DIGITAL PROCESS AUTOMATION

WHITEPAPER

It is expected that in the coming years, driving process improvement in organisations would stem from the key driver being digital transformation versus the current being cost reduction. To meet the ever-evolving customer needs and understanding how and what products to introduce to the market, the businesses started focusing on digitizing their processes, therefore becoming more customer centric and approachable.

Over time, it has been observed that organisations were working on speeding up their digital transformation by moving away from business process management software (BPMS). Tools used by BPMS and business process automation (BPA) were working in silos, needed specialists in coding etc. and were sometimes seen as complex and not as integrated as required to be, leading to the evolution of digital process automation (DPA).

While DPA sounds similar with automation practices such as BPA and robotic process automation (RPA), there are key differences that are seen across these which can be seen below, well explained by Tech Mahindra.

It represents the evolution of traditional RPA, which is centred on eliminating the need for humans to complete repetitive, unskilled or low-skilled tasks. It accelerates automation with end-to-end process understanding and monitoring. DPA uses AI driven analytical thinking to extract knowledge from existing data, apply data mining algorithms to identify trends, patterns and other details hidden in the event logs, enhance, automate and monitor business processes. It triggers intelligent actions proactively prioritizes activities to improve customer experience and manage your digital workforce.

The What and Why of Digital Process Automation (DPA)

All are familiar with BPM which has been around for a while and can be said to have evolved over the years to be better known as DPA and therefore for BPM organisations, implementation of DPA is easier. **DPA can be described as the amalgamation of process mining and automation techniques into business operations and is an enabler for Digital Transformation.**

It extracts data from event logs, understands the range of automated mechanisms and how they are linked and synchronized. **By doing this, it aims to Discover, Improve, Automate and Monitor processes.** Right from discovering opportunities for automation through to the measuring of the Return on Investment (ROI), DPA helps in managing automation on full scale using various evolving AI technologies.

DPA looks at automating processes across various applications by using low-code development tools, largely for speed and reusability. Since DPA can extend across many applications, it is used to streamline processes and enhance the customer journeys and seen to be implemented in enterprise digital transformation initiatives. Marketing, sales, IT, production, and management are known functions in businesses where DPA is seen to be deployed successfully to automate and improve workflows. Automation of some customer tasks, accompanied with some notification or reminder features, all while managing process transparency can be said to be some common goals for DPA.

Key Levers enabling DPA

Process mining, process re-engineering and BPA are seen to be levers for DPA.

01. **Process Mining:** A data-driven approach that comes from process management and data science is termed as process mining. Turning the event data taken from event logs (digital footprints), through analysis, into insights and actions is the aim of process mining. An essential part of data science for process mining to give results, are data availability and the desire to improve processes. Through process mining techniques, we can clearly see what is really being done by the people or machines in processes with the help of event data, as opposed to what organisations think they are doing. Process mining provides a fresh perspective helping in addressing performance as well as compliance concerns. A range of process related questions can be answered through process mining using the event data.

There are various techniques, which make up process mining.

Process discovery or visualisation:
Through event data, process visualisation is enabled, which gives an insight into the actual process.

Conformance checking:
This technique helps assess the as-is process in contrast to a reference model of how the process should be functioning, thereby identifying deviations.

Performance analysis:
In this, the efficacy of a process is determined by measuring turnaround time or cycle time or costs.

Root cause analysis:
In this technique, patterns are identified, which then help in conducting the RCA. As this process of conducting the RCA is completely data driven, it removes all biases or perceptions.

Prediction analysis:
Future process patterns and behaviours are predicted with the help of machine learning models to find the next best action.
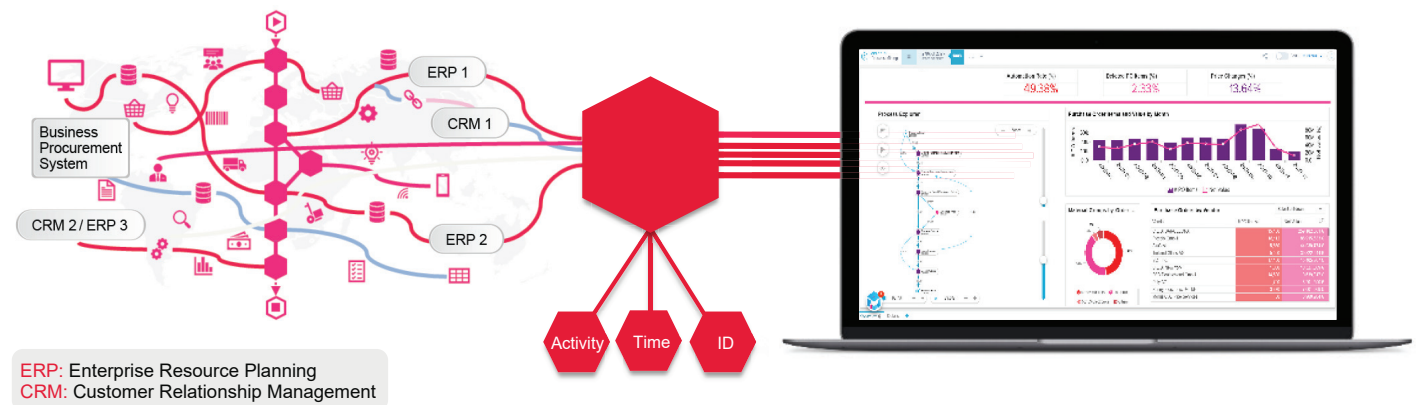
Process management lifecycle:
This technique helps in continuous improvement of the process.

