businessoptix

Whitepaper

How to Create a Digital Twin of your Organization's Business Operations

Introduction

All businesses are reliant on technology and face constant pressure to change. Thanks to the interdependencies between operations, processes, and systems, delivering successful change is hard. To maintain performance, deliver improvements and be sufficiently agile for the future, executives must have visibility on how the supporting operations work. Increasingly this visibility is being achieved using a dynamic copy of the operation in software. A concept called a Digital Twin – one that has been in widespread use for engineering complex physical systems (like machines, aircraft, racing cars) and is now increasingly popular in business systems.

The Digital Twin of a business operation (or DTO for short) captures process, performance, and other contextual data (like systems, resources, controls, etc.) in the software. This model demonstrates the current operations and lets you simulate change and its impact. A DTO gives you confidence to execute planned changes (like automating a manual task to increase efficiency or save money) or cope with a disturbance to normal ways of working (like measuring the negative impact of an outage).

Our customers use the BusinessOptix transformation platform to build a Digital Twin of their operations. They model their operations' current state, implement various change initiatives, and run simulations to measure impact. The ongoing modeling and monitoring help them implement change successfully.

This paper explains how a business can build a DTO and why we recommend starting small to build competency and set a foundation before expanding. We'll cover the capabilities of the BusinessOptix DTO and share best practices from successful examples.

Why build a Digital Twin of your Organizations Business Operations

If you are looking to have more control over how you run your operations or for more performance from them, then having a copy of your business makes sense. Businesses have always had a copy of their operations in some form – from procedures, blueprints, specifications, but documents are no longer fit for purpose.

Digital Twins save money, ensure desired service outcomes are delivered, and reduce the risk of transformation failure. This becomes an iterative process of continuous innovation to improve the enterprise.

Figure 1: How a DTO drives Enterprise Value

Beyond these enterprise level drivers there are many practical reasons for building a DTO, some of the more common use cases that prompt adoption by our customers are:

Use Case	**Description**
Enterprise Performance and Cost Optimization	A DTO helps identify cost-saving opportunities by visualizing connections between functions, processes, and KPIs. A DTO helps communicate the change so that the new ways of working begin more quickly.
Customer Experience	Customer experience leaders use DTO to illustrate the importance of each customer interaction and recommend operational adjustments that will reduce friction and improve the customer experience.
Digital Transformation	Digital business leaders adopt a DTO to identify ways to digitize processes and interactions and apply technologies like AI (Artificial Intelligence). It helps to monitor and guide the digital transformation initiative.

Use Case	Description
Operational Excellence	Business process leaders create a DTO to provide a contextual model for business processes. The model indicates where enterprise value is linked with the various parts of an organization. It is useful for scoping organic incremental change, the migration of work to shared service centers and more structural activity like outsourcing. Seeing the combinations of processes, activities and interactions that deliver products or services is an essential part of operational excellence.
Process Outsourcing	To create a high-performance business process outsourcing (BPO) organization, business leaders adopt a DTO to visualize the supporting business operating models, and to continuously measure outcomes. A DTO enables the BPO to hold and demonstrate the value of their intellectual capital (best practice processes and tooling) while giving the outsource customer the ability to assess its value. It enables both parties to be confident of end-to-end performance and business continuity.

Ultimately, knowing how the operation will respond to the change prior to committing to production reduces the risk and cost of change while delivering more certain outcomes.

What is in a DTO

The most recent Gartner research(1) likens a DTO to that of a SatNav (satellite navigation) for business and concludes that a DTO should contain the following building blocks:

