Discussion topics

1. Understanding digital labor
2. Opportunities for the accounting function
3. Sample use case
4. Getting started
Understanding digital labor
The shift to digital labor

- Global market for robots and artificial intelligence (AI) is expected to reach **$152.7 billion by 2020**
  - Suggested by London School of Economics research
- 600% and 800% ROI
- Marketers and Markets estimates the AI marketplace will generate revenue of **$12.5 billion by 2019**
- **$14.9 billion**
- According to Quid, from 2010 to 2014, private investment in AI has grown from **$1.7 billion to $14.9 billion**.
- Gartner predicts that by 2020, smart machines will be a top five investment priority for more than 30% of CIOs.
- McKinsey research suggests that smart robots will replace more than 120 million knowledge workers by 2025.
The 3 classes of digital labor

**Basic process automation**
- Macro-based applets
- Screen scraping data collection
- Work flow
- Visio-type building blocks
- Process mapping
- Business process management

**Enhanced process automation**
- Built-in knowledge repository
- Learning capabilities
- Ability to work with unstructured data
- Pattern recognition
- Reading source data manuals

**Cognitive platforms**
- Artificial intelligence
- Natural language recognition and processing
- Self-optimization/self-learning
- Digestion of super data sets
- Predictive analytics/hypothesis generation
- Evidence-based learning

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Understanding how the elements work

<table>
<thead>
<tr>
<th>Rules</th>
<th>Learning</th>
<th>Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Automation of transactional rules based tasks</td>
<td>- More advanced technologies enable the use of structured and unstructured data to support elements of self learning</td>
<td>- Decision support and advanced algorithms allow automation of processes that are more cognitive in nature.</td>
</tr>
<tr>
<td>- Autonomous task completion</td>
<td>- Captures tacit process knowledge and applies this knowledge to instruct how the process should run</td>
<td>- Solutions incorporate advanced self learning capabilities</td>
</tr>
<tr>
<td>- Tools reside at the end user layer</td>
<td>- Generates defined process outcomes</td>
<td>- Can be used for sophisticated cognitive hypothesis generation/advanced predictive analytics</td>
</tr>
<tr>
<td>- Easy to design, test, and implement</td>
<td>- Speeds up human analysis to drive the right decision</td>
<td>- Costly to develop and implement</td>
</tr>
<tr>
<td>- Low levels of investment</td>
<td></td>
<td>- Reduces human error but does not take human out of the equation</td>
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</table>

**Characteristics**

**Example**

- Blue Prism has automated tier – 1 inquiries (i.e., address change) for a U.S.-based online bank
- IPSSoft's Amelia utilizes AI and advanced semantic reasoning to rapidly understand questions, provide customers with answers and escalate to humans if needed.
- Firms are leveraging IBM Watson’s sophisticated ontologies, natural language processing, machine learning, pattern recognition and probabilistic reasoning algorithms to aid skilled employees and robots with complex decisions.
Benefits of digital labor

Privacy & compliance
- Limit human exposure to sensitive corporate data
- Reduce human error in compliance tasks and potential for penalties
- Increase security & governance tasks without adding new human labor

Quality & accuracy
- Reduce quality issues associated with manual data entry
- Deploy new “no – labor” data integrity routines
- Reduce the need for re-work

Process improvement & efficiency
- Leverage digitized process data to increase visibility & continuous improvement
- Enable resources to focus on higher value-added activities
- Lowers cost & risk associated with employee turnover

Speed
- Can perform tasks 365 days a year at 24/7 availability
- Accelerate completion rates certain tasks, compared to human labor
- Rapidly scale up/scale down for changes in transaction volumes

Cost reduction
- Enable opportunity to better manage labor costs
- Decouple correlation between labor and revenue growth
- Reduce need for seasonal labor force (during busy seasons etc.)

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Digital labor challenges

Typical challenges and the focus of our discussion today:

— Rapid emergence and continual evolution of available Robotic and Cognitive technologies
  – When to jump on-board
  – How to stay or get knowledgeable of available technologies

— Where to start
  – Business Line Level-Pilot implementation proof on concept
  – Enterprise Level- Develop a corporate DL roadmap

— What are the capabilities and roles required to start and scale DL program
  – Business Lines
  – IT
  – Corporate

— How to manage a DL program to navigate the DL journey and roadmap
  – At the corporate level- Center of Excellence
  – At the business line level

— “Bot Optimization” – getting the most for your investment
Opportunities for Accounting
Accounting enabled by digital technologies

Future state

- Decision support
- Financial reporting and control
- Accounting operations

Digital technologies

- Digital experiences
  - Dashboard, mobility and visualization
  - Big data based diagnostic and predictive analytics
  - Automated controls and operational analytics
  - Robotic process automation
  - Cognitive technologies

- Data and analytics

- Digital operations

Digitization outcomes

- Monitor and adopt proactive and data-driven decision making
- Automated controls and operational analytics
- Digital labor focus
  - Automate and simplify processes. Improve productivity and bandwidth for analytical activities
How will automation impact Accounting?

