The Road Ahead – Converging RPA, Cognitive, and Blockchain

PWC Financial Services
IRPAI – November 29th, 2018

Kevin Kroen
Principal, FS Intelligent Automation Leader
kevin.kroen@pwc.com

pwc

Financial services case study – The call to action

Investment drivers 2010-2016

Investment targets	Regulatory Demand & Control	Cost Reduction	Business Support
People	Increased employee knowledge of new requirements and procedures	Consolidation of like functions, off-& near-shoring	Augment headcount to meet demand as best as possible on legacy technology
Organization & Process	Implemented new processes to meet new demands e.g. CCAR, DFAST	Function realignment e.g. Risk/Finance integration	
Technology & Data	Tactical or core technology focus along with enterprise data dictionaries to satisfy regulatory demands		

What's Worked

- Satisfying immediate regulatory concerns *(e.g. Dodd-Frank, Regulator Matters Requiring Action, etc)*
- Cost reduction via balancing of on-, near-& off-shore resource mix
- Increasing organizational efficiency *(e.g. Headcount reduction, CoE)*

What Hasn't Worked

- Supporting business decision making and growth
- Efficiency gains through automation of manual processes
- Simplified, modular & flexible architecture
- Aligning talent to growth initiatives

The Emergence of RPA – Right technology at the right time

The Sale to the C Suite on Cost Reduction

- Quick and inexpensive
- Interacts with legacy technology, extending life of existing technology assets
- Users will understand the technology
- Can be used in a variety of methods to drive efficiency

Short Term Solution

- Rapid temporary automation measure until a strategic solution is in place
- Informs future state strategic solution requirements

★

Solution for Global Applications

- Long term solution to automate processes that interact with global systems that have other priorities
- Solution for systems that require a significant amount of development effort

Solution for Third Party Applications

- Extraction of data from externally managed third party applications
- Data input to third party applications

★

Increase Controls

- Substitution or centralization of EUDAs
- Keystroke-level audit trail
- Reduced human error

Employee Benefits

- Free up capacity for high value activities
- Increase flexibility & productivity
- Enhance employee morale & experience

★ **Typical Client Focus**

The Returns of RPA

The Good

Technology Viability and Organizational Acceptance

- RPA programs have been stood up in every major Financial Services institution
- Bots moved beyond “proof of concept/proof of value/pilot” AND the “first 10” phase
- Increased interest from fast follower divisions behind the Operations/Finance beachhead (compliance, risk, HR, front office, internal audit, etc.)
- RPA software companies increasingly attracting large Venture Capital funding, indicating market acceptance and long term viability

The Bad and the Ugly

Getting to and Maintaining Scale

- Speed of implementation does not match expectations
- End to end automation not being achieved to limited tool capabilities
- Lack of linkage to long term IT strategy and blueprint (especially data strategy!)

Benefits Case Realization

- Suboptimal opportunity identification process
- Lack of target state organizational operating model
- Production stability and support model challenges
- Benefits erosion

Embracing intelligent automation

Call to Action

- Embed RPA as an ongoing asset
- Enable end to end automation – other capabilities are required
- Set the foundation to solve the data strategy challenges being avoided in the first place

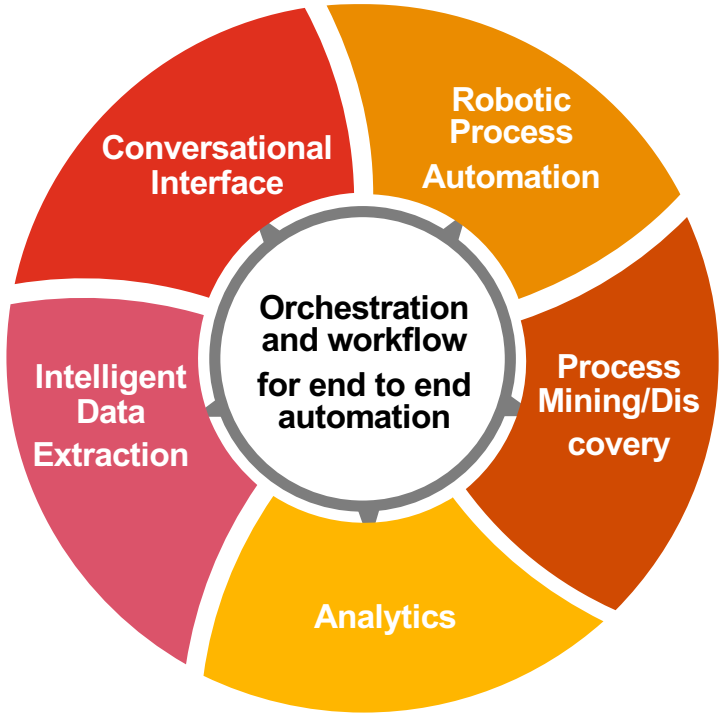
Intelligent Automation
(Structured, Semi-structured, Unstructured Data)