- **Destination:** The target state in the form of optimized business operations, an improved or new business model or digital business transformation, and an optimized customer experience. Delivered by Enterprise Architecture in a central repository that captures data and metadata about the artifacts that an enterprise cares about.
- **Map:** A digitalized business operations model (shows how externally focused customer-driven interactions align with internally focused business operations delivering stakeholder value). Delivered by Enterprise Business Process Analysis (EBPA the discipline of business and process modeling, and re-engineering), aimed at transforming and improving business performance, with an emphasis on dependence analysis, and decision support.
- **Performance:** Business performance management framework (to align diverse measurement schemes through the model). Delivered by performance management processes, analytics, enterprise metric—integrated with operations.
- **Situation:** Business operations intelligence (to ensure the model is built from the current reality and ensures the model is enriched with accurate data). Delivered by Continuous intelligence (a design pattern in which analysis is integrated into a business operations using data to prescribe actions) and Process Discovery (discover, monitor and improve actual—not assumed—processes by extracting knowledge from event logs and agents).
- **Value:** The ultimate value of a DTO lies in having a comprehensive, real-time, or near-real-time digital model of your operations, processes, and assets. This model provides the understanding and insight necessary to make confident decisions. Making decisions without it could feel like driving long-distance without navigation. The diagram in Figure 2 shows how the capabilities of BusinessOptix map to the building blocks.

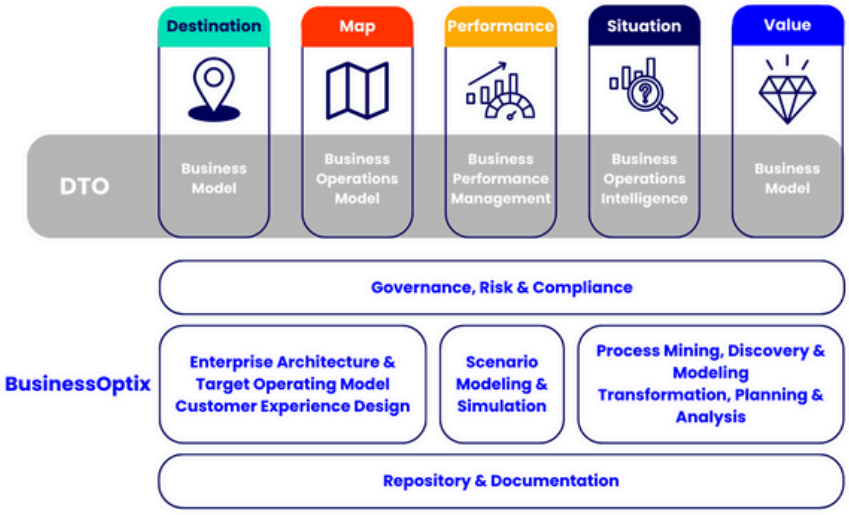


Figure 2: BusinessOptix Mapping to the Gartner DTO building blocks,

The platform provides discovery, mining, mapping, design, modeling, simulation, documentation, and planning capabilities. Whether used to implement a DTO, or as a simple aid to more effective transformation, they help transformation and delivery teams meet the goals of the enterprise.

Capability	**Description**
Governance, Risk & Compliance	Consolidate your entire risk framework in one accessible hub to ensure your compliance, controls, and standards (requirements & regulations) are not negatively impacted by any change. Real-event solutions enable you to understand, monitor, and act on risks and compliance obligations with maximum efficiency.
Enterprise Architecture & Target Operating Model	Create a holistic view of your operations with your enterprise architecture linked through to your processes to begin connecting your DTO.
Customer Experience Design	Map the optimal customer journeys and connect them to the operational processes that support them ensuring consistency for customers and employees.
Process Mining Discovery & Modeling	Discover (through mining and rapid capture tools) and map current state of actual processes. Update throughout the lifecycle of the operation to validate the transformation, continuously improve, and maintain the DTO's connection to the operations (so the centralized repository is always in step with reality).
Transformation Planning & Analysis	Set strategy, goals (link them to enterprise outcomes), and milestones, and track your progress to target. Easily create transformation planning and control documentation (like business cases and PIDs (persistent identifiers) from the data held in the platform.