What is the opportunity?
Develop strategy and vision for the target operating model to integrate automation and achieve higher efficiency of the Accounting organization, as well as a significant reduction in operating expenditure.

What are the impacts?
— Provides significant actual and opportunistic cost savings:
— Results in higher quality of data (drives better insights and business partnering)
— Increases efficiency, speed, responsiveness, and productivity
— Increases control over processes and data
— Reallocates talent pool as described below:

Today

<table>
<thead>
<tr>
<th>01</th>
<th>02</th>
<th>03</th>
</tr>
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<tbody>
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<td>Learning</td>
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Rules and machine learning:
Helps move finance and accounting resources from performing highly manual, repetitive tasks to work on higher value areas that require analytical thinking

Cognitive technologies:
Further shifts finance and accounting resources to perform highly skilled tasks, as automation can handle more complex activities using unstructured data
### KPMG sees opportunity for RPA in core finance process areas, such as:

- Invoice processing
- Business case analysis
- Vendor setup and maintenance
- Cash application and bank reconciliation
- Bad debt provisioning
- Tracking of fixed assets

### KPMG sees opportunities for cognitive platforms in:

- Revenue recognition
- Capital planning
- Data analysis
- Transaction analysis (i.e., internal audit) to identify anomalies, evaluate risk, and monitor regulatory compliance
## Benefits of Automation for Accounting

Automation benefits Accounting transactional processes in the following ways:

<table>
<thead>
<tr>
<th>Quality</th>
<th>Governance control &amp; compliance</th>
<th>Accuracy</th>
<th>Process improvement</th>
<th>Speed</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>— Detects poor data integrity</td>
<td>— Monitors regulatory environments to ensure compliance with latest statutory and regulatory reporting requirements</td>
<td>— Reduces human error rate, resulting in greater performance, consistency, and accuracy of processes</td>
<td>— Provides platform for continuous improvement</td>
<td>— Reduces cycle time</td>
<td>— Reduces full-time equivalents resulting in significant cost reductions</td>
</tr>
<tr>
<td>— Utilizes advanced analytics to anticipate and resolve issues</td>
<td>— Reduces fraud</td>
<td>— Monitors system statistics and starts troubleshooting efforts</td>
<td>— Increases visibility and transparency of financial processes</td>
<td>— Performs tasks 365 days a year at 24/7 availability</td>
<td>— Automates rules-based processes, enabling resources to focus on more value-added activities</td>
</tr>
<tr>
<td>— Monitors system statistics and starts troubleshooting efforts</td>
<td>— Minimizes security, compliance, and governance risk</td>
<td>— Reduces manual journal entries</td>
<td>— Improves service delivery model</td>
<td>— Accelerates completion of tasks compared to human labor</td>
<td>— Decreases need for training due to employee turnover</td>
</tr>
<tr>
<td>— Enables scheduled maintenance and interface checks</td>
<td>— Performs policy updates and performance during down times</td>
<td>— Detects transaction exceptions</td>
<td>— Enables standardization of processes across entities</td>
<td>— Enables ability to scale up rapidly for increases in transaction volume</td>
<td>— Provides greater return and efficiency than outsourcing and offshoring resources</td>
</tr>
<tr>
<td>— Maintains record of tasks completed for compliance record keeping</td>
<td>— Provides platform for continuous improvement</td>
<td>— Reduces cycle time</td>
<td>— Performs tasks 365 days a year at 24/7 availability</td>
<td>— Accelerates completion of tasks compared to human labor</td>
<td>— Provides greater return and efficiency than outsourcing and offshoring resources</td>
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</table>
Relative strength of FRA opportunities in Accounting based on cost benefit

- Record to report: High
- Order to cash: High
- Acquire to retire: Medium high
- Procure to pay: Medium low
- Plan to perform: Low
Sample use case
What does an RPA-based process look like?

Bad debt provisioning process at $30b technology company

**Before**
- 100 Entities
- 1 User per Entity @ 2 – 8 Hours per Month
- 1,050 Total manual steps

1. 5 Different approaches across various business units
2. Not all companies compliant with IFRS
3. General ledger postings performed at summary level due to volume – therefore difficult to analyze
4. Task list wasn’t always updated – therefore difficult to track
5. SOX evidence was only available if users properly attached documentation
6. Extensive training required

**After**
- 105 Entities
- 105 Total manual steps
- 5% Error requires reviewing

1. One consistent approach
2. Full IFRS compliance
3. Automated transaction level posting
4. Task list updated automatically and visible to all
5. All steps and reports stored automatically
6. Robots do not need ongoing training

Note: Example based on automating bad debt provisioning process using Redwood Automation tool.

