# Creating a Digital Twin of your Organization's Business Operations

Whitepaper

An approach to creating a digital twin that enables your organization to control your business operations today and navigate tomorrow's challenges

## Contents



## Introduction

Digital twin has been used historically to describe 'a digital representation of a physical object'. In the world of software driven business operations it is a new(ish) and growing concept. Gartner define it as:

**"A dynamic software model of any organization that relies on operational and/or other data to understand how an organization operationalizes its business model, connects with its current state, responds to changes, deploys resources and delivers expected customer value.[1]"**

This whitepaper combines the digital twin of an organization (DTO) concept with the business operating system (BOS) framework to provide an enabler for organizations to start small and build out to the bigger picture. At the heart of this is helping organizations identify their starting position followed by an approach to modeling, comparing and testing multiple scenarios, before moving delivery and followed by continuous improvements.

For more information about this white paper and or BusinessOptix please contact us at: info@businessoptix.com, on +44 (0)207 084 7480 or visit www.businessoptix.com.

[1] Gartner, Inc. "Market Guide for Technologies Supporting a DTO" by Marc Kerremans, 12th July, 2018

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# What is a Digital Twin of the Organization's Business Operations?

Digital twins of the organization's business operations are a means for organizations, which are driving transformations or continuous improvements, to understand their current state (Twin A) and then use this to model, test and implement improved future states (Twin B). Once complete a new round begins as new opportunities for improvement are investigated and implemented in a mode of continuous improvement – see illustrative diagram 1 below.

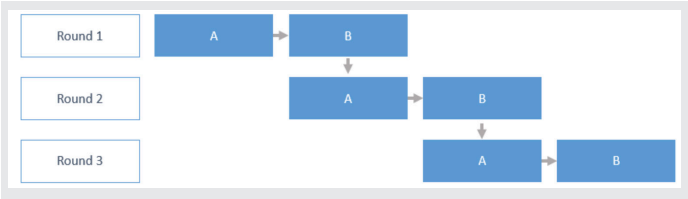



Diagram 1: Continuous rounds of improvement using Digital Twins A and B

A digital twin of an organization's business operations is designed to be the mechanism for delivering these rounds of improvement through creating a digital representation of the current operations that can be analysed and improved.

Take an organization's purchase-to-pay function. By creating a digital representation of operations, such as the invoice and payment processes, it is possible to define and analyze the flow of invoices in and payments out, identify any performance or quality issues, and model and test different scenarios for addressing them, before implementing the option that is most likely to deliver improved performance or quality. Once finished, the process can be repeated or new areas explored in a virtuous cycle of continuous improvement.

Across business operations in different organizations and industries, the creation of a digital twin can provide answers to specific questions such as:

- Is the organization meeting customer and partner expectations?
- Are there opportunities to deliver more value and better customer experiences?
- Are changes in the external environment (e.g. regulation or competition) having a negative or positive impact on operations?
- Are additional resources required to handle additional business process volume in a number of eventualities, such as a successful sales campaign or an unexpected increase in customer service requests?
- When will a return on investment be achieved from automating business process activities through Robotic Processing Automation (RPA) or other system changes?
- How will a change impact customers, internal stakeholders and partners?
- Will a business process change result in increased revenue as well as reduced cost?
- Does the availability of resources (employees, external suppliers, technology platforms, transport, etc.) cause process bottlenecks?
- Will a change in working patterns reduce process cycle time?

Would the use of less experienced and lower cost resource that take longer to complete an activity and have a higher rework rate be more, or less, cost-effective?

To maximize the value and effectiveness of a digital twin approach it's important to see the bigger picture, but start small. Whether at a goal or functional level, this starts by having a clear view of where you want to get to and or the business areas to address. From here the focus shifts to incrementally building and connecting the various parts that need to come together to create the bigger picture. Taking this approach will help to reduce risks and speed up delivery of positive outcomes.

# What is the Business Operating System framework?

The business operating system framework provides a guide for organizations seeking to implement a digital twin of their organization's business operations.

Focusing on 6 key areas (see diagram 2 below), the framework enables organizations to follow a structured path to improve and optimize operations.