Capability	Description
Scenario Modeling & Simulation	Create and test alternative flows and outcomes to identify improvements that will deliver the best business case for the organization. Safely understand the impact (and any unintended consequences of change) before committing them to production.
Repository & Documentation	Ingest, create, store, and manage processes together with the operational metrics and meta data associated with the business operations. Create PDDs (Process Definition Documents) from the data and process designs in the repository to speed up deployment of RPA (robotic process automation) and other automation solutions. Ingest, create, store, and manage operating procedures and work instructions (linked to the processes); connecting employees to the content they need, as they need it for efficiency, consistency, ease of access and governance.

BusinessOptix provides integrations that enable data exchange with third-party systems. This speeds up the DTO build by allowing the automated ingestion of information (if say an existing procedure manual or SOPs (standard operating procedures) exist). This provides the user flexibility should the business already have access to some of the standalone capabilities (like a mining solution that may be bundled with enterprise software).

Approaching the DTO Build

Unless your organization is experienced with DTO technologies or has large amounts of assets that can be readily ingested into a DTO, we recommend starting in a small, contained area of the business and then incrementally growing its adoption.

This could mean selecting one or more critical business functions, or areas where the business is currently experiencing pain, and starting there. Creating a model of those areas, with sufficient detail and metrics, could very quickly lead to the creation of assets (a sub-set of the DTO, a Digital Twin of a Process, or function even) that would support the optimization and standardization of critical business functions, or the development of resilience by providing options to solve for pain points.

We believe this offers the best balance of speed to value as it allows for a focused approach where the nuances and interdependencies of the operation can be managed and understood in a controlled environment. This minimizes risk, as any issues can be identified and resolved without widespread impact.

Secondly, starting small means value can be demonstrated quickly and the potential of the DTO understood without a significant upfront investment. It serves as practical and visible proof to stakeholders of the DTO benefits and will demystify what may sound to some like a complex concept.

A gradual approach facilitates incremental learning and adaptation. The organization can refine its methods based on prior stage feedback, ensuring that the DTO is robust and effective as its adoption scales. This learning phase is crucial for developing best practices, and integrating the DTO seamlessly into how the business runs today.

As the DTO is expanded to cover more of the business, insights gained from the initial phase can inform operating enhancements, leading to a more sophisticated and effective system. Particularly when it comes to the internal implementation and support and whether to create a CoE (center of excellence) for the new capability or integrate it within existing transformation management groups.

How to Build the DTO

In this section we show how to create a DTO of a critical area within a larger operation. While we have constrained the example for ease of illustration, the same principles, and steps we outline scale for any size and type of business operation.

Prior to building the DTO it is vital to clearly define the goals and constraints– a success factor required for any initiative – then you are ready to follow these 5 steps:

Figure 3: Five steps to optimized processes

STEP 1: CAPTURE AS-IS OPERATING MODEL AND PROCESSES

Begin by using our automated discovery tools to capture your current operating model and processes.

Your operating model may start as a set of functions or business areas that fit together to create the backbone of your operations (see Figure 4) or follow the traditional view (see Figure 5).

Starting with an operating model and using this to guide your capture of the processes is the ideal way to get a strategic view that helps you navigate your operations. Another approach could be to start with a customer journey map. This customer-focused view will help to pick off the most important areas to your customers and link them back to your operating model (see Figure 6).

Which approach is best is a judgment call based on context and goals. What is essential at this stage is to determine which approach will deliver the best foundation to build on.

