Robotic Process Automation (RPA) Capabilities
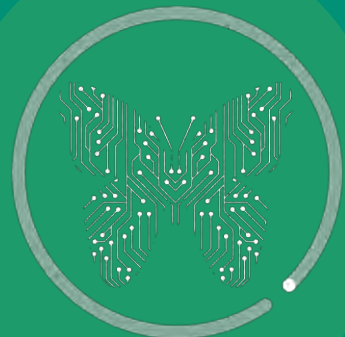
Anant Keskar, VP Digital Transformation
5th April 2018

CoE DIGITAL TRANSFORMATION

Defining Purpose • Driving Change • Delivering Value

Empowering the Financial World

FIS

Agenda

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○ **Setting the context – Robotic Process Automation is here to stay and grow rapidly, faster than we thought**

- RPA's impact on the Financial Services Industry
- What is being automated?
- How much is being invested?
- Scale of Implementations

○ **Representative Use Cases in Financial Services**

- RPA Opportunity Mapping for the Financial Services space
- Use cases

  - Digitization of records
  - Dispute charge back processing
  - Exceptions processing
  - Money in – Fund enrollment
  - Fee refunds

○ **Typical RPA journey**

Key thoughts

RPA 1.0 is done! Real veracity of RPA vendors will be tested with mature use cases

- RPA tool war, based on both price and product features will intensify and lead to the elimination of some less inefficient players. Private equity and venture capital-backed RPA software organizations will be the first to crack

- We will see a rush of customers away from BPO vendors who do not embrace RPA. Currently, less than 5% of clients of BPO vendors have RPA implemented

- Most organizations take a commoditized view of RPA, but the industry is demanding disruptive engagement models and solutions

"One size does not fit all" - Choose the right process transformation partner with appropriate tooling options

- The industry is moving towards long term solutioning, with a diverse set of disruptive AI based technologies and engagement models

- Bring together technology, environmental neutrality to RPA solutions: Not all AI based capabilities are equitable

  – veracity of a solution needs to be established in light of the use case

- Scripting technologies are still essential as part of the capability suite, to create more diverse solutions

Long term mandates should determine investments

- Build long term strategic roadmaps leading to a better understanding of which technology investments would yield results

- An RPA COE a must to operationalize vision

- Establish accountability and skin in the game with the partner ecosystem to be successful

- Incumbent large consulting firms will continue to fight the threat of RPA, by seeking to rebrand it and offer services with a cooler name (and higher price than necessary.)

Setting the context…

Robotic process automation (RPA) is the use of a computer to create a "virtualized FTE or robot" rather than a person to manipulate existing application software in the same way that a person today processes a transaction or completes a process.

Robotic process automation doesn't replace existing client or service provider applications; but works with those systems to perform the specific task that the "virtual FTE or robot" has been asked to complete.

- Smart software platform that replaces tasks previously done by humans
- Rules-based automation capable of accessing multiple systems, and integrating multiple data sources
- Successively smarter process exception handling
- Fully auditable transaction record
- SME managed

"
50% of respondents see automation (and 44% see analytics) as delivering a positive impact to processes in three to five years… as per a survey carried out by Cognizant.

RPA's impact on Financial Services

Market Outlook

47% indicate RPA is a critical component

The future of Financial Services BPO is heavy on technology and low on people

"As the role of digital operations increases, financial institutions are looking to automate transactional processes and shift focus to more judgment-intensive offerings.

