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BUSINESS MODELS

Avoiding pitfalls and unlocking real
business value with RPA

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INVESTMENTS

Avoiding pitfalls and unlocking real business value with RPA

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ABSTRACT

Financial institutions have quickly adopted robotic process automation (RPA) in recent years, owing to the plethora of manual operational processes in the industry, in order to benefit from significant opportunities for cost reduction and efficiency gains. It is quite unlikely that any executive would say no to a relatively cheap solution that enables the workforce to focus on more value adding activities and adjusts the overall cost structure. Whilst the RPA market growth rate paints a bright future, early RPA adopters have reported challenges with meeting expectations at the outset. Many tall claims have been made of reducing costs, increasing accuracy, improving compliance, and automating work at a fraction of time and cost compared to typical IT projects. However, the high expectations of RPA have created confusion amongst business stakeholders with regards to the capabilities, benefits, and use cases of RPA tools.

Understanding RPA suitability and quantifying the associated benefits is challenging, as many organizations view it primarily as a cost reduction tool, limiting the scope and benefits that can be realized. This has further contributed to the unrealistic expectations business stakeholders have outlined for RPA to deliver and resulted in over a third of RPA projects failing to deliver those expected benefits. Thus, when embarking on an RPA journey one needs to first determine which use cases are suitable for RPA within the context of the associated benefits, as well as the potential drawbacks or pitfalls. In this paper, we explore how RPA has been used across various industries, the challenges faced by early adopters, and the approaches to overcoming these challenges to ensure the real potential of RPA can be unlocked by financial services organizations.

1. INTRODUCTION

Since the early 1990s, financial institutions have been increasing investments in technology and process improvements to harness economies of scale and drive cost efficiencies. Despite these investments, financial institutions continue to struggle to respond to changing customer needs, running efficient and cost-effective operations on legacy infrastructures, and adhering to the wave of new regulatory requirements and security standards. Existing business and operating models are also being disrupted through exponential growth in computational power, technology advancements, and new market entrants, thus increasing the challenge of remaining relevant and competitive.

The ever-evolving marketplace in which financial services firms operate has resulted in a strategic quest for automating and streamlining functions and processes, with improved cost structure, efficiency, and quality as ultimate objectives. At the beginning of 2000, different methodologies, such as lean six sigma, process optimization, and change management tools, as well as offshoring and nearshoring initiatives, were pursued to reduce costs and streamline operations. These pursuits fueled the automation agenda for many organizations, albeit not fully eradicating manual and repetitive tasks performed by humans.

In recent years, RPA has entered the public domain with the promise of helping firms in the quest for automation. RPA has attracted a lot of attention, and even adoption, across the financial services industry, as hopes are that manual and repetitive tasks performed by humans can be automated to improve the overall service delivery, whilst at the same time reducing operational costs, with some studies putting that figure in the 40% to 75% range [Infosys Consulting (2017)].

One of the major benefits of RPA is that it is able to automate business processes within existing applications and technology infrastructures, hence limiting the impact on existing IT architecture. Furthermore, technological innovations, such as RPA, also encompass a number of steps required to enhance cognitive solutions, such as "artificial intelligence" (AI), and machine learning, which, once matured, will further transform the automation agenda in the financial services industry.

According to McKinsey (2017), 16% of available working hours across industries in the U.S. are spent on data processing and 17% on data collection, which are activities that are mainly performed by humans. The automation potential within the respective activities measured as percentage of time spent, is 69% in data processing and 64% in data collection, which when combined means that one-third of the available working hours in the future have more than 60% automation potential.[1]

What is RPA?

RPA is the use of software or "robots" to mimic actions a human user would perform on a computer, at scale, in order to automate the human element of the mundane, manual, and repetitive tasks. By definition, it allows humans to become more human at work. RPA tools integrate with existing applications to interpret interfaces, manipulate data, trigger responses, and communicate across multiple systems. RPA tools seek to automate business processes that are highly repetitive, rule-based, and use structured data to make them more repeatable, faster, and less prone to human errors. The key differentiators between other automation options and RPA is the approach of emulating human actions through a standard user interface, coupled with simple integration with existing applications, requiring limited to no modifications.