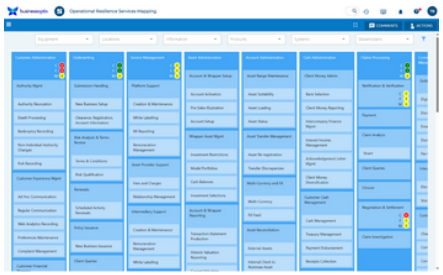


Figure 4: Service Capability Map

Figure 5: Traditional Operating Model

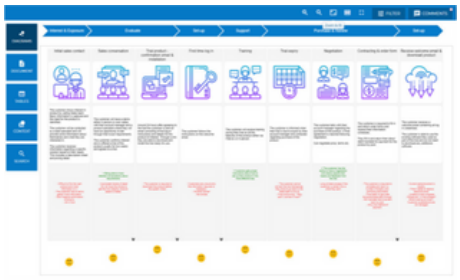


Figure 6: Sales and Customer Onboarding

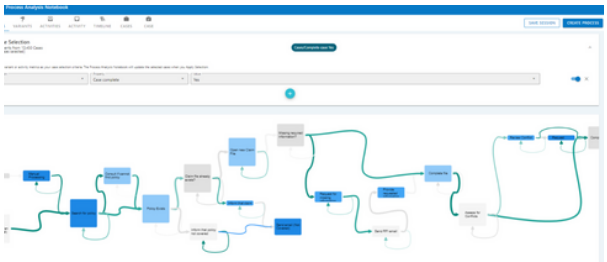


Figure 7: Process Mining

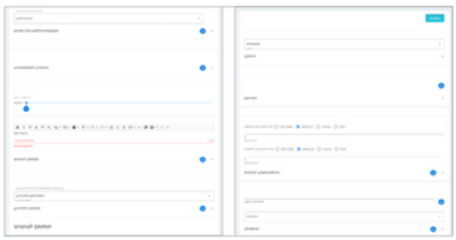


Figure 8: Knowledge Transfer

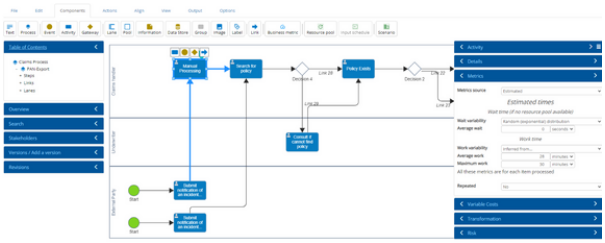


Figure 9: Process Diagramming Tool

Process mining, knowledge transfer, and process diagramming tools (see Figures 8 and 9) create a view of the current mode of operating (Digital Twin A) captured and augmented with:

- Flows
- Attributes
- Manual and system-based activities
- Organization structure
- Resource utilization
- KPIs
- Financials
- Current performance metrics
- Resources (e.g., systems and people)

Process mining and modeling provides a data-driven, fact-based approach leveraging empirical evidence to uncover how processes work in the real-world using data from your event logs. It generates insights that enable you to identify constraints, prioritize improvement opportunities, and pre-empt compliance and regulatory issues.

With a detailed visualization of your actual processes, you can see the paths and flows along with frequency, wait time, bottlenecks, exceptions/deviations, statistics, variances, costs, compliance issues, inconsistencies, etc.

This visualization allows you to investigate and identify problem areas such as staff training issues, system capacity, resource constraints, quality issues, poor process design, understaffing, process rule flouting, missed compliance, inconsistencies, and so on.

Using this data, you are ready to start identifying the primary candidates for creating your operations' new future state DTO (Digital Twin B).

STEP 2: IDENTIFY CANDIDATES FOR CHANGE

To create the future state view of the operation, first, use the captured processes and accompanying data to generate a report that illustrates process types and their performance metrics (see Figure 10).