However, increased digital adoption and maturity of automation solutions is leading to lower FTE requirements for the industry, prompting service providers to look for other avenues of growth."
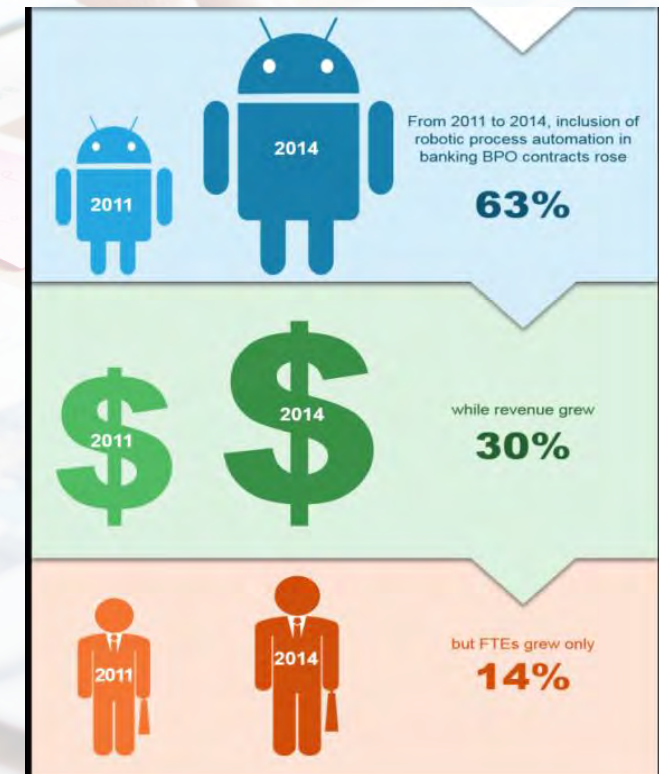
-Everest Group

Where are you in the RPA journey?

- 16% Not started
- 26% Planning
- 21% Piloting
- 21% Implementing
- 16% Expanding

The impact of automation on the Financial Services BPO

From 2011 to 2014, inclusion of robotic process automation in banking BPO contracts rose **63%**

while revenue grew **30%**

but FTEs grew only **14%**

RPA is enabling FIs to grow revenues more than **twice as fast** as their FTE base

What is being automated?

There are several processes that can be optimized through RPA solutions. Among the most popular options from recipients were Finance Shared Services Centre (66%) and Transactional Banking (42%)
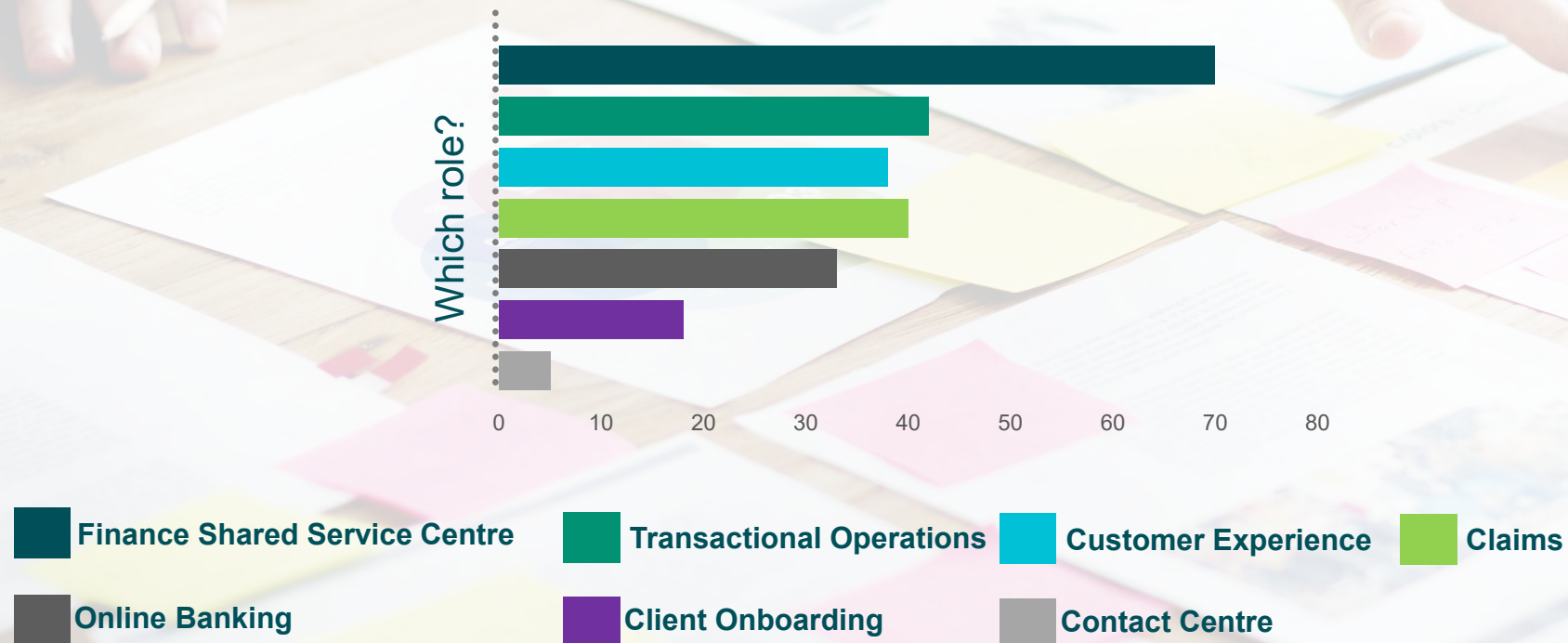
Which role?