There are various RPA tools, ranging from solutions that can handle single transactions from an individual desktop with limited capability of handling different data sources, to those that can manage multiple business processes simultaneously from enterprise servers. Opportunities for RPA in major organizations are many and vary depending on the circumstances. When integration across systems or automation alternatives are too expensive or time-consuming, RPA may serve as a good interim solution. RPA can also be considered in-lieu of outsourcing, as well as other process change management and optimization initiatives.

Vishnu et al. (2017) present a number of frameworks for identifying and evaluating candidate RPA functions. In order to determine the best uses of RPA, the authors also presented a conceptual framework based on the velocity of business change and the stability of IT systems, which determines the applicability of RPA. In essence, RPA works best when the velocity of business change is low and changes to underlying systems are infrequent. For example, a very simplistic and suitable

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[1] Chetan Dube, Founder, IPsoft Inc., recently stated that: "The last decade was about replacing labor with cheaper labor. The coming decade will be about replacing cheaper labor with autonomics."

candidate for RPA is static data processing within systems that do not change frequently.

The highest adoption rate of RPA tools has been within the business process outsourcing (BPO) industry, as many of these processes are performed within rigid legacy systems that are not updated on a regular basis and the input data is relatively static.

Nevertheless, the potential benefits of implementing RPA are many, including cost reductions, improved efficiency and quality, faster output, and the ability to integrate with legacy systems. Vishnu et al. (2017) also outlined examples of core RPA benefits ranging from improved operational agility, scalability and compliance, business planning and forecasting, to enhanced customer experience and better labor management.

While the benefits of RPA (Figure 1) are similar to core platform transformation programs, RPA can deliver them much quicker, with lower risk, and at a fraction of the cost of traditional IT integration projects.

Figure 1: Benefits of RPA

VALUE ADDING
Focus workforce on higher value activity

RAPID RESPONSE
Common case handling increased capacity and reduced waiting time

ACCESSIBILITY
24/7 capability

BUSINESS CASE
RPA simplifies operations and reduces costs

☐ Business
☐ Customer

IMPLEMENTATION
Rapid implementation with no changes to existing IT infrastructure

CUSTOMER EXPECTATIONS
New functionalities available faster

COMPLIANCE
Improve traceability through detailed logs and process documentation

QUALITY
High customer satisfaction through consistent quality service

Figure 2: Benefits of RPA in different industries

RPA BENEFITS ACHIEVED

CAPITAL MARKETS
- Reduced costs, improved controls, and increased speed for processes such as:
  – Reconciling trade/account data
  – Correcting reference data
  – Transaction reporting
  – Corporate Action processing
  – Client on/off-boarding

RETAIL BANKING
- Increased transaction volumes processed
- Improved accuracy and data analytics
- Sample use cases:
  – Card management
  – Mortgage processing
  – Fraud detection
  – Risk monitoring

MANUFACTURING
- Eliminated limitation of human working hours
- FTEs redeployed to more efficient other areas
- Improved operational efficiency
- Re-engineering of existing systems

WEALTH & ASSET MANAGEMENT
- Access, gather, move, validate, remediate, and update data across multiple systems
- Sample use cases:
  – KYC processing
  – Payments, sweeps, and reconciliations
  – Asset transfers
  – Corporate Action processing
  – Debit balance clearing

HEALTHCARE
- Improved billing efficiency and cash flow
- Accelerated turnaround of claims and payments
- Validating health plans and third party insurance eligibility
- Improving processes for patient-responsible balances

TELECOMS
- Turnaround time reduced from days to minutes
- Achieved unbeatable flexibility and scalability
- Automated core processes such as:
  – SIM swaps
  – Order processing
  – Credit checks
  – Unlatching and porting