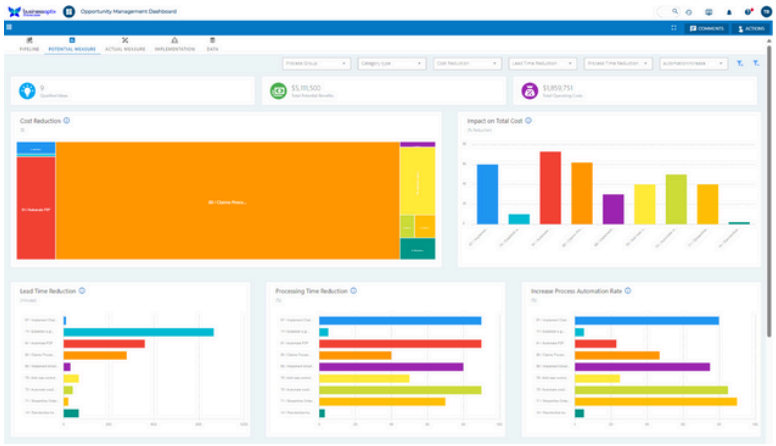


Figure 10: Detailed view of process performarnce

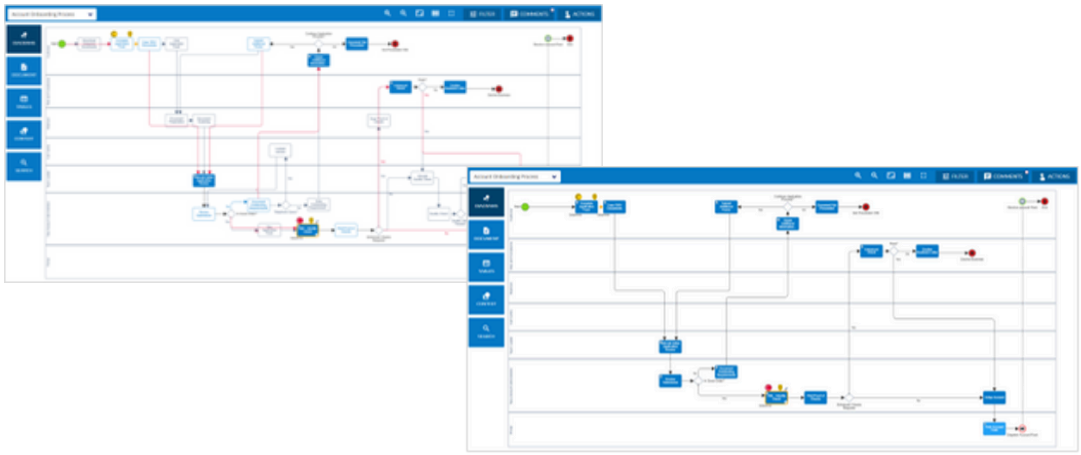
Through analysis of the report, identify and prioritize the process or areas in processes that are good candidates for change to achieve the business outcomes defined at the start of your journey. For instance, to drive efficiency, you may identify manual steps that can be automated (see Figure 11), high lag time that can be reduced, or older non-performant systems to replace.

Figure 11: Report of 'most manual processes'

Set success measures and KPIs aligned with the previously outlined goals for the prioritized candidates. A single candidate may address all the goals or contribute supported by work on other candidates as you progress.

STEP 3: CREATE, TEST AND EVALUATE TO-BE SCENARIOS

Once candidate processes or activities have been prioritized, start creating future state scenarios to test against the current mode of operation. Example changes to introduce might include rerouting flows, taking out or adding steps in, adding resources or automation, etc.
(see Figures 12 - 13).



Figures 12 - 13: As-is process state to potential future state scenario

These future state scenarios can be tested and evaluated by adjusting key levers to deliver insights, including:

- The possible positive and negative impact of ideas and proposed changes (including unintended consequences)
- When a ROI (return on investment) is likely to be achieved
- Additional (or fewer) investment or resource requirements
- And, whether the approach will deliver against the goals and strategy

STEP 4: SELECT AND DELIVER THE CHOSEN SCENARIO

Confirm which future-state scenario will deliver against the pre-determined KPIs (key performance indicators) and metrics to ensure you achieve the desired ROI before choosing one to implement (see Figures 14 - 15).

Figures 14 - 15: Process metrics and ROI

Run implementation of changes as controlled experiments before fully implementing them to ensure speed and adaptability. This will ensure the maximum impact of each change once the processes are fully operational. Additional changes, such as removing a step to improve efficiency or automating steps, can be added to the scenario candidates, tested, and reviewed before making a final decision.

