

Keys to RPA Success

Executive Research Report

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KEYS TO RPA SUCCESS

**How Blue Prism Clients Are Gaining
Superior Long-Term Business Value**

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With market adoption of Robotic Process Automation reaching levels that support rigorous quantitative measurement and analysis, Knowledge Capital Partners has developed proprietary research tools and assessment models with the goal of establishing evidence-based performance benchmarks to inform technology selection and deployment. This report summarizes the key RPA management practices that have produced superior results and value for Blue Prism customers as revealed in multiple quantitative surveys and live deployment analyses.

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Introduction

In February 2018 the Knowledge Capital Partners' (KCP) **Benchmarking Blue Prism Client Experiences** survey found high client satisfaction with the technical platform, and with the business value gained. Overall, 94% of clients were positive about the platform; of these 66% were 'very positive'. On total business value 96% reported overall improvement; of these 63% reported 'significant improvement'.¹

This has not been the general RPA experience. In 2017, Ernst and Young, found 30-50% of RPA projects stalling, not scaling, being abandoned or moved to other solutions. HFS Research was finding 51% clients satisfied, 33% neutral and 16% dissatisfied. McKinsey were recording anecdotally problems when clients were trying to scale localized RPA proofs of concept. Meanwhile ISG were finding one third of organizations were challenged on underfunding, organizational resistance, governance, risk, compliance and security. Analyzing the broader market, KCP found these problems continuing into early 2019, with 25% of problems deriving from tool selection, but 75% from management mistakes. Meanwhile many suppliers are 'RPA washing', by overstating capabilities, and over-selling RPA and cognitive automation as "AI", adding confusion, and only exacerbating the problems for clients.²

In this 5-Part Report, we answer the key question: ***what explains the superior outcomes most Blue Prism clients are getting against several market trends?***

Part One: Becoming Strategic

Between 2015 and 2019 we carried out five surveys, 85 detailed case studies, and reviewed 104 further deployments of robotic process automation (RPA). We know that the top performing RPA users ‘think strategically’, ‘start right’, ‘institutionalize fast’ and ‘innovate continuously’. These four admonitions add up to applying 30 action principles to mitigate 41 major potential RPA deployment risks.³ Our research also shows that the single most important factor in achieving superior outcomes – one that shapes and informs all RPA related activities – is the adoption of a strategic approach to the introduction and management of RPA within the enterprise.

But what does it mean to be “strategic”? In this report we detail the components of becoming strategic then explore in more depth how these shape and inform client management practices across eight major risk areas in the automation life-cycle. Throughout we identify the Action Principles⁴ adopted by leading Blue Prism clients that do not just mitigate the risk of failure, but enable and ensure maximum enterprise value from RPA.

The truly strategic performer in the RPA space exhibits seven attributes. Six of these are well supported by the evidence. The seventh – focusing on total cost of ownership (TCO), and total value of ownership (TVO) is the subject of our on-going research.⁵

1. Strategy vs. Operational Quick Wins

Leading companies observe a fundamental rule: business strategy drives RPA investments. In the case of RPA this did not necessarily happen immediately. RPA historically has been seen as a tactical, quick-win tool to achieve business benefits and bypass the long IT work queue. Many RPA tools were set up with precisely this aim in mind, and inherit design limitations when clients attempt to scale them to achieve bigger business goals. Moving from a tactical focus on costs to multi-faceted strategic impacts often follows a typical pattern (see Figure 1). Blue Prism pioneers like Telefonica O2, RWE npower, Innogy SE business solutions, Barclays Bank, and Shop Direct matured their own strategic understanding over time and now operate with Phase 3/4 mind-sets.