Conversational Interface

A computer program which conducts conversations via auditory or textual methods; simulate how a human would behave as a conversational partner

Intelligent Data Extraction

Technology which expands on and improves Optical Character Recognition capabilities through self learning using neural networks



Robotics Process Automation (RPA)

Rules based tasks, handle structured data, mimic human UI interaction

Process Mining/Discovery

Process Mining discovers performance bottlenecks in existing processes and process simulation can be used to resolve these bottlenecks

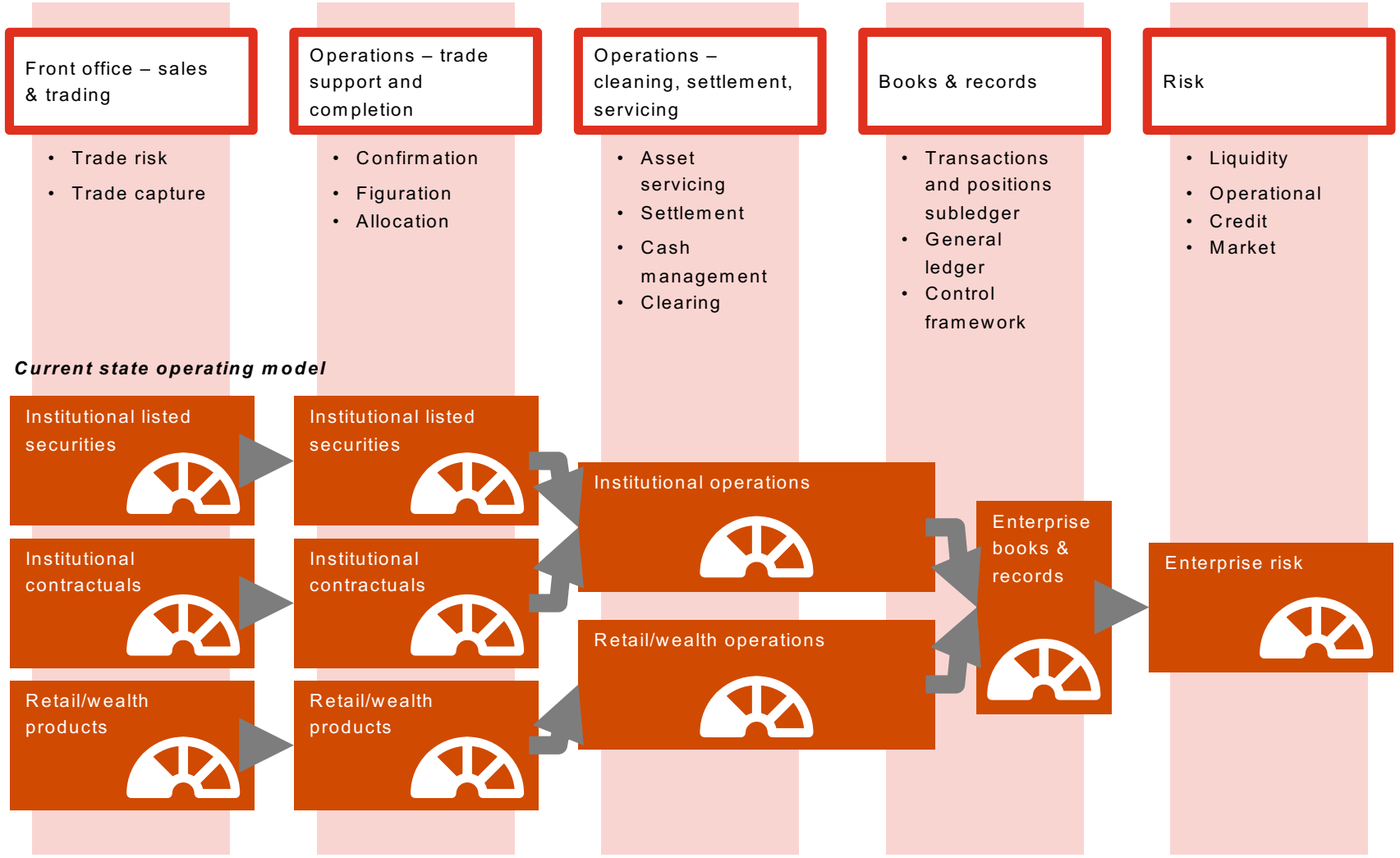
Analytics

Interpretation and communication of meaningful patterns in data

Financial services infrastructure – The debt left behind

The Internal Front to Back Challenge

- Across asset classes, client segments, and geographies, there are multiple:
  - Trading and risk systems
  - Operational data stores and separate platforms cross asset class
  - Finance and books/records ledgers
- Inconsistent data sourcing/ standards/quality
- Humans plugging gaps and controls
- RPA and broader intelligent automation:
  - Replace the “humans plugging the gaps”
  - Provide process intelligence and transparency
  - Give new life to old systems, providing time
- **This leaves debt:**
  - **Data lineage is even more complex**
  - **Trust and consensus become an increasing issue**
  - **Cost of new product innovation and regulatory compliance increases**



The case for Blockchain

Reduction of costs & complexity

Security & Immutability

Audit trail & transparency

Reduction of fraud

Shared trusted transactions

Resilience

What is blockchain?

A **blockchain is a decentralised ledger** of all transactions in a network. Using blockchain technology, participants in the network can confirm transactions **without the need for a trusted third party** intermediary. Powerful applications include fund transfers, voting, and many other uses.

Multiple parties share data multiple participants need views of common information

Intermediaries add complexity removal of intermediaries can reduce cost and complexity

Multiple parties update data multiple participants take actions that need to be recorded and change the data

Time sensitive interactions reducing delay has business benefits

Requirement for verification participants need to trust that the actions that are recorded are valid

Transactions interact transactions created by different participants depend on each other

Most of the Blockchain use cases involve reinventing market infrastructure