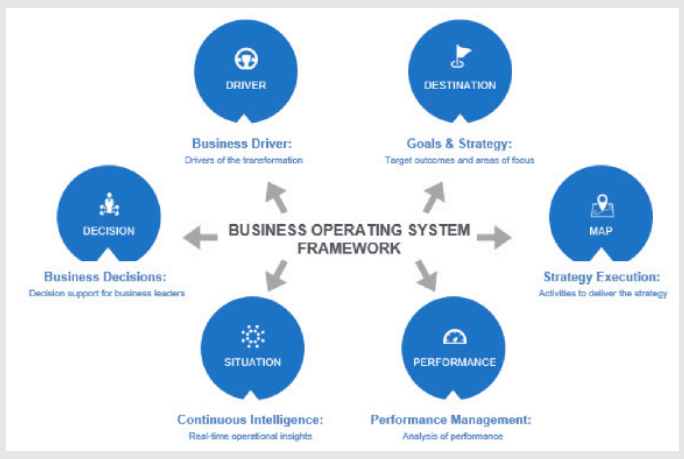



Diagram 2: Business Operating System framework

Capturing **'business drivers'** is about understanding and creating a clear view of the business or initiative context. Using sources such as current operational performance (e.g. dips), C-suite initiatives (e.g. customer centricity, cost savings or new business models), market changes (e.g. digital opportunities, changing competition and dynamics) or regulatory requirements (e.g. GDPR, AML4, PSD2) the baseline drivers can be identified and used to drive the goals and strategy.

**'Goals and strategy'** focus on defining a clear destination (or vision) and high level areas of focus (at an organizational, initiative or process level) that the team can get behind and support.

Tip: Consider using transformation maps (see diagram 3 below) and dashboards (see diagram 4 below) to help capture and track the goals and strategies.

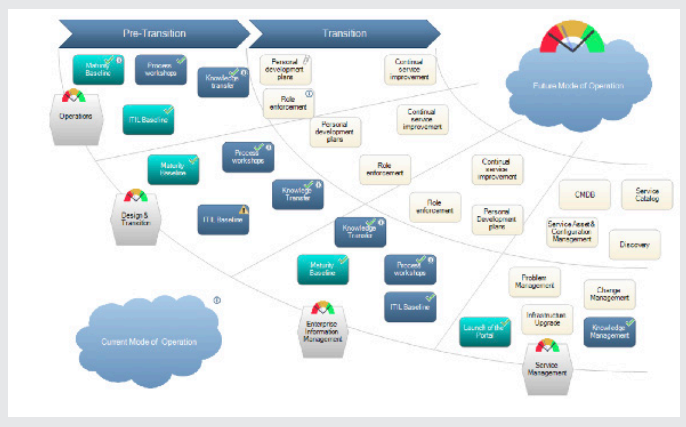
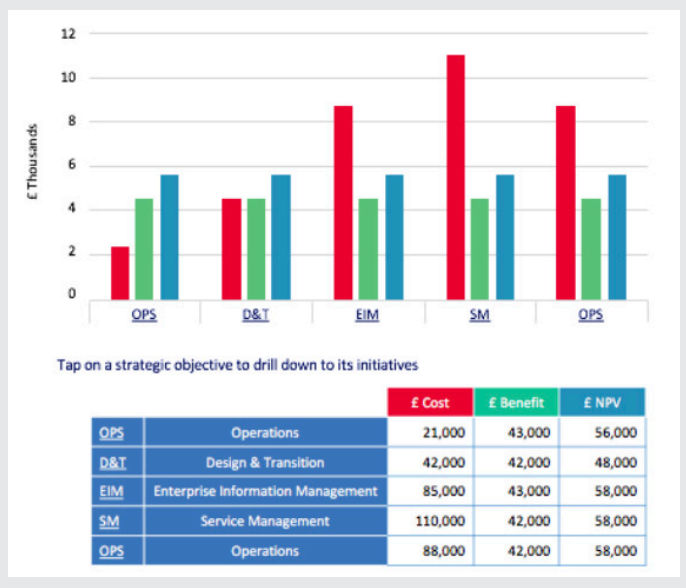



Diagram 3: Transformation Map




| | | £ Cost | £ Benefit | £ NPV |
|---|---|---|---|---|
| OPS | Operations | 21,000 | 43,000 | 56,000 |
| D&T | Design & Transition | 42,000 | 42,000 | 48,000 |
| EIM | Enterprise Information Management | 85,000 | 43,000 | 58,000 |
| SM | Service Management | 110,000 | 42,000 | 58,000 |
| OPS | Operations | 88,000 | 42,000 | 58,000 |

Diagram 4: Transformation Dashboard

[2] https://en.wikipedia.org/wiki/Business_transformation
[3] https://en.wikipedia.org/wiki/Improvement

'Strategy execution' starts by creating a view of where the organization is today. From this, gaps and opportunities to improve can be identified.