0	10	20	30	40	50	60	70	80

■ **Finance Shared Service Centre** ■ **Transactional Operations** ■ **Customer Experience** ■ **Claims**

■ **Online Banking** ■ **Client Onboarding** ■ **Contact Centre**

Source: The future of robotic process automation and artificial intelligence, RPA Benchmarking Report 2017

Where it is most effective...

> **"** 47% of BPO buyers indicate automation as a critical component of the BPO capabilities..

A classic candidate for RPA would be one where three key characteristics are fulfilled, normally within an end-to-end process that crosses multiple applications:

- That the actions are consistent, with the same step being performed repeatedly;
- That it is template driven, with data being entered into specific fields in a repetitive manner;
- That it is rules-based, to allow decision flows to alter dynamically.

RPA solutions to unlock value for a host of multinational organizations in a wide range of areas that include:

Data entry & validation	File & data Manipulation	Automated formatting	Multi-format message creation	Multiple system data reconciliation	Web scraping
Text Mining	Uploading & exporting	Downloading & importing	Workflow acceleration	Currency/Exchange rate processing / Trading	Reconciliations

One size doesn't fit all…

Data entry & validation	Document processing	Interaction based processes	File & data Manipulation	Currency/Exchange rate processing	Uploading & exporting
jacada	Ikarus	jacada	jacada	jacada	jacada
blueprism	Celaton	NovelVox	blueprism	openspan	openspan
openspan	inSTREAM	NICE	openspan	NovelVox	blueprism
UiPath	jacada	openspan	UiPath		UiPath
AUTOMATION ANYWHERE	openspan		AUTOMATION ANYWHERE		AUTOMATION ANYWHERE
	NovelVox				
STP & RPA	**PA with AI**	**PA**	**STP and RPA**	**PA**	**STP & RPA**

STP – Straight Through Processing | **RPA** – Robotic Process Automation | **PA –** Partial Automation | **RPA –** Robotic Process Automation

Typical RPA Journeys

	Company Research 1 Month	Technology 4-5 Months	POC 1 Month	Contracting 1 Month	Resourcing 2-3 Months	Implementation 3-6 Months
Build your own RPA CoE Own technology	✓	✓	✓	✓	✓	✓
Own the technology + Empanel Implementation Partner		✓		✓		✓
Empanel Outcome based partner						✓

Build your own RPA CoE Own technology

Investment	High
GTM Speed	Low
Success	Low

Own the technology + Empanel Implementation Partner

Investment	High
GTM Speed	Average
Success	Low

Empanel Outcome based partner

Investment	Low
GTM Speed	High
Success	High

✓ **Phases required**

Engagement models

Type of Resource
Business Lead
Architect
Process Mapping Expert
Developer (Semi-technical)
Developer (.NET, Java, Python)
Automation Support Center (ASC)
Project Lead
Tech Project Manager
Technical Writer