Supply Chain and Logistics

Tracking goods along their route to accurately estimate arrival time and collect data

Finance Effectiveness

Accelerate payments and settlement through real time purchase order updates and automating settlement

Loyalty Programs

Treating loyalty points as a cryptocurrency increases utility and value of loyalty programs

Asset Condition

Tracking part changes and service events throughout lifecycle of useful life (i.e. Asset “Health Record”)

Digital Identity Management

Authenticating identity on a blockchain for accelerated log in and increased data security

Digital Currencies

Decentralized currency crosses borders and eliminates intermediaries

Records and Contract Management

Blockchains provide an engine maintaining and updating contracts

Audit and Compliance

Enable real time transaction level assurance and provide additional transparency to stakeholders

However .. this presents an opportunity to address those long standing internal data management issues

- Most investments in blockchain focus on:
  - Replacing multi party market infrastructure
  - Removing intermediaries
- These investment opportunities present a once in a generation opportunity to tackle the *internal front to back* challenge
- The value achieved through integrating blockchain with core processing/ERP systems comes from both the ability **to create and initiate new information** into the distributed ledger, as well as the capabilities of **drawing existing data from enterprise systems.**

Resulting Impact

- Repoint Intelligent Automation at solving customer experience issues and analytics/ insights productivity rather than data management issues
- Set the foundation for the hard work of infrastructure simplification

Blockchain **will not replace core processing** systems, rather act as complimentary application minimizing reconciliation between parties

Blockchain doesn't simply solve the data access or sharing issue; it also provides a deeper confidence in the **data's integrity and end-to-end lineage**

Enterprise level uses of blockchain can include: audit logging, authentication, SCM, etc.

What can you do now?

Explore different uses for RPA – especially in the attended automation space

Blockchain proof of concepts – pay attention to internal integration challenge and opportunity

Make the move beyond RPA into intelligent automation

Pay attention to your long term IT strategy at every step along the journey – none of these technologies are a substitute!

Thank you

pwc.com