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Sample use case

**Illustrative Example – Receive Invoice and Process Payment**

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**Before**

1. Collect AP Documents
2. Match Invoices & Identify Exceptions
3. Create Adjusting JE’s
4. Approve & Post
5. Generate Payment File
6. File Workings & Doc
7. Update Task List

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**After**

- Required authorization of payment run
- No other manual effort
- Vendors are advised of the resubmittal process

1. One consistent approach
2. Automated transaction level posting
3. Task list updated automatically and visible to all
4. All steps and reports stored automatically
5. Payment runs can be synchronized with vendor payment terms

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Check for Invoice documentation → Invoices approved for payment

Exceptions notified to vendor → Create Payment File for Approval

Create Payment File → Post G/L adjustments and Credit Notes

Archives reports and Journals → Update Task List
Getting started
How to begin the automation journey

1. Identify and prioritize Accounting automation opportunities
2. Develop a multifaceted strategy and road map for implementing automation in the Accounting organization
3. Select the right internal team, external partners and technology providers to execute the automation journey and road map
4. Establish a governance strategy to help oversee the Accounting automation program and ensure benefits expected are realized
5. Establish a change management strategy to ensure effectiveness of adoption of automation throughout Accounting
<table>
<thead>
<tr>
<th>Phase 1 (6 – 8 weeks)</th>
<th>Phase II (3 – 6 months)</th>
<th>Phase III (6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunity Assessment</strong></td>
<td><strong>Pilot Implementation</strong></td>
<td><strong>Operational Model Setup</strong></td>
</tr>
<tr>
<td>— Conduct high level business process review, including business performance metrics</td>
<td>— Select automation opportunities for pilot implementation based benefits, value delivered, and complexity</td>
<td>— Design and build out automation Operational Model</td>
</tr>
<tr>
<td></td>
<td>— Finalize design and requirements</td>
<td>— Define critical success factors for the program including adoption, training, and communications</td>
</tr>
<tr>
<td></td>
<td>— Demonstrate the pilot solutions</td>
<td>— Develop organizational change management plan</td>
</tr>
<tr>
<td></td>
<td>— Conduct user acceptance testing</td>
<td>— Roll out solutions to remaining operations areas</td>
</tr>
<tr>
<td></td>
<td>— Develop the Implementation roadmap</td>
<td>— Implement Digital Labor governance model</td>
</tr>
<tr>
<td></td>
<td></td>
<td>— Execute organizational change management plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>— Continuously monitor and adjust solutions for maximum efficiency and effectiveness</td>
</tr>
</tbody>
</table>
Three distinct functional groups…

<table>
<thead>
<tr>
<th>Customer (Business Units)</th>
<th>Business</th>
<th>DL CoE</th>
<th>IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td><strong>Key Roles</strong></td>
<td>Provides governance structure for building and expanding digital labor capabilities</td>
<td>Supports the business. Transforms the IT service delivery model using automation.</td>
</tr>
<tr>
<td>DL CoE</td>
<td>Core Competencies</td>
<td>Strong business acumen and high level understanding of digital labor technologies.</td>
<td>Knowledge of digital labor technologies, market landscape, and governance requirements.</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Technical and architectural expertise in hosting, service management and especially in the “digital” landscape.</td>
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<td></td>
</tr>
</tbody>
</table>

…each with a distinct role as it relates to the client and a different set of competencies.
The Center of Excellence (CoE) provides a governance framework for building and expanding digital labor capability and driving continuous improvement throughout the organization. The governance framework addresses the following questions:

— How do we identify what should be automated in a value-centric manner?
— How do we build and deploy our digital labor capability?
— How do we manage digital labor service delivery?
— How do we scale and manage our digital labor capability going forward?
Key considerations for getting started

**Analyze the “size of the prize.”** Look for processes with high operational costs, lots of people doing manual and characteristics that fit with process automation. Estimate the overall improvement potential (cost and other benefits)

— Tip: Understanding the opportunity: helps align the organization, builds confidence for investment and identifies high-potential candidates for pilots/proof-of-concept (POC)

**Determine the appropriate class(es) of automation** and consider the return on investment. Identify potential vendor solutions that fit the requirements. Identify one or more vendors for proof-of-concept. Identify the process(es) for the POC

— Tip: Some vendors have already created bots for finance-specific process areas such as fixed assets or goods-receipt/invoice-receipt accounting in SAP, while other vendors offer more of an open platform, enabling companies to configure a bot to their specific needs.

**Conduct a proof-of-concept.** Develop the automation Bots for the POC process(es). This is typically done in a test environment to demonstrate the functionality without having to touch production processes. Evaluate solution effectiveness and use results to confirm benefits estimates

— Tip: Using a POC to evaluate more than one vendor/platform provides the opportunity to collect comparisons that can feed a formal vendor selection, if needed.
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