Once complete, decisions can be made about the specific areas and levels of improvement. For instance, should the focus be on a transformative (making fundamental changes to how business is conducted) or incremental (moving from one state to a state considered to be better) approach?

'Performance management' focuses on setting and tracking metrics that illustrate the performance of tests and in-life operations.

'Continuous intelligence' focuses on continuously monitoring and providing insights from live data that tells the story of how the process is functioning against the key metrics and any tolerances or SLAs that have been set and need to be adhered to.

Combining outputs from performance metrics and continuous intelligence, 'decision making' enables the organization to pause, ingest insights and make decisions about its next steps.

The framework helps to answer questions such as why do we need to transform or improve? Which parts of our operations and processes need to change? What does success look like? How will the needs of customers and the business be met? How will efficiencies and cost savings be made? Where should we start? What are the quick wins? What strategic and tactical approach should be taken? What will it cost and how will it be resourced? How will the initiative be governed and managed? How will sustainable capabilities be created and embedded in the organization? How do we identify and test alternative ways of working in a low risk way?

As well as opportunities to improve operating models and processes, organizations that use the business operating system framework have been able to identify and address issues such as absent or unclear business, operating and capability models and processes; a lack of team knowledge and or competence; non-standardized management methods and standards; duplication of efforts; a lack of integration, collaboration or knowledge sharing between teams, functions and business units; lack of clear metrics and performance indicators; and deficiencies in governance.

A more detailed look at all of these areas (including guidance and additional tools for setting yourself up for success) can be found in the paper 'Successfully Transforming and Improving Business Operations'.

## Using the Business Operating System framework to create a Digital Twin of your Organization's Operations

Through the business operating system framework, it is possible to create and use a digital twin. The following example will focus on creating a digital twin of key processes within the operating model.

As with any initiative, it must start with a clear definition of the outcome (objective) you want to achieve. Typical outcomes may be to reduce operating costs by £5m in 12 months, reduce process times by 15 seconds, increase the % of responses under 10 seconds from 65% to 75%, achieve service levels of 95%, implement new regulations before they become law, or any other operational metric that relates to the organization's work.

Next, select the first area of focus (remembering that the aim is to start small and build) that will enable you to achieve the desired outcome – for instance, a particular area of the business or area of the operating model. From here a 5-step approach can be used to create and deliver your digital twin - see steps below.

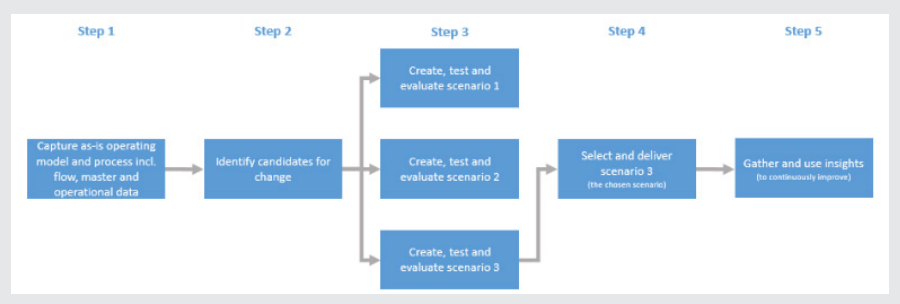



Diagram 5: 5-steps to optimized processes

## 1. CAPTURE AS-IS OPERATING MODEL AND PROCESSES

Start by capturing your current operating model and processes.

Your operating model may follow the traditional view (see diagram 6 below) or start as a set of functions or business areas that fit together to create the backbone of your operations (see diagram 7 below).