RETAIL
- Predicting and matching consumers' needs to availability, location, and delivery
- Personalized and improved customer experience
- Ensured the right product at the right time and place
- Enabled retailers to meet peak demand

UTILITIES
- Improved overall customer services
- Reduced failed meter-readings
- Automated billing
- Automated troubleshooting

INSURANCE
- Reduce turn over time from days to minutes
- Improved customer service
- Fewer errors
- Timely delivery on customer inquiries

Despite all of its benefits, however, it is imperative to understand that RPA will neither solve all automation challenges nor will it replace all existing applications in an organization. It is, nevertheless, an interesting option in various situations that organizations need to consider in order to remain relevant and competitive, as well as respond to changing customer expectations.

2.1 Comparing RPA within the financial services industry with other industries

Early RPA adopters have experienced significant increases in efficiency and productivity, in the range of two full-time equivalents (FTE) to as many as 20 FTEs for a single RPA implementation.

RPA is being adopted across a wide range of industries, such as manufacturing, healthcare, retail, energy, insurance, IT, telecommunications, and financial services, where we have observed roll-out of RPA implementations within multiple domains to enhance agility, accuracy, and compliance of service delivery (Figure 2).

In the telecommunications industry, Telefónica O2's RPA journey dates back to 2010, where RPA was initially used to automate 15 core business processes, which represented approximately 35% of all backoffice transactions in 2015. Telefónica O2 has managed to deploy over 160 robots across operations that process between 400,000 to 500,000 transactions per month. Over a three-year period, their investment in RPA has yielded an ROI of 650-800% and reduced the turnaround time from days to just minutes for some processes. Furthermore, Telefónica O2 has managed to achieve an unbeatable scalability, as their virtual workforce can be doubled almost instantaneously when new products are released and scaled back down after their introduction [Lacity et al. (2015)].

A large energy utility company is delivering around U.S.$6m in savings per year with RPA and another major telecommunications provider has estimated that for every U.S.$1 spent on RPA, it receives U.S.$8 in reduced operating expenditure and resources. Both companies have also achieved other benefits, including better overall customer service as a result of fewer errors and delivering on customer related inquiries in a timely manner [Grand View Research (2016)]. A large U.S. based manufacturer has been using RPA to improve operational efficiency as it proved to be an inexpensive and quicker alternative to reengineering the firm's existing systems. RPA has enabled the manufacturer to achieve 24-hour processing of payments, as processing is no longer limited by humans working in shifts, and enabled the manufacturer to redeploy 200 FTEs working on the order-taking process to other areas. The next step for the manufacturer is to enable RPA to assist the human workforce to perform highly labor-intensive work, such as credit checks by accessing, aggregating, and filtering data for them, in order to protect them from

information overload [Tornbohm (2015)].

Some of the earliest and most aggressive RPA adopters are within the financial services industry, predominantly because of the major cost reduction challenges, regulatory and compliance pressures, and rigid legacy systems that they face. This has been driven by the potential benefits that RPA promises, as well as the fact that replacing a task with RPA can cost as little as one-third of the price paid to an offshore FTE and as little as one-fifth of the price for an onshore FTE [Chui et al. (2016)].

RPA is being employed within financial services organizations to better manage the increasing transaction volumes, move data for processing claims, card management (e.g., issuing replacements of stolen or lost cards), mortgage processing, as well as resubmission of failed payments. U.K.-based Co-operative Banking Group has automated over 130 processes with RPA, including complex CHAPs payment processing, VISA chargeback processing, audit reports, and other backoffice processes [Barnett (2015)]. The CHAPs payment process required on average 10 minutes to process one transfer request. The same request is processed within 20 seconds after applying automation, enabling the bank to maintain a bank-wide SLA on time allowed for CHAPs processing. The Co-operative Banking Group has achieved a number of benefits from implementing RPA in addition to the 80% savings in processing costs and the significant ROI for the bank with each process being deployed. For example, employees have been released to work on proactive customer account management, such as performing outbound customer calls every day of the week, enabling them to quickly identify customers in financial difficulty and proactively calling them to discuss their accounts.[2]