Centralized Model

Vendor runs discovery, documentation, development, and support

Client → Vendor

Business unit 1
Business unit 2
Business unit 3
Business unit 4

RPA Center of Excellence

Decentralized Model

Client owns discovery and superusers; Vendor owns everything else

Vendor → Client

RPA Center of Excellence

Business unit 1 — *Point-and-Click Superuser*
Business unit 2 — *Point-and-Click Superuser*
Business unit 3 — *Point-and-Click Superuser*
Business unit 4 — *Point-and-Click Superuser*

Who should evangelize robotics….

	Primary Goal of RPA	Vision of Deployed RPA	RPA Expertise Owned By	RPA Program Funding	Current Long Term Vision for RPA
Initialization	Replacing Transaction Labor	Individual Robots	RPA COE	Capex/Opex or Client Recovery	Leaving the Robots Static or Fixed Over Time
Industrialization	Augmenting Specialists	Datacenter of Robots	RPA COE	Centralized OPEX Funding/Client paid	Designing Robots for ongoing flexibility
Institutionalization	Adding Cognition	Robots As a Service	RPA COE	Extensive Centralized OPEX and CAPEX/Client Paid	Striving for "Self-Healing" Robots

? **Who should be the RPA Program Owner?**

Business/ Center Leads

Global Process Leads

Global Transformation Leads

How much is being invested?

The research shows that more than 80% of firms invest less than $1m into RPA, which is still relatively low considering that nearly 90% of said firms are implementing or looking to implement an RPA solution
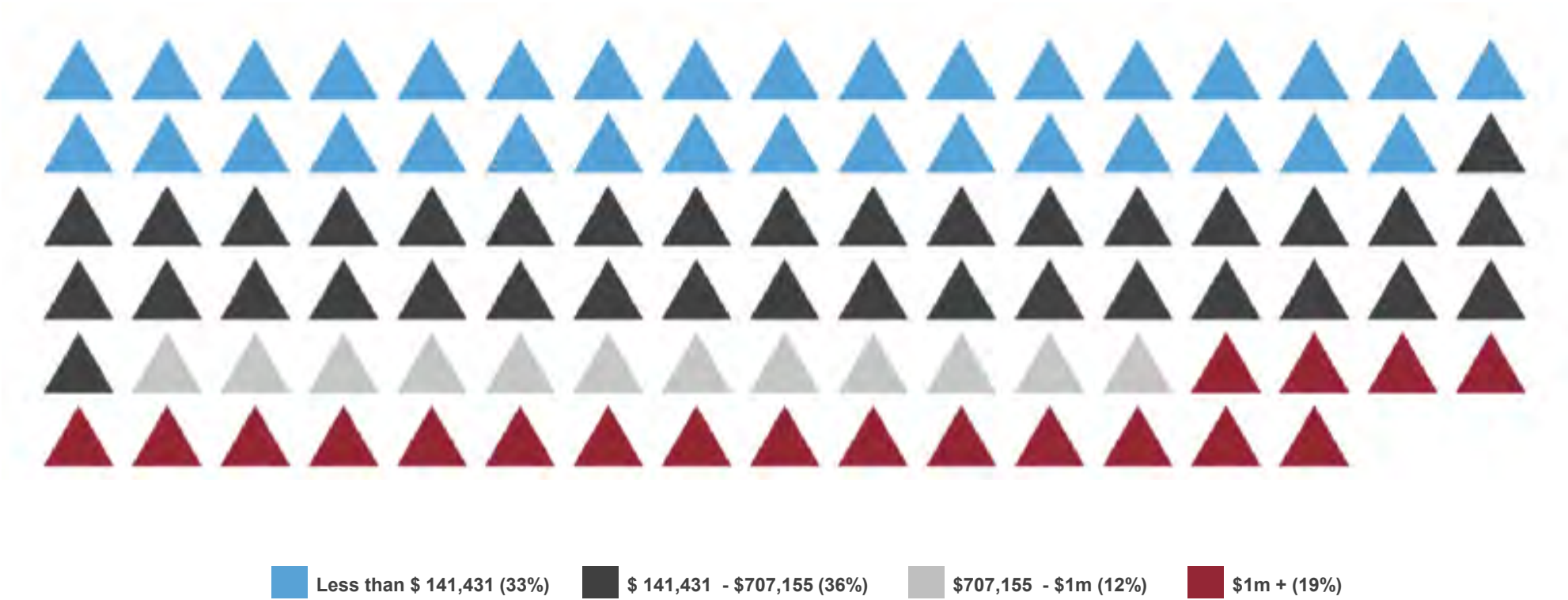
Less than $ 141,431 (33%) $ 141,431 - $707,155 (36%) $707,155 - $1m (12%) $1m + (19%)