KPI monitoring:
Process mining helps monitor all KPIs, pre and post the analysis and tracks the performance.

Working of Process Mining in a Business Environment

ERP: Enterprise Resource Planning
CRM: Customer Relationship Management

IT-based work
Every workflow is supported by IT systems like SAP, Oracle or Salesforce.

Digital Footprints
Celonis detects & reconstructs digital workflow traces.

Full Transparency
Actual process flows are visualized in real time.

EVENT LOG

2016-12-01	CREATE ORDER	#1234
2016-06-23	START JOB	#5678
2016-07-14	RECEIVE PAYMENT	#1234
2016-07-14	SEND EMAIL	#9012

02. Process Re-engineering: It involves the radical redesign of core business processes to achieve dramatic improvements in productivity, cycle times and quality. It is a business management strategy, which focusses on the analysis and design of the workflows of the processes in an organisation. It assists organisations to rethink how they function, to improve customer experience, reduce costs and become reasons for competition. Through the journey of process re-engineering, the To-Be processes are designed, and scenarios are identified for automation.

- **Design To-Be Processes:**
  Through the analysis of the processes, inefficiencies within the process, risk areas etc. are recognised. By designing To-Be processes, standardization comes into play, thereby benchmarking best practices and helps in promoting consistency.

- **Identifying Scenarios for Automation:**
  At this stage, when identifying automation potential, some factors to be considered are time for executing the cases and the testing frequency. Identification can be done by first getting a framework in place which will guide you with some criteria to evaluate and prioritise potential automations, as well as getting a group of decision makers to help make decisions.

03. **Process Automation:** Technology enabled automation of complex business processes is what we know as Business Process Automation. Here we look at automating multistep processes versus tasks, thereby streamlining existing processes through integration by using APIs and databases, which are accessed for information exchange across the diverse systems. Business Process Automation increases quality of service and enables cost reduction by using automation software.

- **Implement BOTs:**
  With the identification of processes that need to be automated, now the development team for the BOTs come to play. Along with the consultants and process SMEs, there is involvement of the developers, technical architects and testers. Designs are agreed upon and development begins here.

- **Intelligent Trigger for BOT Execution:**
  Through API triggers, external systems can be integrated and BOTs can be executed automatically. Through intelligent triggers, one can get details on BOT execution, whether successfully executed or failed etc.

- **Monitor & Scale Activities:**
  A support team at this stage is put in place to gather insights generated from the automations triggered. Through these insights, one can monitor and assess the BOT utilization, exception handling and create reports for a wider audience consumption along with predictive insights for processes to operate smartly.

The 3 Step Approach: How DPA Works

Here is an illustrative guide how this will work in a business environment:

Our Implementation Approach & Plan

Phases	01 Immersion		02 Execution			03 Continuous Improvement
	Plan	Set-Up	Process Mining	Process Analysis & Validation	Process Automation & Change Management	
Description	▪ Define scope – domain and process ▪ Define engagement goals and success measures ▪ Define process measurement framework and KPIs ▪ Gather details of existing business process, operating model and practices	▪ Setup / enhance DP CoE ▪ Identify source systems and associated data model(s) ▪ Set-up connection to source systems ▪ Set up continuous data extraction from source systems to IBC ▪ Validation of process data ▪ Finalise release and sprint plan	▪ Process and task mining to analyse current state performance ▪ Data model deployment and validation ▪ Process visualization ▪ Creation of analyses ▪ Business use case refinement	▪ Business validation workshop ▪ Analysis refinement and customisation ▪ Identify opportunities for process re-engineering and automation ▪ Create solution design & business case ▪ Business approval to go-ahead with re-engineering & automation request	▪ Reskilling teams as per the re-engineered process ▪ Perform feasibility study for automation ▪ Build automation scripts ▪ Create SOP' and user manual ▪ Train the trainers ▪ Deploy in production ▪ Production launch and handover to Ops	▪ Enhance process measurement framework ▪ Measure improvements with transformation centre ▪ Ensure continuous improvement of automation, address bug fixes and enhancements

01. **Immersion:** Establish a data connection between the source system and process mining engines, perform data jobs, sequences of extractions and transformation on IBC data extraction and transformation by using real-time and customisable scheduling capabilities, validate data and create a data model to perform process analysis. An in-memory engine provides instant insights on the process models.

