overall standard. Then in parallel they used these visualizations as a basis for further process designs in Mavim including work instructions, risks, controls, regulations, governance, etc. To ensure compliance to these newly documented processes and standards, they used the same process mining technology to continuously monitor their actual performance and instantly identify and automatically detect, alert and report upon deviations, violations and any other anomaly.

After implementing Mavim, the company was able to:

-     Increase overall compliance by more than 52%.
-     Decrease preparation efforts and time for audits by 90%.
-     Automate 65% of manual activities that were most vulnerable to human error, potentially leading to violations. The side-effect of these automations was, for example, that their claims processing process saw a decreased process throughput time by 9,7 days on average.

# PREPERATION & TIME FOR AUDITS

DECREASED

90%

VALUE FOR MANAGEMENT

The leadership was now able to show to the authorities that they were in control of their processes, ensuring compliance to regulations and standards. This significantly decreased their exposure to potential fines and/ or reputational damage.

VALUE FOR WORKFORCE

Employees were now able to find, learn and apply essential knowledge about regulations and standards in their day to day operations. Due to the automation of the most tedious repetitive tasks that were sensitive to human error, their time was now freed up to spend on more challenging and value adding activities.

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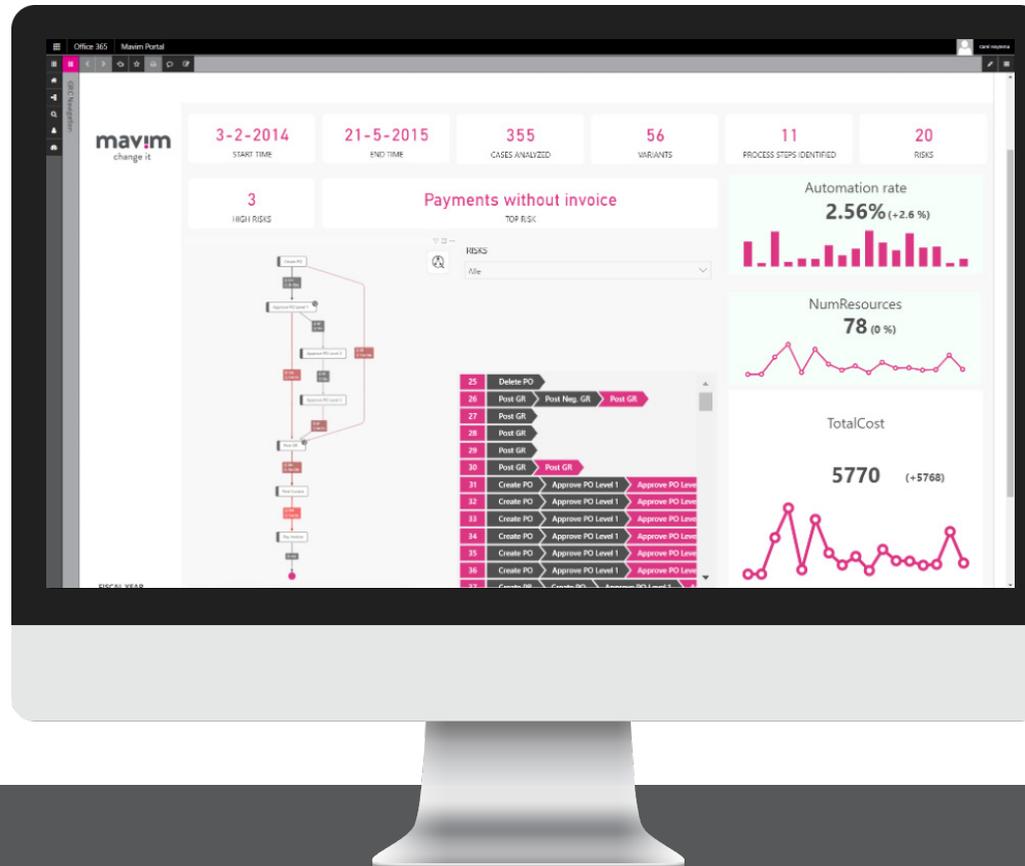
WHAT-IF ANALYSIS

WHAT IS IT?

A what-if analysis measures how changes in a set of independent variables impact on a set of dependent variables . The strength of simulation is that it enables precisely this "what if" analysis, i.e., it allows to "look into the future" under certain assumptions.

With this capability, it becomes easy to validate statements like:

"The duration time of our production process in Japan is expected to decrease by 21% if we automate the second production order approval."

"When we increase the number of resources in our warehouse in Nigeria by 30%, we can increase our overall delivery volumes by 80% without affecting our delivery reliability ."

USE CASE

It is hard to substantiate the effects of intended changes to (a part of) your process or organization upfront. Therefore, many decisions are still made based on gut instinct. The statistics about large transformations indicate a staggering failure rate of 70%. This is because companies lack structure and insight into all their organizational elements and/or the interrelation between them. Even companies that do have their processes and other organizational elements documented still lack insight into the actual performance of these same processes.

However, after identifying actual process performance and improvement potential, it is still hard to predict what the actual impact will be in the organization, since only historical data is available. This makes it difficult to predict the impact of specific improvements.

What is the actual impact of automating specific transactions? What will happen to the rest of the process? Will this cause a "bottleneck" to shift somewhere else in the process? Compliance is important, but what will the overall effect be to the duration of the process when these approval steps are added?