Source: The future of robotic process automation and artificial intelligence, RPA Benchmarking Report 2017

Scale of Implementations

How many robots currently do the Financial Institutions currently employ?

42%	34%	17%	6%
None	1 - 10	11 - 100	101 - 500

1%

Over 500
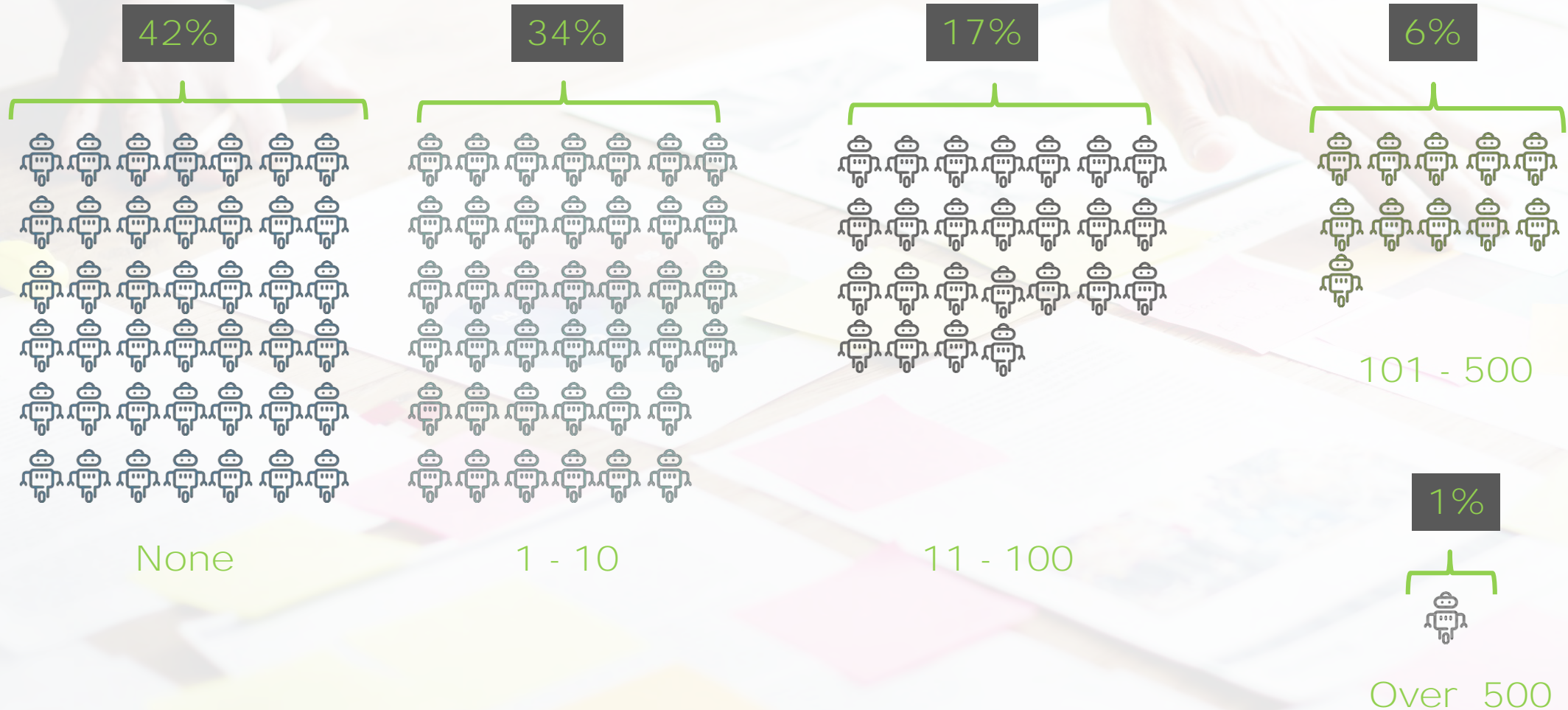
Number of Bots deployed

Robots will get intelligent…

RPA has evolved from a being a tactical solution to a more strategic one driven by significant product innovation over past years

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Market Prevalence

● High   ○ Low

Business Impact ↑

RPA 4.0 Cognitive RPA

Objective:
• End-to-end automations
• Scalable virtual workers
Deployment:
• Server (VMS)
Features:
• Work orchestration (scheduling/queuing)
• Centralized robot management
• Robot performance analytics
Limitations:
• Manual control and management of robots
• Managing screen and system changes

Objective:
• Improving worker productivity
Deployment:
• Worker's desktop
Limitations:
• Partial automations
• Difficult to scale

RPA 3.0 Autonomous RPA

Use of AI technologies including machine learning and NLP to enable:
• processing of unstructured data
• predictive and prescriptive analytics
• Automation of tasks that involve judgment

RPA 2.0 Unassisted RPA

Objective:
• End-to-end automations
• Scalable and flexible virtual workforce
Deployment:
• Cloud 1 saaS (VMS)
Features:
• Auto-scaling
• Dynamic load balancing
• Context awareness
• Advanced analytics and workflows
Limitations:
• Processing unstructured data

RPA 1.0 Assisted RPA

Advances in RPA technologies →

• Multi-tenancy
• Expanding libraries of pre-built automations
• Emergence of Accelerated Robotic Automation (ARA)

Source: Everest Group, 2017