Another example from the financial services industry is Danske Bank, who have deployed RPA within their operations and backoffice functions on processes such as income payments and corporate actions processing. This has resulted in a 45% increase in employees' abilities to focus on customer related activities, 40% reduction on average process execution time, and elimination of human errors [Danske Bank (2016)]. Whilst many financial institutions are deploying RPA on operations and backoffice processes, RBC has taken a different approach by applying RPA across the trading

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[2] This data was reported in a case study undertaken by Blueprism, entitled "The Co-operative Bank achieves 80 % saving in processing costs."

floor to improve efficiency and guarantee regulatory compliance [RPA & Artificial Intelligence (2016)].

Despite the potential benefits that RPA promises, many implementation attempts fail because RPA tools are not "plug and play" software and are often applied to broken processes, thus limiting their effectiveness. RPA tools require some degree of IT involvement to integrate with existing environments and buy-in from operations leaders to invest in the technology. Organizational change management and process transformation skills are also necessary to have in place in order to efficiently secure RPA deployment.

## 2.2 Why RPA is not living up to the hype

Early RPA adopters have managed to achieve significant economic benefits, but many more have run out of steam when trying to scale their initial pilot or proof of concept. In recent years, the hype of RPA has to some extent taken a hit as a result of strong negative opinions from individuals and organizations where RPA programs have failed to deliver the perceived benefits. This is a widespread problem not just for RPA but with emerging technologies in general. Media hype about the impact of robots in the human workforce does not help set realistic expectations. "Robots to steal 15 million British jobs in coming decades, warns Bank of England boss" was one of the headlines in newspapers across the UK in December 2016.

It is fair to say that "failed" RPA programs had issues far beyond the problems associated with how the technology was adopted. The challenges are at a much more fundamental level. The main issue is that RPA, without much due-diligence, is perceived as a silver-bullet to solve the three top challenges facing most businesses, namely cost reduction, efficiency gains, and acquisition and retention of customers, which it certainly cannot be. Furthermore, RPA is not the only platform to be used to overcome these challenges and deliver benefits. There are other ways and means to meet these challenges; the key to success is combining different technologies and key business decisions in change programs that span across people, processes, data, and tools.

RPA definitely has the advantage of providing lean and rapid benefits if deployed in an efficient way. However, some of the early adopters of RPA probably did not spend enough time to understand the "why" and jumped into "how" too quickly. Process automation programs in any organization start with an understanding of "as-

is" processes, finding the gaps, and then agreeing the "to-be" state of these processes. RPA tools, however, are not designed to give benefits for processes that are immature, unstable, or broken. Robotic automation programs cannot deliver benefits to integrate with legacy systems if these outdated systems themselves are to be de-commissioned in the immediate future. The focal point of RPA use cases should not be the removal of human workforce; they should aim to improve accuracy, speed, agility, and remove the need for humans to execute repetitive tasks. Most failed RPA programs started without a clear definition on the financial, operational, and business KPIs. They were perceived as "another technology-led IT initiative" or were poorly structured without support from process change owners and key decision makers in business functions.

