Digital Innovation and Automation
Leo Stavchanskiy, Specialist Leader, Deloitte

Leo specializes End-to-end solution architecture and delivery of SAP Technology solutions. He led numerous engagements in a project management / technology solution architect/advisor role consisting of defining, designing, developing and deploying SAP Technology solutions. He’s been involved in various initiatives focused on defining strategies, delivery framework, architecture, and solution deployment.
The Digital Evolution

Introducing DFTE

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“By 2024, the degree of manual effort required for the contract review process will be halved in enterprises that adopt advanced contract analytics solutions.” - Gartner

“Thirty-five percent of companies will double-down on workplace AI.” - Forrester

ERP Trends

Integrate

Personalize

Automate

Decision Making

Enterprise Transformation

Industrial Automation

Standalone Process Automation

Digital Transformation

Intelligent Enterprises

Autonomous Enterprise

1960s - 1980s

1990s - 2000s

2000s - 2010s

2010s - 2020s

Now

Need to transform

Current As-Is Process

- Repetitive Task
- Scope of Errors
- Require Training
- Time Consuming
- Less Utilization
- No remote accessibility

Analyze

Personalize

Improve

Desired To-be Process

- Automate Repetitive Task
- Minimize Errors
- Reduce Training
- Time reduction
- Improve Utilization
- Remote accessibility

Operations

Service Quality

Human Errors

Cost Savings

30% of organizations investing in AI to boost revenues and decrease costs incurred

40% of SAP users are configuring and using process automation

25% of mundane and repetitive jobs can be automated in the US
Automation Journey

**Basic Automation**
- Human triggered
- Simple rules based
- Single system
- Screen scraping, Scripts, Macros, Workflows

**Robotic Process Automation**
- Human or system-triggered
- Rules based, high-volume processes (business & IT)
- Front, middle, back office
- Structured data
- Multiple system (swivel-chair operators)
- Enterprise-level

**Enhanced Process Automation**
- Supported by basic analytics / decision support
- Optical Character Recognition (OCR)
- Intelligent document processing
- Structured and unstructured data
- Simple web chatbot integration (e.g. FAQ)

**Algorithmic Automation**
- Complex processes and decisions
- Supported by predictive / prescriptive analytics
- Machine learning, narrow intelligence, basic reasoning
- Unstructured & big data
- IoT integration
- Natural Language Processing (NLP), chatbots

**Artificial Intelligence**
- Cognitive technology capable of emulating human capability including empathy
- Full end-to-end autonomy, hypothesizing, reasoning
- Deep learning, deep neural networks
- Full speech recognition and generation
- Fully capable virtual agents, omni-channel
- Augmented & virtual reality
## Innovations for a Digital Enterprise

### Reimagine Platform

- **350+** Intelligent automation Digital Twins (Bots)
- **19** Certified SCP apps
  - Opened **Smart Factory** Immersive Lab (Wichita, KS)
- **1500** Intelligent RPA Practitioners
- **500** BluePrism/AA practitioners

### URL

**Innovation partner of the year**

- **75** Co-innovation alliances
- **~50** Externally published thought-ware on SAP S/4HANA and edge products
- **90+** speaking sessions
- **65** Implementation Bots
- **1st** To test SAP S/4HANA 1809 release
- **140** Business Process Bots
- **13** End to End Business Solutions On 1610
  - Preconfigured solutions covering both capabilities and industries (high tech, wholesale distribution, manufacturing, life sciences, oil & gas, etc.)

### Clean ERP

- **E2E Digital Solutions**
  - **Use of AI**
    - Automation and robotics to accelerate deployment
    - Leverage partners like Apple/Google to accelerate deployment and reduce timeline
  - **Self Configuring SAP Solutions**
    - Accelerators/preconfigured solutions with ML and RPA
    - Developing industry solutions for key verticals, e.g., High Tech, Distribution, etc.
    - Leverage our current asset repository
  - **Leverage Platform Capability to enable Competitive Advantage**
  - **Uses standard ERP plus 50% preconfigured vs. only 10% today**
  - **Reduces technical debt to pursue “Clean ERP”**
  - **Enables “Innovate Anytime on any Core”**

## DELIVERING SUCCESSFUL, INNOVATION-LED BUSINESS TRANSFORMATIONS
Why Automation Now?

There are real and substantial benefits to be gained from the use of innovative technologies. Leveraging these technologies can generate exponential benefits in the following areas:

**NextGen User Experience**
- Move people out of tedious, low-value tasks
- Pull team members towards more critical tasks
- Reduce burnout
- Boost employee engagement
- Reduce need for GUI-navigation training
- Shift competencies from GUI-based skills to business-process-based skills

**Costs**
- Reduce cost
- Shorten project timelines
- Improve efficiency
- Improve quality
- Reduce error-related costs

**Risks**
- Decrease time to value
- Shorten critical-path tasks
- Provide consistency across repeated tasks
- Provide traceability in core processes
- Reduce likelihood of human errors
What is Possible with Automation?

Accelerating Delivery with Automation

End-State Business Processes

Special Automation Use-Cases

**Description**

Computer software or "robots" to perform repetitive rules-based tasks. They can both boost capabilities and save time. In project delivery, automations are used to increase the productivity of the implementation team.

**Value**

- Reducing risk
- Reduce our workforce
- Decreasing time to value
- Accelerate delivery
- Pull testing team members to more critical tasks

Designing end-state processes with an automation mindset. This approach allows workforces to avoid dull, repetitive task.