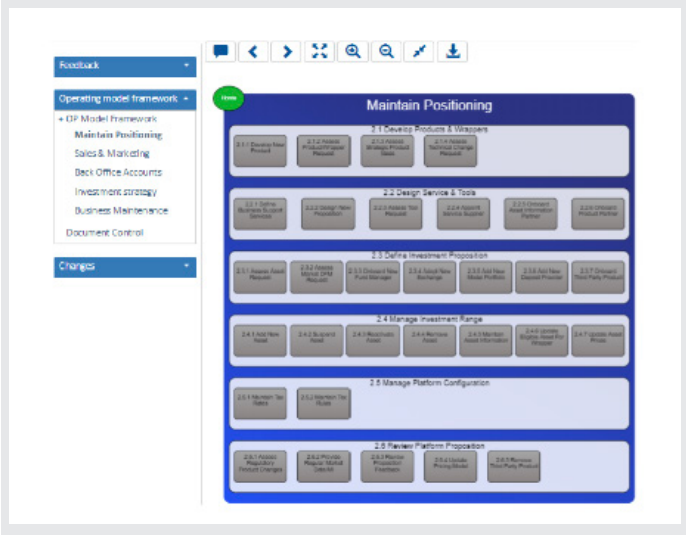



Diagram 6: Example Traditional Operating Mode

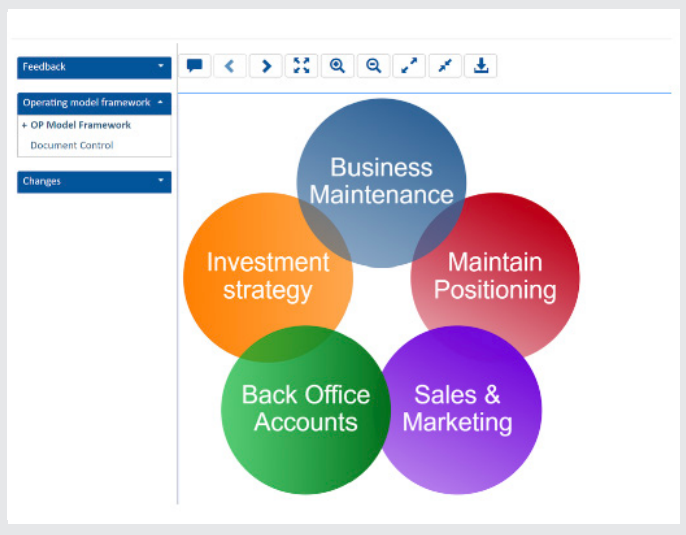



Diagram 7: Example navigable menu of business operations

Starting with an operating model and using this to guide your capture of the processes is the ideal way to get a strategic view of your operations, providing a map that helps navigate through your operations. However, this may not always be the best starting point and it may be better to start with a process view that can be used to create the operating model (e.g. as processes are worked they are combined to create the operating model). A 3rd 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 can be linked back to an operating model – see below.

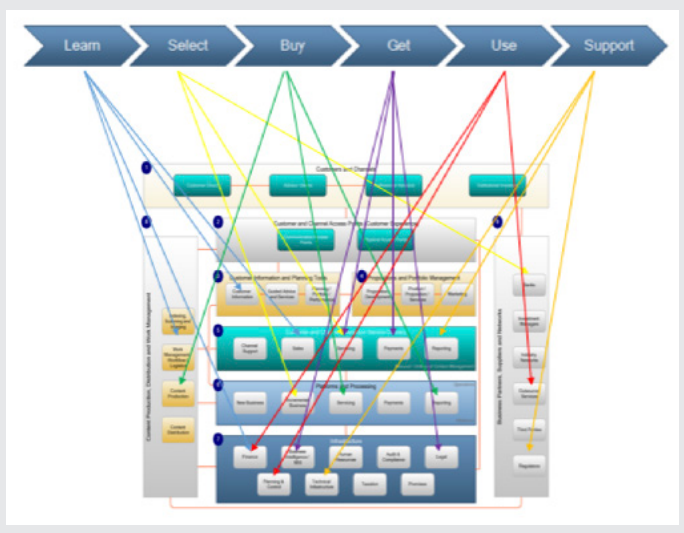



Diagram 8: Customer journey linked to operating model

Either approach works, you need to make a judgement call on which will work best for you. What's more important at this stage is creating the foundation for linking processes in the area of focus and building out to that bigger picture of the connecting parts that make the operating model.