Figure 3: Common themes found in failed RPA projects
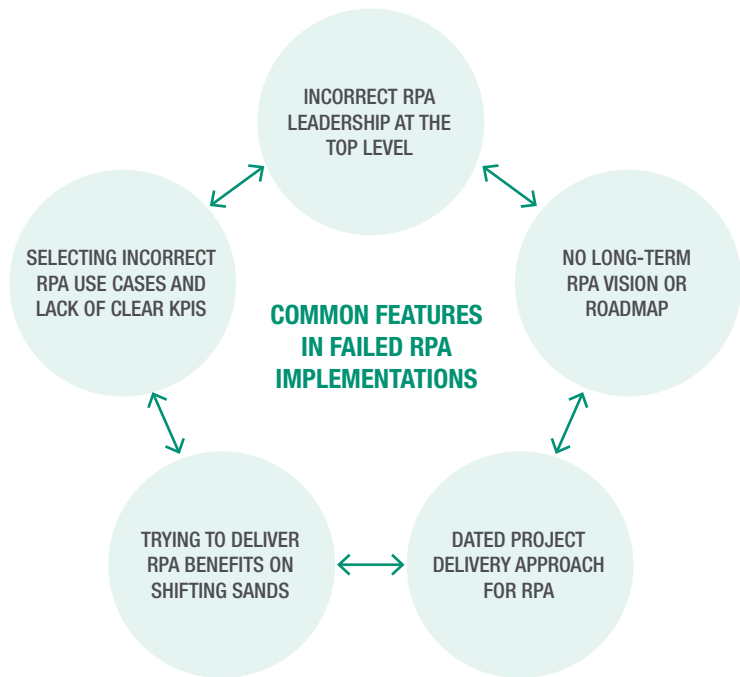
TOP 5 COMMON ISSUES FOUND IN OUR RESEARCH OF FAILED RPA PROJECTS AND PROGRAMS INCLUDE:

Issue 1: Incorrect RPA leadership at the top level

A successful RPA program has to be business led rather than IT led. All successful RPA projects have a common vital ingredient and it really is as simple as letting the business lead and use IT as a strong ally and partner.

The team should include IT infrastructure, IT security, architecture, risk and compliance, people or HR functions, finance, and all other key business functions in order to truly onboard the virtual workforce.

Challenges and recommendations:

Emerging technologies such as RPA, cognitive automation, and AI are often misunderstood to be a territory of the IT function within mid-size to large organizations. However, when it comes to RPA, it is key to remind ourselves that successful RPA programs aim to deliver benefits to the business and operations teams with a virtual workforce. Thus, the owners of business functions are best placed to lead the way and highlight the problem areas that can be tackled by technology enablement with RPA. Business teams are also fully empowered to understand which business processes would have the deepest impact and take proactive measures around human capital redeployment or downsizing. Business SMEs would also have a better understanding of their own processes, can easily train RPA robots, and play a pivotal role in measuring the outcomes of automation. Business operations heads should ultimately be accountable for defining the KPIs of selected RPA use cases. IT, on the other hand, should work with business stakeholders to follow a triage process in selecting the best use cases for early proofs of concept, building RPA technology infrastructure, and work in a collaborative way to lay the foundation for an RPA center of excellence. Joint governance between IT and the business is required to effectively manage RPA initiatives, make key decisions and remove obstacles.

Issue 2: Selecting incorrect RPA use cases and lack of clear business case, KPIs, or success criteria

Most failed RPA initiatives blame the insufficient outcome on technology. However it is the use case or candidate process that is typically one of the root causes. It becomes difficult for RPA initiatives to deliver the hyped benefits during a loosely defined RPA proof of concept (PoC) and answer the board level questions about strategic RPA sponsorship and funding without tangible benefits – usually cost saving and FTE reduction.

Challenges and recommendations:

There are still organizations that are either jumping straight into RPA vendor selection, or relying on IT or an RPA implementation partner to tell them which use cases to start with. These sets of events are usually driven by a PoC or pilot, but the long term strategic RPA benefits are often a mismatch. Instead of using the outcome of a PoC as a learning exercise for organizations, it is often put through scrutiny of skepticism. If the use cases identified for a PoC are lightweight, then it becomes hard to justify the RoI for the full-scale implementation. On the other hand, if the use-cases are complex, then it takes too long to get them right and test in a live environment to measure the benefits. This is where motivation levels drop and RPA initiatives are declared as over-hyped.

In reality, the business and technology stakeholders should work together to clearly define the business case, identify the real drivers in the organization for adopting RPA, and define use cases with clear and tangible outcomes and KPIs. Project sponsors and senior stakeholders should be responsible for signing off the PoC use cases and pre-agreed success factors. RPA PoCs should be seen as a learning exercise with a feedback process in place to understand, improve, and evolve for next time.