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Representative Use Cases in Financial Services

Automation heatmap – Lending Operations

Loan Originating/Info Gathering	Needs Analysis/ Deal Structure	Client Review & Acceptance	Credit Decision	Processing	Closing	Pre-closing/ Documentation	Post-losing/ Funding	Care Upload
Scope of lending opportunities	Credit Analysis	Commitment Letter	Approved Authority	Verify approval condition(s) will be met	Closing Instructions/check list	Pre-closing checklist	Closing Documentation Review	Booking to care (loan boarding)
Compilation of base information to support lending opportunity(s)	Relationship Exposure	Negotiation	Approved Conditions	Pre closing checklist	Execution of closing documents	Final approval	Perfection of Collateral	File creation
	Credit Memo/ Write Up			Financial covenant compliance	Funding	Preparation		Exception management
						Validation		Compliance
						Compliance		

General Applications:

Automation ROI

Lower   Higher
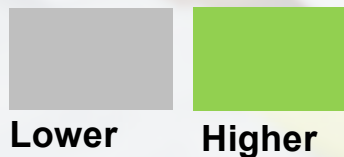
- ■ **Fraud Detection & Prevention**
- ■ **Document Processing**
- ■ **Regulatory Research & Verification**
- ■ **Quality Assurance**
- ■ **Multi-system navigation**
- ■ **Workflow Integration**
- ■ **CRM Change Requests**

Representative use cases for Financial Services

Document Processing

Technical Complexity: High

Process Complexity: High

RPA Solution: AI, ML, Automation Platform

ISSUE	SOLUTION	BENEFITS
➢ Agents were manually keying data from scanned US land records ➢ OCR technologies only captured 50% of fields with accuracy of < 60%	➢ Leveraged AI and Machine Learning to drastically improve OCR capabilities and reduce manual effort requirements	➢ 20% cost savings ➢ 95% accuracy