Using Q&A forms, process diagramming tools or process mining [4] (see samples 9, 10 and 11 below) flows, attributes, manual and system-based activities, organization structure, resources used, timings, KPIs, financials, current performance metrics and resources (such as such as systems and people) can be captured and augmented to create a view of the current mode of operating (Digital Twin A).

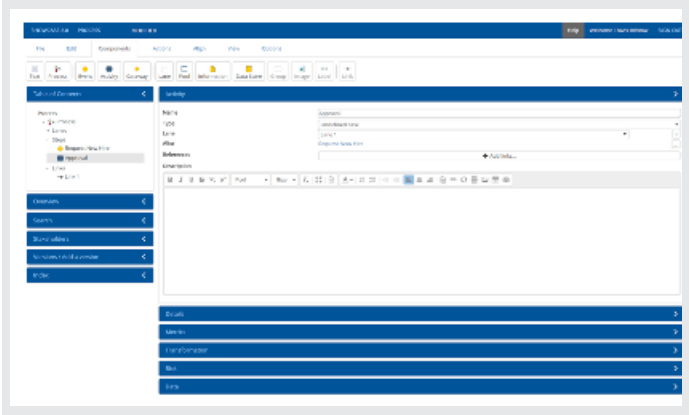


Diagram 9: Process capture form

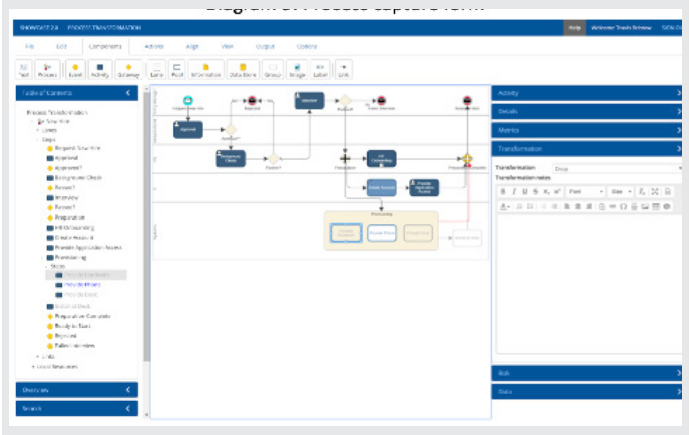


Diagram 10: Process diagramming tool

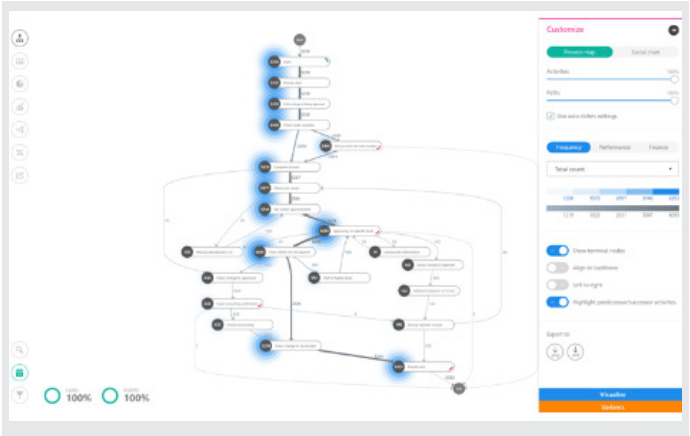


Diagram 11: Process mining [5]

[4] Process mining is receiving a lot of attention at the moment and can deliver significant value in terms of helping you to discover the current state and flow of processes used today.

[5] Source: Image from Minit (www.minit.io) Process Mining Software that integrates into BusinessOptix

With this in place you are ready to start creating the digital twin (Twin B) of your operations.

## 2. IDENTIFY CANDIDATES FOR CHANGE

To create the future state twin of your operations, you need to identify a starting point. To do this use the captured processes and accompanying data to create a report that illustrates process types and performance - see sample 6 below.