To help simulate/predict the impact of potential changes to their processes, the company in this use case made use of process simulation functionality or as we prefer to call it "what-If analysis". Based on the historical data used in process mining and the historical distribution of transactions and mathematical algorithms in Mavim, they were able to simulate the effects and the return on investment (ROI) of the proposed automation of specific transactions and other proposed alterations to their processes.
This led to the following conclusions:

- The proposed automation of approvals in the purchase to pay process with consistent volumes, would not lead to an overall decrease in process duration due to a bottleneck shift towards the booking of the actual orders.
- Only after increasing the capacity of people booking the orders by 20% will this lead to a decrease in duration of 6,5 days on average and an annual cost benefit of EUR. 800K when average volumes do not change.
- Automating the transactions around the booking of the orders as well would lead to a volume increase in overall processing capacity of 125%, while leading to a decrease of duration of another 7,8 days and an annual cost benefit of EUR. 1,4 million.

AUTOMATION WOULD INCREASE

PROCESSING CAPACITY BY

125%

VALUE FOR MANAGEMENT

Leadership is now able to substantiate their decisions for specific improvements/changes with a certain probability based on what-if analysis. Although one can never fully predict the future, these analyses increase the accuracy of impact estimations and help make better informed and substantiated decisions.

VALUE FOR WORKFORCE

Employees are now better informed about the impact of their contribution to the process and the probable effect of the proposed changes by leadership. This will increase the willingness to change among employees.
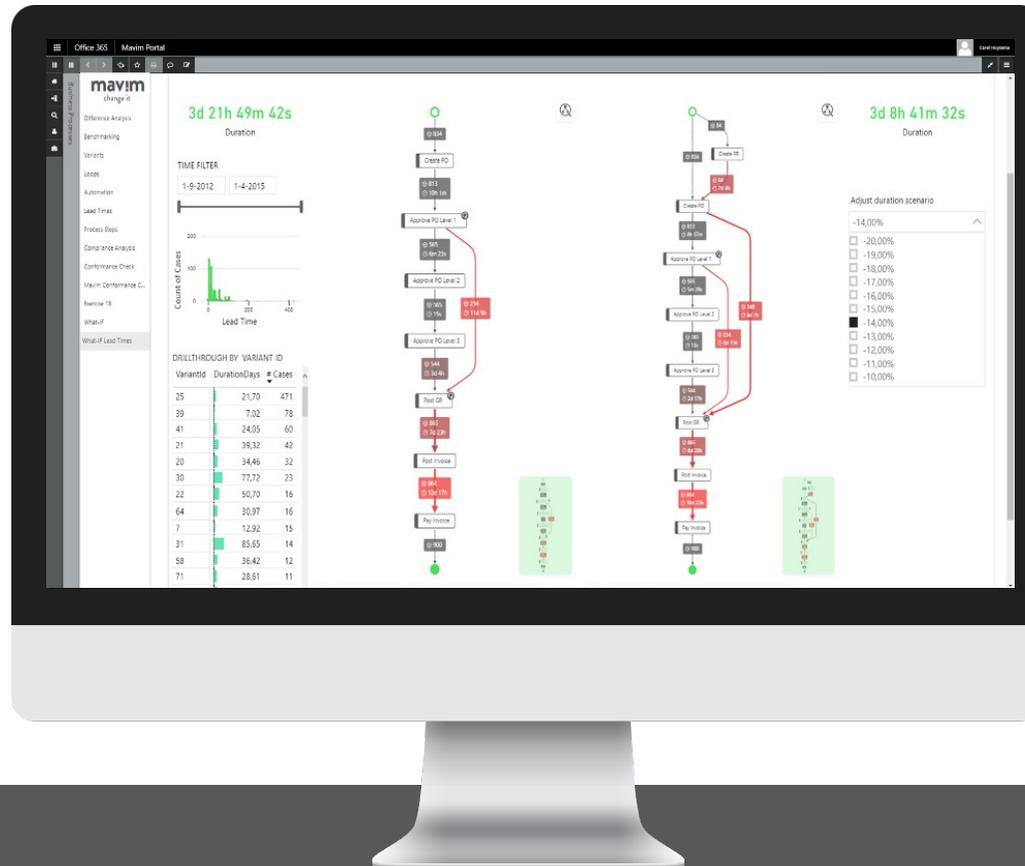
HOW TO START

LOCATE DATA

The data format is an event log that requires three types of fields. Case ID, Activity Name, & Timestamp. For an initial trial, a CSV is fine, although in a later stage you can consider continuous monitoring through connecting Mavim to your transactional systems by making use of Mavim's 150+ integrations. Depending on your role in the organization, this might require support from your IT department.

LOCATE PROCESS MODELS

Most organizations have some type of process models that have been documented previously. Mavim offers connections to numerous BPM tools to facilitate simple extraction and reuse. Mavim also makes it possible for you to upload your process models in your diagramming language of choice. However, be aware that if process models are documented in Word or PowerPoint, some time will be needed to add structure prior to implementation.

CONTACT MAVIM

We know that not everyone is ready to hit the ground running today; however, if you are, please reach out and we will be happy to provide a custom demo with your data and process models to help you build a business case for investment in process improvement. If you are interested, but not yet ready for a demo, please feel free to join our mailing list here and we will give you a shout out when the free version of our product is available later in 2020.

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