Fraud Detection

Technical Complexity: Low

Process Complexity: Low

RPA Solution: RPA, BPM, BAM

ISSUE	SOLUTION	BENEFITS
➢ Vulnerabilities in Client CRM allowed for insider fraud by call center agents ➢ Improvements to the CRM were too costly and time consuming	➢ Developed RPA bots to sit "on top" of the Client CRM and actively monitor agent activity ➢ In potential instances of fraud, the bot locks the agents screen, informs management, and creates an audit trail of the occurrence	➢ Protection from brand-damaging fraud without system intervention

Representative use cases for Financial Services

FIS

Multi-System Navigation

Technical Complexity: Medium

Process Complexity: Low

RPA Solution: Information Aggregation

ISSUE	SOLUTION	BENEFITS
➢ Call center AHT was exceeding targets by 200 seconds ➢ Agents were spending time navigating through many tabs and systems, creating "dead air" with customers on the line	➢ A partial automation solution enabled agents to more quickly retrieve and enter repetitive data across multiple tabs and systems with just a single click	➢ Reduced AHT ➢ Improved Customer Experience

Real-Time Analytics

Technical Complexity: Low

Process Complexity: Low

RPA Solution: Full Automation

ISSUE	SOLUTION	BENEFITS
➢ Client wanted to leverage analytics to improve CSAT ➢ Over 12 million chat interactions and associated metadata had to be extracted and manipulated to run text mining and data modelling ➢ Done manually, the effort would have taken 3 months with 4 FTE	➢ Within 3 days, FIS created a bot that could automatically extract chat reports and directly feed it into the analytics platform	➢ Real-time feeds into Unified Analytics platform ➢ Saved 4 FTE over 3 months

Representative use cases for Financial Services

	ISSUE	SOLUTION	BENEFITS
Research & Verification **Technical Complexity: Medium** **Process Complexity: Medium** **RPA Solution: Assisted Automation**	➤ The Suspicious Activity Report (SAR) process involved multiple systems and data gathering and validation, creating significant inefficiencies prior to case review	➤ Bots were developed to rapidly retrieve and validate required information across multiple systems for the SAR process, along with the automation of case notes	➤ Significant time savings, allowing human capital to focus on decisioning rather than data gathering
Workflow Integration **Technical Complexity: High** **Process Complexity: High** **RPA Solution: OCR, AL, RPA**	➤ Client's existing item processing department experienced two issues: poor accuracy (leading to exceptions processing) and lack of integration between OCR and workflow system ➤ Poor accuracy was due to: dirty scanner lenses, folded/crinkled checks, and weak recognition of light inks	➤ Leveraged AI and Machine Learning to drastically improve OCR capabilities and reduce manual effort requirements	➤ Improved scanning accuracy and ability to interpret handwriting ➤ Bot integrated OCR with workflow system ➤ AI monitored and auto-assigned exceptions in queues

Representative use cases for Financial Services

Chargeback Processing

Technical Complexity: Medium

Process Complexity: Medium

RPA Solution: Assisted Automation

ISSUE	SOLUTION	BENEFITS
➤ A highly complex fraud and chargebacks process involved various sub-processes (e.g. refunding losses from fraud, refunding fees/chargebacks, or reviewing information across multiple systems)	➤ A partial automation solution assisted resources in handling certain sub-processes such as data gathering, chargeback execution, and card member notifications	➤ 20% reduction in production costs

CRM Changes

Technical Complexity: Low

Process Complexity: Low

RPA Solution: Assisted Automation

ISSUE	SOLUTION	BENEFITS
➤ The back office was receiving high volumes of requests for name and address changes ➤ Human error and inefficiencies were leading to increases in customer escalations and dissatisfaction	➤ Assisted RPA allowed for resources to review transactions for validation and then let bots process the system updates automatically and without error	➤ 64% FTE reduction ➤ Reduced error rates