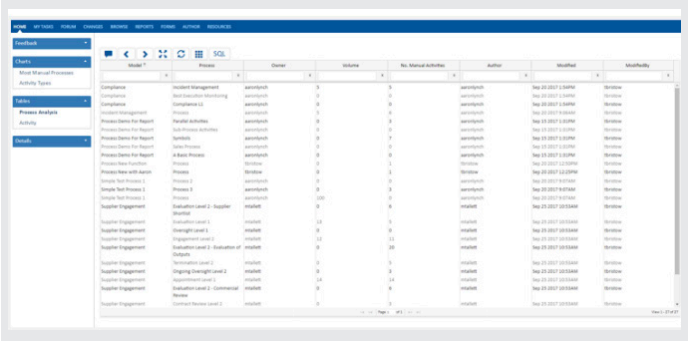


Diagram 12: Detailed view of process performance

Through analysis of the report, identify and prioritize the candidates that will best help achieve your goal. For instance, to drive up efficiency you may seek to identify those that have manual steps which can be automated (see sample 7 below), high lag time that can be reduced, or use older non-performant systems that can be replaced.

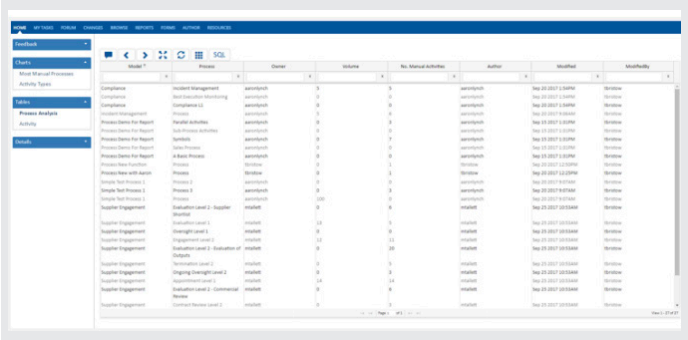


Diagram 13: Report of 'most manual processes'

Against the prioritized candidates set measures of success and KPIs that are tied to the goals listed earlier. This may mean that a single candidate is able to address all the goals, or makes a contribution that will be supported by work on other candidates as you progress through the initiative.

## 3. CREATE, TEST AND EVALUATE TO-BE SCENARIOS

Once candidate processes have been prioritized, start creating future state scenarios that can be tested against the current mode of operation. Sample changes that you can introduce include rerouting flows, taking out or adding steps in, adding resources or automation etc. – see sample scenarios below.

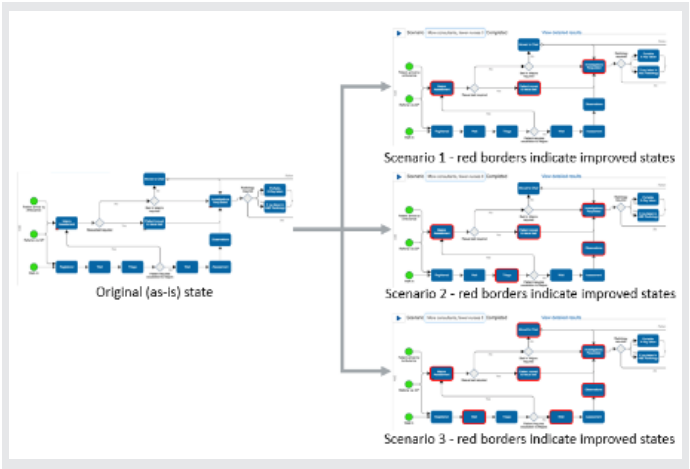



Diagram 14: From as-is process state to 3 potential scenario

This process and the insights it generates will help to bring the scenarios to life through identifying the key levers that can be moved; the potential positive and negative impact of ideas and proposed changes (including unintended consequences); when a return on investment is likely to be achieved; additional (or fewer) investment or resource requirements; and whether the approach is likely to deliver against the goals and strategy.

## 4. SELECT AND DELIVER THE CHOSEN SCENARIO

With a view of the potential changes, measures of improvement, ROI and metrics should be reviewed to identify the potential impact of each (see sample 8 below) before a final choice is made and implemented.