02. **Execution:** Execution can be further broken down to three different steps as below:

- **Process Mining**
  With the use of the business provided process mining tool start with "Happy Path" discovery. This will provide transparency into how process runs, automatically deriving the most common processes followed and giving end-to-end visibility of all variants. Powerful process selection interface and machine-learning detection of deviations will enable an easy visual view of the process. Next is to analyse the details behind processes and bring out the process compliance & vulnerability detection.

- **Process Analysis & Validation**
  Perform objective and data driven process discovery using event logs in the system which will enable us to get a visual and documentation of AS-IS process with features like case frequency, activity frequency, avg. TPT, median TPT etc. Process visualization using custom dashboard to identify process deviations and the root causes and opportunities for process improvement. Analysis based on standard KPIs extracted by built in process connectors and analyses to identify weak points in the process that should be addressed using RPA. Uncover the root causes of undesirable actions and validation Identification of activities with higher avg. TPT. Listing undesired activities in AS-IS process flow.

- **Automation**
  Post automated process discovery, assess the automation potential of the identified automation opportunities across end-to-end process. This answers the question of whether it is viable and beneficial to automate the process. Processes which have predictable and repeatable tasks where they toggle across multiple applications, are seen to be perfect RPA cases for automation implementation. Thus, RPA becomes the working force for DPA.

03. **Continuous Improvement** Monitor operational data across all processes & systems, provide intelligent interpretive engine that recognises improvement opportunities in real-time. Communicate to users and systems when processes can be optimised and take immediate action. Integrated success stories to document your achievements to resolve silos and provide the full picture across the telco and utilise best practices on how to accelerate the digital transformation. Drive a culture of change and provide visibility to succeed. Ongoing improvement, with continual adaptation of performance targets in support of the evolving business objectives.process models.

Digital Transformation Runs Deeper Than Technology

With the fast-paced changing business landscape, it has become imperative for businesses to deliver real value to remain relevant. Leaders are now looking at the process of automation to help accelerate their digital transformation through streamlined experiences, agile development and design thinking. Our digital process automation solution helps this augmentation through RPA by:

- Maximizing operational efficiency in shorter period
- Redefining business model and KPI's
- Infuse digital workforce
- Significant reduction in operational cost

- Use AI driven analytical thinking to extract knowledge from existing data
- Apply data mining algorithms to identify trends, patterns and other details hidden in the event logs
- Enhance, automate and monitor business processes

Imagine, Build, Run the Future Mode of Business Process

+20-30%
impact on process optimization

INCREASE PRODUCTIVITY
- Streamline the E2E process **across teams to benchmark performances**
- Reduce **manual intervention and increase process automation** for ticket assignments
- Automated follow-up and push in case of approvals

20-30%
speeds up resolution

MANAGE SLAS & BACKLOG BETTER
- Reprioritize and sequence **customer requests** with Action Engine
- Monitor and predict resolution times to detect tickets **close to an SLA breach**
- Capture any ticket that might have been forgotten / missed in the backlog

15-20%
reduction in Opex

IMPROVE AGENT UTILIZATION
- Increase **agent utilization** by planning your resources effectively real-time
- **Relocate resources** across service lines **dynamically** to meet fluctuating demand

15-20%
reduction in Digital Transition timelines

OPTIMIZE SERVICE CHANNELS
- **Put the human at the end of the line** by leveraging other channels such as chatbots and support portals
- Detect areas where customer should **proactively be directed to self-service channels**

+10-15pts
improve Net Promoter Score

IMPROVE CUSTOMER EXPERIENCE
- Predict optimal service group to handle a ticket to **increase First Contact Resolution rate**
- **Real-time ticket cockpit** for open complaints on a team lead/manager level to reduce resolution times

+20-30%
automated Tasks

ACCELERATE DIGITAL INITIATIVES
- Data-based **prioritization of digital initiatives**
- **Implement better bots** & trigger them exactly when needed
- Monitor **bot performance across process steps** / service lines

The Way Forward

Organisations have become more agile post pandemic, hence it is vital to put robust structure in place to consolidate and aggregate knowledge and experience about how to design, configure, deploy and maintain transformation by setting up CoE (Center of Excellence). DPA will provide organisations that edge in managing transformation on a full scale.

While there isn't a one-size-fits-all approach, for organizations seeking to embrace DPA, the pieces of the puzzle are both well-known and well-defined. Tech Mahindra's robust approach and unparalleled experience will help drive DPA in organizations.

Author's Bio:

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Gaurav is a seasoned professional with over 18 years of experience in IT and Business Process Services. He specializes in conceptualize, design and roll-out of new business models, digital, innovation and transformation strategies. He is a passionate individual who generates energy and direction and is well known as an executive who is able to creatively find quick solutions and deliver business outcomes benefiting both customer and the company.

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