Issue 3: No long-term RPA vision or roadmap:

Most organizations in the early stages of automation adoption have no RPA experience. This leads to knee jerk reactions when it comes to making strategic decisions around RPA. Organizations are keen to explore in order to realize the benefits of RPA but often lack the conviction and vision to set up a long-term direction. There are pockets of supporters of RPA but also equally skeptical individuals.

Challenges and recommendations:

Organizations with successful RPA initiatives have a strategic vision that is usually achieved through the setup of an RPA center of excellence and a strong governance structure. In addition to utilizing industry experts (normally from RPA vendors or implementation partners), there is an equal focus and commitment to nominate internal IT and business representatives to drive the RPA strategy. This replaces skepticism with constructive feedback, creates opportunities for organizations to learn RPA, and fully understand its merits and limitations. Furthermore, corridor conversations, such as "I heard RPA failed to deliver any value in my previous company, are we sure we want to do it?" are avoided. For successful RPA initiatives, organizations have to seriously commit and be ready to get their hands dirty. If organizations start with a skeptical view, and hence limit their involvement and

commitment, the outcome is bound to be unfavorable. RPA is a proven concept, but it needs to be carefully set up within any organization that is new to the technology.

Another issue is that once the robotic automation has replaced human intervention, the staff are quickly mobilized into doing other work or exception handling. For certain cases, this makes sense but without a clear mandate between HR and the heads of business, it is unlikely the savings from human FTEs versus virtual workforce can be achieved as the operational cost remains static and in fact increases as the business also has to pay for the RPA investment.

Finally, another pitfall is getting over-ambitious and trying to achieve too much process automation with a large RPA transformation program. There are other aspects and methods of automating processes that should not be forgotten. When it comes to complex automation use cases, which require fixing data sources, exception handling, and sometimes even automating broken business processes, it is well advised that one should take a step back and look into a more holistic view of end-to-end process change.

Issue 4: Trying to deliver RPA benefits on shifting sands

Organizations often try to reap RPA benefits on "shifting sands." This is true in organizations on a transformational journey where the people structure, business processes, and underlying tools and technologies are constantly changing. RPA use cases are not best suited to deliver benefits when the processes are not mature or there could be alternative treatment to these changes for far better benefits.

Challenges and recommendations:

RPA is not a silver bullet to solve every type of automation problem or achieving the perfect 24/7 virtual workforce. Even mature and industry leading organizations sometimes make the mistake of embarking on an RPA journey based on use cases that are fundamentally going to change. Examples include trying to automate the swivel chair problem of legacy applications not communicating with each other, whilst there is a conflicting IT portfolio rationalization program under strict NDA trying to decommission these legacy applications.

Issue 5: Dated project delivery approaches for RPA

A common problem in most organizations is imposing heavy IT project delivery methodologies on RPA projects, with often time consuming, low-value documentation, management packs and management information reports being produced.

Such bureaucracy erodes one of the key advantages of RPA: rapid development and deployment into production. Typically, process automation with RPA takes no more than 2-4 weeks from inception to production. The traditional waterfall methodology cannot keep up with the pace of RPA delivery. As such, it is paramount for organizations that are looking to adopt RPA to review their delivery approaches and adopt agile delivery methodologies. Organizations that adopt agile and lean delivery methodologies when embarking on an RPA journey have much higher success rates than those that follow traditional delivery methods.

3. HOW IS THE FUTURE OF THE VIRTUAL WORKFORCE GOING TO UNFOLD?

3.1. The untapped potential of RPA

RPA seeks to automate business tasks that are mundane, highly repetitive, rule-based, and use structured data to make them more repeatable, faster, and less prone to human errors. Business processes and tasks that are most suitable for RPA are the ones that involve a considerable amount of repetitive key strokes. This means industries that have numerous manual interventions, rapid hiring cycles, and suites of software applications have potential of at least some, if not major, process automation deployments [Tornbohm (2016b)].