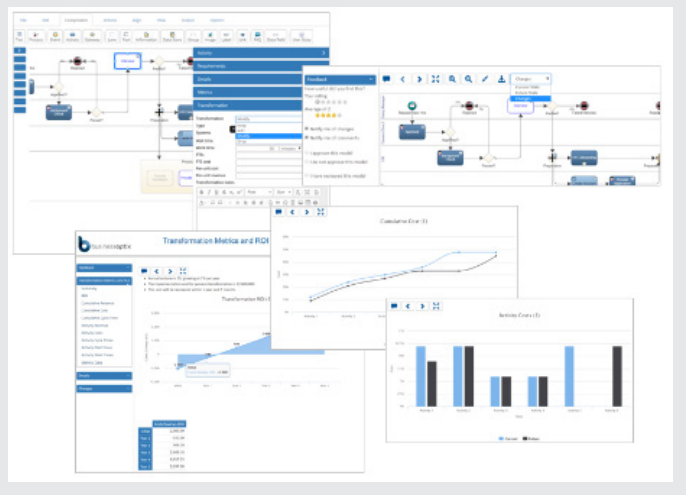


Diagram 15: Process metrics and RO

To ensure speed and adaptability, implementation of changes should be run as controlled experiments before they are fully implemented. In this mode, while the tried and tested processes are fully operational you will be able see the potential impact of each change. So if you think removing a step will improve efficiency or that automation will increase bandwidth, this can be tested and reviewed before making a final decision.

Through rounds of amendment, trial and error you should arrive at a scenario that improves on the current situation and is ready for wider roll out. Detailed work can then begin on activities such as writing requirements or users stories (see sample 9 below) for developers; creating manual and automated processes using BPM, RPA or case management; and generating work instructions (see sample 10 below), training materials and any regulatory guidance to support end users.

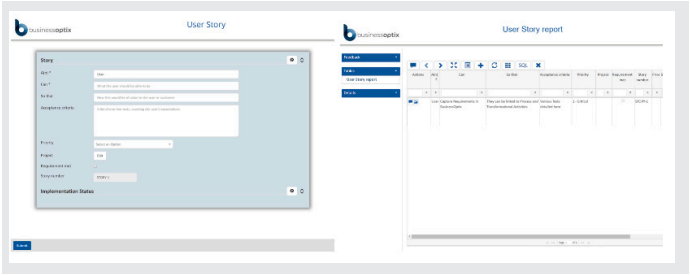



Diagram 16: User story capture and report

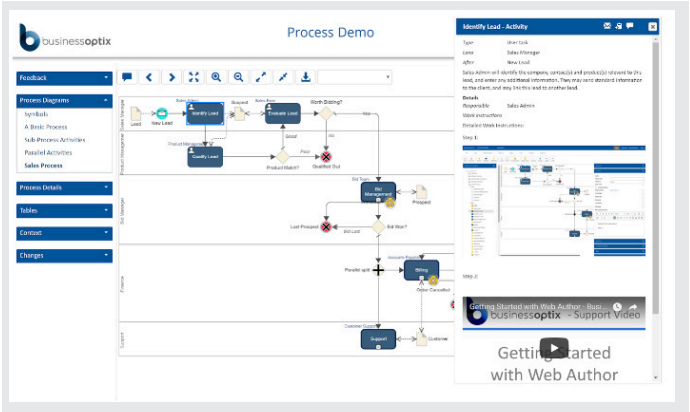



Diagram 17: Work instruction

## 5. GATHER AND USE INSIGHTS

Focusing on target goals, these need to be tracked via performance dashboards that provide a view of performance against key measures (such as cost, quality, service levels and resource utilisation). Continuous intelligence will also provide real or near-real-time insights as activities occur.

While the performance dashboard will tell you how the process is doing against the metrics, continuous intelligence will be live and generate alerts or notifications off the back of specific performance SLAs that you set. For instance, if you set a 10 second target SLA for a

process and this is running at 14 seconds an alert will be generated – on the grounds that this is an important part of your assessment when implementing your new scenarios and will be used to drive immediate or future corrective actions where required.

In guiding initiative outputs, use transformation maps (detailed above) to keep abreast of programme and project plans, priorities and alignment to goals.