Iterative rounds of adjustment and testing will determine the scenario with optimal delivery against goals and metrics. Once this is determined, tasks supporting full implementation and wider roll-out include:

- Writing requirements or user stories (see Figure 16) for developers
- Using BPM (Business Process Management), RPA, or case management tools to automate processes where required and to map out new and adjusted processes
- Generating work instructions (see Figure 17), training materials, and any regulatory guidance to support end users and ensure the organization executes on the chosen strategy

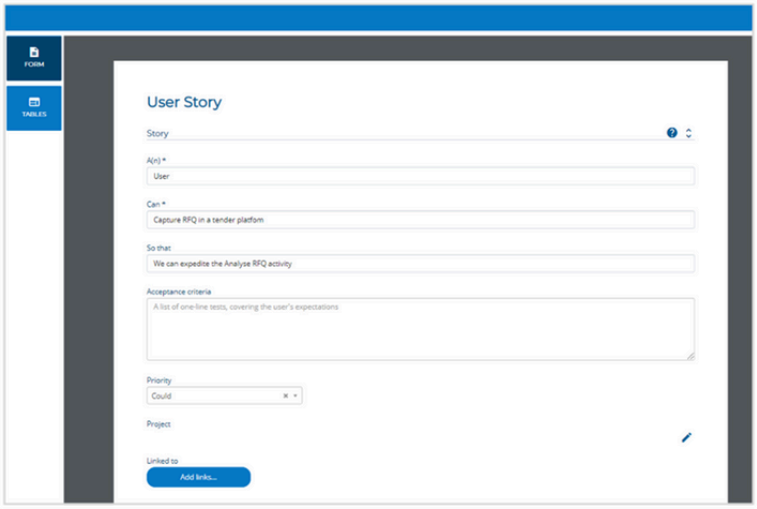


Figure 16: Survey Capture form

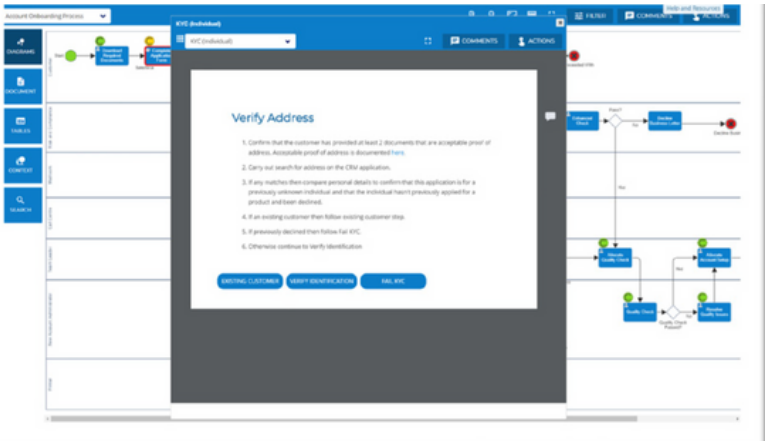


Figure 17: Work Instructions

STEP 5: GATHER AND USE INSIGHTS

Now that you have implemented your chosen scenario, you need a way of visualizing the transformation's impact against the organization's strategic objectives. Transformation is never a one-and-done activity; business environments change, and corporate goals evolve. BusinessOptix dashboards deliver data visualizations and business intelligence. Perfect optimization should be a goal that is always slightly out of reach; the thinking should be "great improvement – what's next?"

BusinessOptix dashboards enable you to report on, track and manage the implemented transformations. This provides a view of performance against key measures such as cost, quality, service levels, and resource utilization. Use process discovery, including process mining, to continuously measure the results of new processes and identify improvement opportunities. With a continuous flow of data driving your digital twin, the outcomes from your process changes are fed back and ready to use in your next optimization cycle (see Figure 18).

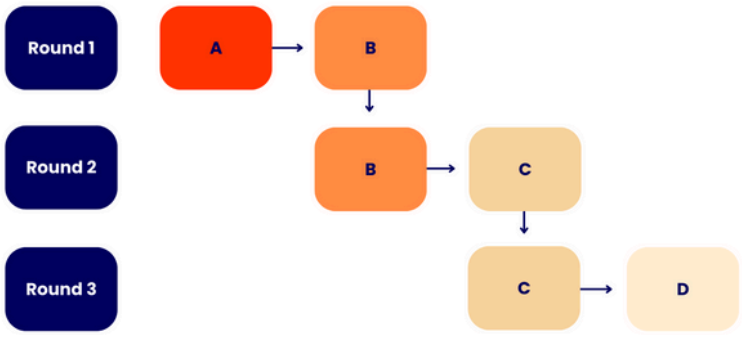


Figure 18: Continuous rounds of improvement using Digital Twins A, B, C, D, etc.