RPA can be used to read data on the aforementioned systems, act as an intelligent web data extraction tool, manipulate data, and subsequently input the outcome to other systems for different processes, yet remain simple in its usability [Greer and Beattie (2016)]. The use of RPA in similar scenarios is more robust than using a traditional screen-scraping technology, as RPA is capable of supporting changes to data fields and can be deployed on an enterprise level [Tornbohm (2016a)].

RPA in financial services is estimated to carry out tasks much faster while performing the work of three FTEs at a third of the cost; which means that financial institutions are able to increase their efficiency gains by a multiple of nine [Chui et al. (2016)]. Other industries that have

similar cost saving and waste reduction pressures from trade or industrial bodies, governments, and other stakeholders represent the currently untapped potential of RPA. Furthermore, RPA use-cases in current industries and new market solutions are expected to increase in the coming years.

3.2 Long term impact of RPA

RPA and AI will impregnate a wide segment of our daily life in the next decade, with huge implications across various industries. However, as much as the predictions for the evolution of technology are largely consistent, some opinions are deeply divided on how advances in RPA and AI will impact the economic and employment picture over the next decade. Some have painted a future in which significant numbers of both blue and white-collar jobs are destroyed by automation. Many experts are expressing concerns that greater computerization of the workplace will lead to increases in income inequality, unemployment, and disruption of the conventional social structure. On the contrary, many expect that technology will not take away more jobs than it creates in the next decade. In fact, since the dawn of the Industrial Revolution, technology has been killing and generating jobs, and has benefited mankind

in many ways, some of which are now taken for granted in a variety of industries.

3.3. Continuing the automation journey

In the ongoing marriage of mind and machine, the neuro-physiological portal through which a fuller integration could occur was opened marginally two decades ago by some promising theoretical conceptions. The present generation is rapidly passing through that conceptual window. However, this race for a greater human-machine intimacy may be more than simply another step along the unique road of history. If the present vector of self-destructive progress continues, it may be that this avenue of development is the one that holds the greatest (some would say, only) promise for salvation [Hancock et al. (2013)].

Future customer engagement models will work from our fingertips through social relationships with organizations; enabling quicker access to different services at any time and with better quality. For this purpose, "cognitive process automation" (CPA) widens the application of RPA to more knowledge-based work, such as extracting information from unstructured

Figure 4: Progression in characteristics as we climb the generations of robots from traditional RPA to AI

RPA

SOPHISTICATED AND INTELLIGENT FUNCTIONALITIES

MORE QUALITATIVE BENEFITS DELIVERED BY ROBOTS

MORE SPECIALIZED AND NICHE APPLICATIONS

COST AND TIME TO IMPLEMENT ARE HIGHER

AI

sources and enhancing decision-making. Cognitive agents have a self-learning capability that enables them to act and learn from experience, from humans, and even on their own, thereby developing the ability to interact with their own environment. CPAs can help with work that requires judgement and perception, enabling RPA to reach a new level. Combining RPA with cognitive agents provides a more strategic perspective that has the power and potential to deliver business results, such as greater customer satisfaction and increased revenues by going above and beyond basic RPA. It is no surprise then for financial institutions to have CPAs (like chatbots, machine learning, AI, natural language processing (NLP), speech recognition, etc.) on their minds when looking at reinventing the customer experience, whilst also cutting costs in roles that are ripe for automation. For example:

Chatbots can communicate through several channels, such as messaging apps (e.g., Slack, Facebook), SMS, text, or voice-based assistants (e.g., Siri, Alexa).

- Machine learning can make predictions about process outcomes by identifying patterns and prioritizing actions depending on predicted outcomes.
- NLP, speech, and image recognition can facilitate understanding of free flow sentences and convert speech audio, text, or images into structured information.

Combining the above with RPA would enable robots

to learn from their experience of process execution, enabling them to handle exceptions, manage unstructured data, and actually improve over time. Thus, cognitive RPA can be used to support employees and customers over phone or via chat, such as in employee service centers. A U.K. auto insurer saw a 22% increase in conversion rates, a 40% reduction in validation errors, and a 330% overall RoI following the implementation of such cognitive technology.