## Moving to a new business operations as usual

Returning to the digital twin of your organization, once live you will have a mode of working which means you can continuously repeat the cycle of capturing process performance, modelling scenarios, running experiments and using the learning to set the next course of action. For instance, in round 2 you will make B (from round 1) the new A and then move onto the new B, and so on and so forth round after round.

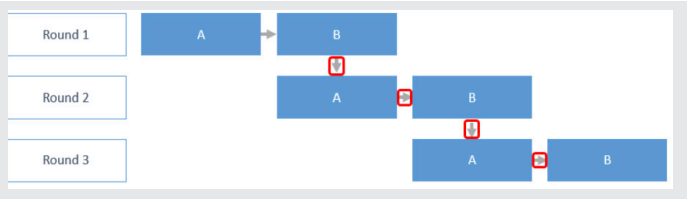



Diagram 18: Continuous rounds of improvement using Digital Twins A and B

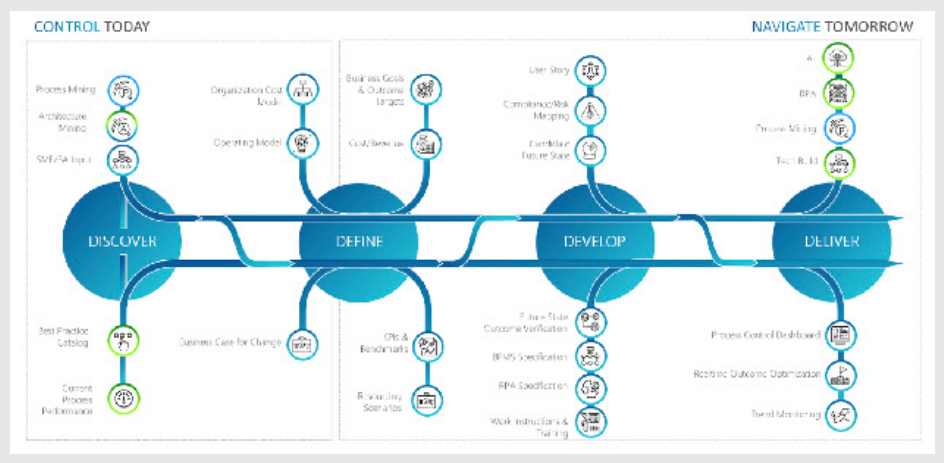
New candidates can also be added to future rounds as you work through and connect the various parts that make your areas of focus. Not forgetting that this can be the start to creating a view of your existing and future operating model.

# BusinessOptix: enabling organizations to achieve Faster Business Evolution

BusinessOptix is a collaborative business transformation platform that empowers you to optimize your business models and processes so you can deliver enhanced client experiences while managing the cost, quality and productivity of your operations.

## SINGLE PLATFORM, MANY CAPABILITIES

BusinessOptix is a single platform with many capabilities, as illustrated below:



# Further reading

## BUSINESSOPTIX

- Creating a Digital Twin of an Organisation's Business Operations whitepaper - Download
- Successfully Transforming & Improving Business Operations whitepaper - Download
- Business Change & Transformation – from strategy to execution whitepaper – Download
- Enabling your business to run, grow and transform whitepaper - Download
- How to use a T-map as part of your strategic planning process whitpaper - Download

## GARTNER

- "Market Guide for Technologies Supporting a DTO" by Marc Kerremans, 18th December, 2019 and 12th July, 2018
- "12 Powerful Use Cases for Creating a Digital Twin of Your Organization" by Marc Kerremans, 25th October, 2017
- "Market Guide for Enterprise Business Process Analysis" by Marc Kerremans and Samantha Searle, 7th June, 2017
- "How a Business Operating System Can Guide CIOs to Digital Business Success" by Marc Kerremans and Bruce Robertson, 5th October, 2016

## FORRESTER

- "Now Tech Report on Process Mining and Documentation Q1 2020" by Rob Koplowitz, 6th January, 2020

# About BusinessOptix

At BusinessOptix, we help organizations Control Today, Navigate Tomorrow™ to achieve the next level of customer and operational excellence. Our cloud-based Business Process Transformation suite is used by hundreds of global firms to capture and redefine business operating and process models, accelerate transformations across the enterprise, improve operational efficiencies and streamline go-to-market processes.

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