The BusinessOptix platform enables you to simulate various scenarios in your DTO creating a cycle of capturing process performance, running experiments, and using the learning to set the next course of action.

Read our Customer Successes on the following pages to learn how some of our clients have utilized BusinessOptix for their ongoing DTO initiatives.

Reference 1: Kerremans, M., 'Market Guide for Technologies Supporting a Digital Twin of an Organization' Published January 4, 2023

Customer Success

Operating in a highly competitive market, Metro Bank, aimed to optimize its business modeling capabilities and accelerate process improvements while fine-tuning its business architecture to support revenue growth and increased profit margins without raising operational expenses.

Metro Bank partnered with BusinessOptix to implement a suite of transformation tools, enabling process owners to model their processes for more effective and colleague-friendly ways of working.

Results & Benefits:

- Over 600 processes migrated
- Successfully standardized operations enterprise-wide
- Accelerated identification of automation opportunities, driving tangible improvements in efficiency, costs, and customer experience.

“ At Metro Bank we are committed to providing our FANS with the best experience possible, and automation is key to achieving this. To achieve our desired efficiency gains and unlock growth opportunities we rely on the capabilities provided by BusinessOptix. These capabilities enable us to create agile and scalable processes that better meet the needs of our FANS.”

Chief Operating Officer, Metro Bank

Customer Success

MAKERS OF
SPARKLING ICE.
Talking Rain
Beverage Company

Talking Rain initiated a BPM Program alongside an ERP transformation to enhance processes and establish a culture of continuous improvement. Their challenges included disconnected processes documented in Visio and stored separately in SharePoint, resulting in repetitive problem-solving, low stakeholder engagement, and difficulty in educating employees.

To address these challenges, they partnered with BusinessOptix and adopted a phased transformation approach. This involved formalizing process management standards and creating a centralized educational repository for processes and procedures.

Their ongoing journey includes advancing to process simulation and scenario testing to achieve a Digital Twin of their processes.

Results & Benefits achieved so far include:

- Migration of 25-30% of processes in the phase 1 pilot.
- Improved process visibility, clear ownership, and defined goals within the supply chain function (pilot department).
- Successful pilot within 6 months led to the establishment of a dedicated continuous improvement team in the supply chain department.

"The BusinessOptix solution has brought credibility and visibility to our Business Process Management program, and having a fit-for-purpose tool is helping to motivate the business to dedicate the resources necessary to manage and improve processes. This is a huge step toward achieving a Culture of Continuous Improvement across Talking Rain, and we are excited to continue the roll-out."

Senior Technology Manager, Talking Rain

Customer Success

ELSEVIER

Elsevier was transforming to become a provider of analytics tools for healthcare professionals and researchers. To support this, they implemented BusinessOptix to ensure innovative processes were designed and optimized for great customer and employee experiences.

The goal was to mature Elsevier's Process Excellence Practice and improve collaboration among various teams.

Results & Benefits:

- Collaboration and Communication: Over 300 relevant models have been created in BusinessOptix, improving cross-functional collaboration and managing project interdependencies.
- Process Efficiency and Automation: Improved speed and quality of process model creation have facilitated the identification of pain points, benefiting automation activities.
- Data-Informed Decision Making: Simulation capabilities support funding and prioritization of initiatives, enabling data-informed decision-making.

"BusinessOptix has been a great partner throughout our journey, from the initial demonstration to their ongoing support in implementing essential features., creating comprehensive reports to help us monitor the value generated. They have demonstrated a deep understanding of our ways of working."

Head of Process Excellence & Digital Adoption, Elsevier

Your path to success starts with a demo

Secure your personalized session now to explore how BusinessOptix can redefine what's possible for your business.

Book Now

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