As we progress from traditional RPA to AI, we will observe several evolutions in characteristics (Figure 4).

The adoption rates and ability to use machine learning and AI will continue to shake up the outsourcing world in the years to come. The risk of human error is always going to be high and by employing a central AI function some of the risk is mitigated.

CONCLUSION

As organizations continue to explore and expand their use of new technologies to solve the top three challenges facing most businesses, namely cost reduction, efficiency gains, and acquisition and retention of customers, the need for humans to interact and collaborate with robots will increase, thus redefining the required capabilities of the future workforce.

Understanding which technology to deploy, where, and how is challenging. Organizations need to understand the differences between the plethora of automation

and cognitive tools that have machine learning or AI capabilities, where these types of tools have been deployed, and how they will likely evolve in the near future. Furthermore, how to combine and deploy them into an organization's unique IT and process landscape poses a major challenge, as these tools are not "plug and play" and organizations have poor insight into, and knowledge of, the "where" and "how" to use them.

Even though RPA holds high potential of fully eradicating most of the manual and repetitive tasks performed by humans, RPA tools need to be evaluated against other automation and cognitive tools. Organizations should use a structured approach in identifying and cataloguing unautomated processes in order to determine which are most suitable for RPA or other automation or cognitive tools and understand how these tools can support various key business initiatives.
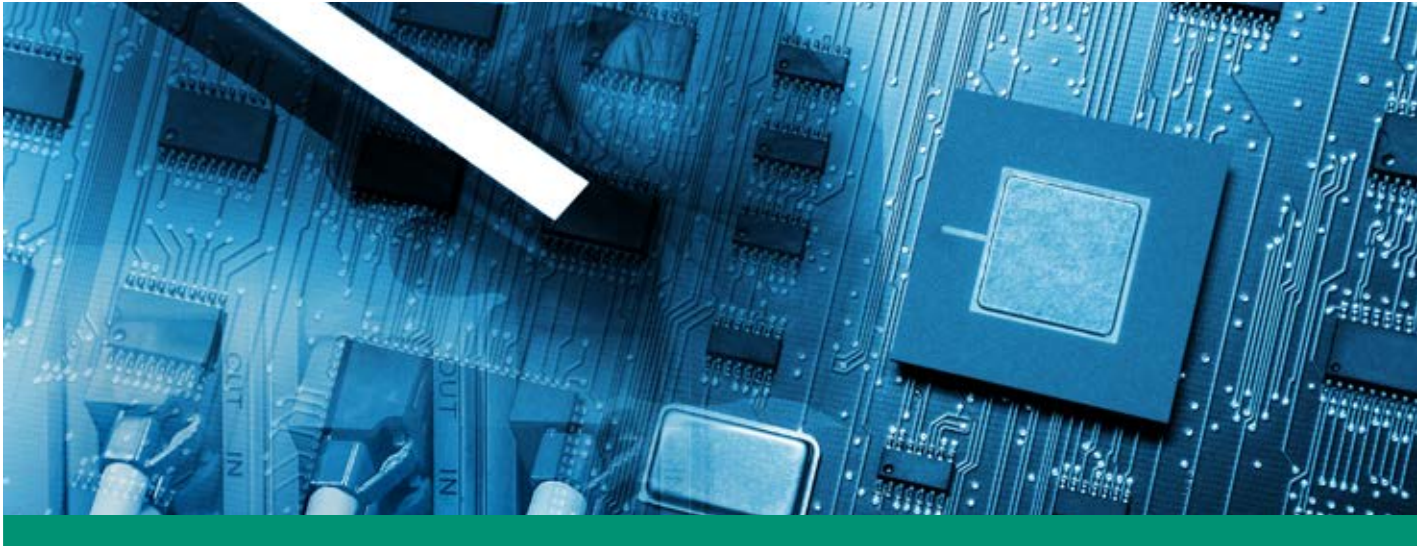
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