Representative use cases for Financial Services

FIS

	ISSUE	SOLUTION	BENEFITS
Change Request Processing **Technical Complexity: Low** **Process Complexity: Low** **RPA Solution: Full Automation**	➤ Back office resources were performing the repetitive task of updating system fields to implement the change requests required for a returned or canceled card	➤ RPA solution accesses the work queue, validates images against system information, replaces/cancels/rejects change requests based on business rules, updates system information accordingly, and notifies card members immediately	➤ 100% automation ➤ 0% processing defects
Fee Refunds **Technical Complexity: Low** **Process Complexity: Low** **RPA Solution: Full Automation**	➤ Manual repetitive process to manage refund claims for card members ➤ clients wanted to reduce production cost and elevate accuracy level for critical 1st chargeback processing at the inception of pilot process	➤ FIS' Automation team involved a Artificial Intelligence/Machine Learning expert to create a solution where the solution could be precise by more than 95%	➤ Integrated robotic intervention, rejection is auto managed. ➤ Exceptions are auto assigned to queues, Human decisions are learnt and overall quality of solution is improved gradually.

Representative use cases for Financial Services

Account Servicing & Order Fulfillment

Technical Complexity: Medium

Process Complexity: Medium

RPA Solution: Full Automation

ISSUE	SOLUTION	BENEFITS
➢ The Account Maintenance function in the back office was struggling to identify efficiencies and increase turnaround times, leading to stagnating CSAT levels ➢ 65 FTE handled tasks such as address changes, order information, and customer correspondence	➢ FIS developed an end-to-end RPA solution, automating workforce management, the Account Maintenance function, and monitoring/reporting	➢ 54% FTE reduction (work is now handled by 30 FTE + 18 bots) ➢ Improved turnaround time

Exceptions processing

Technical Complexity: Low

Process Complexity: Medium

RPA Solution: Full Automation

➢ Manual repetitive process to manage exception claims for card members	➢ Partial Robotic Process Automation supported with process reengineering ➢ Exceptions to be routed for manual intervention	➢ Integrated robotic intervention, rejection is auto managed. ➢ Exceptions are auto assigned to queues, Human decisions are learnt and overall quality of solution is improved gradually.

Representative use cases for Financial Services

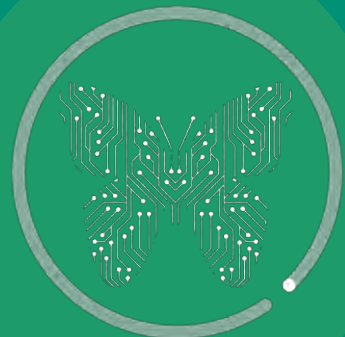|	ISSUE	SOLUTION	BENEFITS
Money in – Fund enrollment **Technical Complexity: High** **Process Complexity: High** **RPA Solution: Partial Automation**	➤ Work allocation systems are manual, requires human activities ➤ Manual repetitive process to manage refund claims for card members	➤ Use FIS integrated AI solution with ICR ➤ Partial automation , Bot to identify the type of document to work on, otherwise the case will not be touched	➤ Integrated robotic intervention, rejection is auto managed. ➤ Exceptions are auto assigned to queues, AI monitors exceptions, ICR feedback is sent to ICR engine. Human decisions are learnt and overall quality improved
Dispute charge back processing **Technical Complexity: Medium** **Process Complexity: Medium** **RPA Solution: Full Automation**	➤ Manual repetitive process to manage disputed claims for card members for a new client. Internal/ External clients wanted to reduce production cost and elevate accuracy level for critical 1st chargeback processing at the inception of pilot process	➤ Full Robotic Process Automation supported with process reengineering ➤ Exceptions to be routed for manual intervention	➤ Reduction in production costs by 76% ➤ 100% plus accuracy levels for chargeback processing

THANK YOU

Anant Keskar

For follow ups, please contact
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