Robotic Process Automation (RPA) in Auditing

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Introduction

• Auditing firms have widely adopted technology to assist audit process.
  ▪ Customize audit plans based the software programs.
  ▪ Replace traditional checklist with decision support systems and interactive checklist.
  ▪ Apply data analytics programs

• The actual audit has remained a largely manual endeavor. (e.g., data extraction, control and monitoring of confirmations, inventory counts)
  ▪ Labor-intensive
  ▪ Human errors
Introduction

• Auditing firms offshore and outsource audit tasks.
  ▪ Approximately 20 percent of U.S. audit hours were offshored or outsourced.
  ▪ Whether certain offshoring arrangements or structures increase audit risk? (PCAOB 2012).
  ▪ Offshored and outsourced audit work has higher risk and lower quality (Lyubimov et al. 2013; Dee et al. 2015).

• Automation will be used for more repetitive, mundane tasks in an efficient and timely manner.
  ▪ Allowing auditors more time to be spent in complex, judgmental areas.
Robotic Process Automation

• Robotic Process Automation (RPA)
  ▪ Software applications.
  ▪ Mimic human actions in highly-structured and routine processes.
  ▪ Performed with very little human interaction, typically to manage exceptions.

• Unique features
  ▪ Sit on the top of existing systems and access these platforms through the presentation layer
  ▪ Easy to implement (within several weeks)
  ▪ Interface with multiple information systems
  ▪ Complete a whole process, end-to-end task
Example of RPA

Manual process
1. Receive email request for WIP analysis
2. Log into ERP systems
3. Run ERP reports
   - if no data follow up to understand why
4. Cut and paste data into spreadsheet template file
5. Run macro, create pivot tables and finalise template
6. Email analysis to original requestor

Robotic process
1. Monitors shared mailbox and checks that ERP is up to date
2. When request found, log into ERP systems
3. Run ERP reports
   - if no data, put in folder for human to
4. Cut and paste data into spreadsheet template file
5. Run macro, create pivot tables and finalise template
6. Email analysis to original requestor

Source: Deloitte research
Applying RPA in Auditing

• Criteria of applying RPA (Fung, 2014)
  ▪ Low cognitive requirements
  ▪ High volume
  ▪ Access to multiple systems
  ▪ Limited exception handling
  ▪ Human error
Applying RPA in Auditing

• Replace existing manual audit tasks with RPA
• AR confirmation process
Applying RPA in Auditing

- Expand current audit process
- Evaluate online reviews

**Robotic process**

1. Receive requests
2. Extract relevant customer reviews
3. Adjust format of data
4. IBM Watson
5. Receive sentiment scores
6. Aggregate and send data to auditors
Applying RPA in Auditing

• Observe a real audit engagement process
• Break the whole audit process into multiple small tasks
• Discuss the feasibility of applying RPA
  ▪ Replacing existing tasks
  ▪ Expand current audit process
Thanks!