**Value**

- Freeing up of work hours
- Avoiding penalties resulting from human errors
- Improving morale by allowing employees to focus on engaging, high-impact tasks
- Reassigning workers to higher-value activities

It involves the use of robotic and AI-enabled technologies to re-imagine business processes. Augments human decisions through technologies such as Machine Learning, Natural Language Processing or Generation, or Optical Character Recognition.

**Value**

- Leveraging powerful, advanced technologies to deliver value
- New opportunities emerge as capabilities scale up with help of AI
- Proactive identification of patterns through insights derived from real-time information

The benefits of *automations* are not realized a single time, but are demonstrated *exponentially*
Leverage RPA when going through design, as an additional option to traditional RICEFW's.

Proposing to add RPA (R-prime) and convert the traditional RICEFW to ‘R’RICEFW.
Creating Material, Equipment Types, and Business Partners

✓ Baseline configuration and master data creation activities such as these can be accelerated and made more consistent through automation

ESTIMATED NET SAVINGS OF...

~80% reduction in processing time
~30% reduction in manual efforts

Process Flow Comparison

**Before:**
- Collect data to create master data
- Log into system
- Enter transaction MM01
- Enter all master data
- Commit the record

Repeats the process for every material

Performed by: User

**After:**
- Collect data needed for master data creation and send
- Log into system
- Enter transaction MM01
- Enter all master data
- Commit the record

Repeats the process for every material

Performed by: Automation

...Only 1 Manual Step

...
Asset Creation

- The asset creation and WBS settlement process is tedious and cumbersome
- This automation streamlines the process to a single input file

Process Flow Comparison

**Before:**
- Collect data to create master data
- Log into system
- Create asset master
- Create sub-asset master
- Create WBS and run WBS settlement

Repeats the process for every record

Performed by: User

**After:**
- Collect data to create master data and send
- Log into system
- Create asset and sub-asset master
- Create WBS master
- Run WBS settlement

Repeats the process for every record

Performed by: Automation

ESTIMATED NET SAVINGS OF ...

- ~75% reduction in processing time
- ~90% reduction in manual efforts
Bills of Lading Capturing – Automation Solution

**Combine RPA with intelligent technologies such as OCR to automate end to end processes and increase overall value delivered**

The “Bills of Lading capturing” solution seeks to automate the end-to-end process of: Monitoring Mailbox -> Downloading BOL attachments -> Extracting Relevant Data using OCR -> Loading Extracted Data onto a Database -> Storing Original BOL documents in a centralized location -> Input Data into SAP or other ERPs

### Planned Course of Action

<table>
<thead>
<tr>
<th>Phase 1 – Pilot Solution</th>
<th>Phase 2 – Test in Real-Time</th>
<th>Phase 3 – Full Fledged Solution</th>
<th>Phase 4 – Realize Complete Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A POC highlighting the capabilities of Abbyy for 2 vendor templates. Does not include the ERP data input module</td>
<td>Testing the POC developed in prod real time in order to develop confidence in the solution</td>
<td>Develop the full-fledged solution covering over 2000 docs per day and inputting data into ERP as well</td>
<td>Deploy the solution in prod and realize the full value of the solution which is a savings of around 1 million USD per year</td>
</tr>
</tbody>
</table>

### Scope & Potential Value

<table>
<thead>
<tr>
<th>Pilot Solution</th>
<th>Full Fledged Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2 vendors only; Expected to run in prod for 2-3 months)</td>
<td>(Covering all the vendors and ERP data input module)</td>
</tr>
<tr>
<td><strong>Data Volume</strong></td>
<td><strong>Data Volume</strong></td>
</tr>
<tr>
<td><strong>450 Docs in 3 months</strong></td>
<td><strong>500K Docs per year</strong></td>
</tr>
<tr>
<td><strong>Potential Savings</strong></td>
<td><strong>Potential Savings</strong></td>
</tr>
<tr>
<td><strong>$8,300 in 3 months</strong></td>
<td><strong>$1M annually</strong></td>
</tr>
</tbody>
</table>

### Qualitative Benefits

- **Freeing up of Resources**
  People can be engaged on strategic tasks as opposed to manual data entry work

- **Error Free Process**
  Replacing manual activities with a bot increases efficiency, improves quality and removes errors

- **Scalability**
  The solution can be easily scaled to include more vendors or can be expanded to other Business Units
Integrating DFTE

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**Intelligent RPA Feature Summary**

**Adoption Accelerators**
- The **ease of deployment of automation variants** enables power users to self-innovate and create **meaningful and catered automations**

**NextGen Technology**
- The **ideal integrator between SAP’s Enterprise Ecosystem** with machine learning and AI capabilities

**Software Maturity**
- The **Intelligent RPA storefront** provides end-to-end automation solutions, as well as over 100 foundational task automations providing rapid time-to-value
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Other RPA Vendors – Example Automation Architecture

ABAP developers configure oData in SAP

Whitelist IP addresses

Basis creates a user for OAuth

Register SAP ID and password with the API

API team creates policies

API team develops components to create a middle layer between API and RPA

SAP Team

API Team

RPA Team

API team creates a new URL to expose oData

RPA uses basic authentication to call the API

API team performs mapping to oData

Automation can run with SAP data

SAP Team

API Team

RPA Team
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Intelligent RPA – Example Automations Architecture

Standard RFC calls are configured for BAPI

Connection to SAP is established using standard ActiveX connector

Input data is parsed into BAPI format

Data is fed or pulled from BAPI

Automation can complete run with reading or writing to BAPIs

SAP Team

Intelligent RPA Team
Questions