Becoming Strategic with RPA

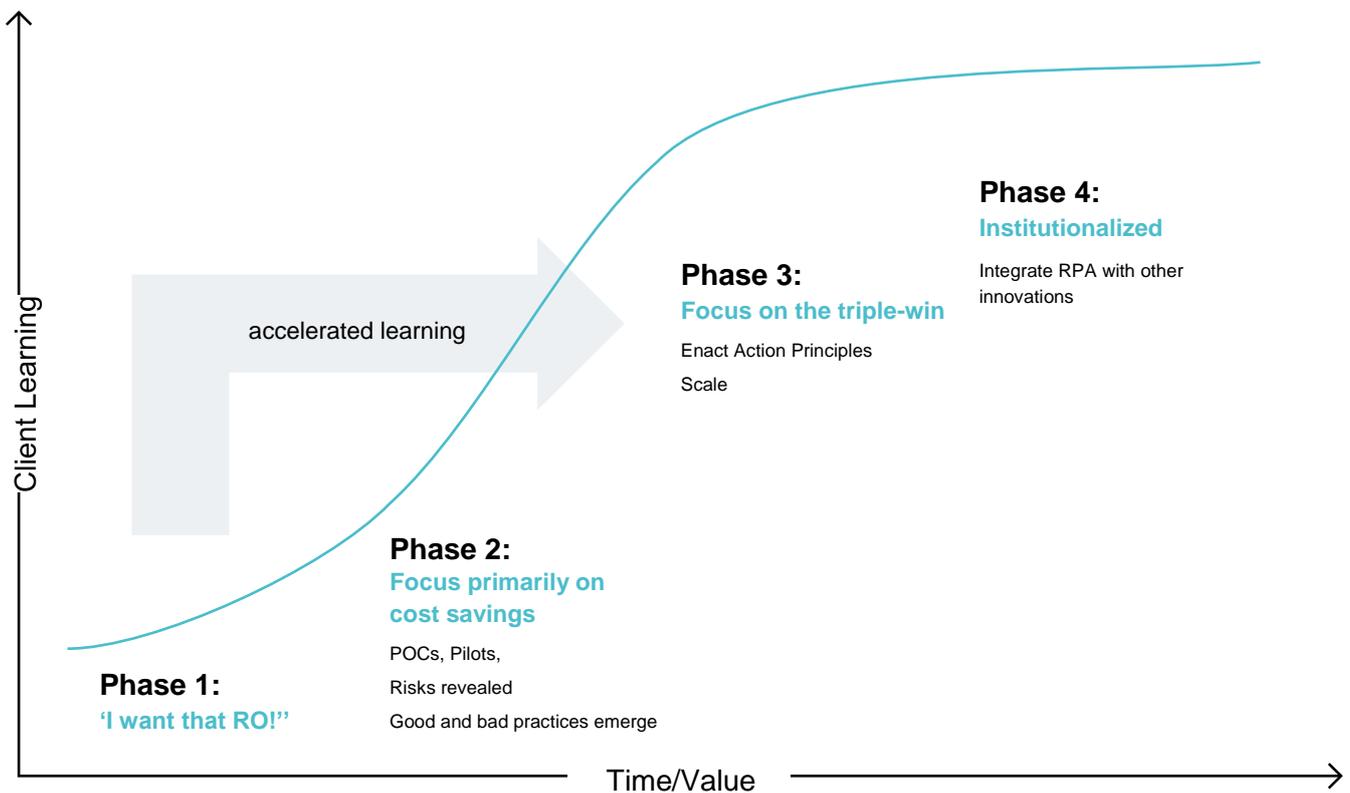


Figure 1: Becoming Strategic With RPA

Source: Lacity and Willcocks (2017)

Client experiences and knowledge built up over the last three years now allows companies like BNY Mellon, beginning their journey in early 2016, to accelerate their learning and kick-start at Phase 3. By mid-2017 they had over 200 robots in production and had automated more than 100 processes.

Where does business strategy come in? IT investments are always best driven by business imperatives.⁶ RPA is no different. We found Phase 3 clients going for a triple win of shareholder, customer and employee value. The secret here was the higher aspiration. Clients aimed for and were getting multiple business benefits but were producing also unexpected returns, for example discovering much better regulatory compliance, products quicker to market, enhanced customer journeys and increased employee skills and recognition.

2. Culturally Imbedded vs. 'IT As Usual'

The longstanding finding on executive support for IT investments generally⁷ is reinforced by our RPA research - automation as transformative must have cultural adoption and support from the C-suite. This manifests itself in senior executive behavior. They sponsor and project champion service automation. They see RPA as a strategic business project and provide the requisite financial and human resources. They communicate clearly on automation, and ensure that governance and project structure are in place. They protect developments when they run into difficulties. A prime example amongst Blue Prism clients has been Xchanging where, in 2014, CEO Ken Lever promoted 'putting technology at our core' as an annual report message. By June 2015, Xchanging had automated 14 core processes with a range of significant business benefits.⁸

Our most recent data from Blue Prism clients extends this picture into adoption practices (see Figure 2). Some 73% of clients drive automation from a centralized Center of Excellence, or top-down through a senior executive responsible for multiple business units. The clients deploying RPA locally or through the IT department, on the other hand, were at earlier stages of their automation journeys, and not deploying the full capabilities of the RPA platform.

Which best describes your RPA adoption process?

Blue Prism - RPA Adoption Process

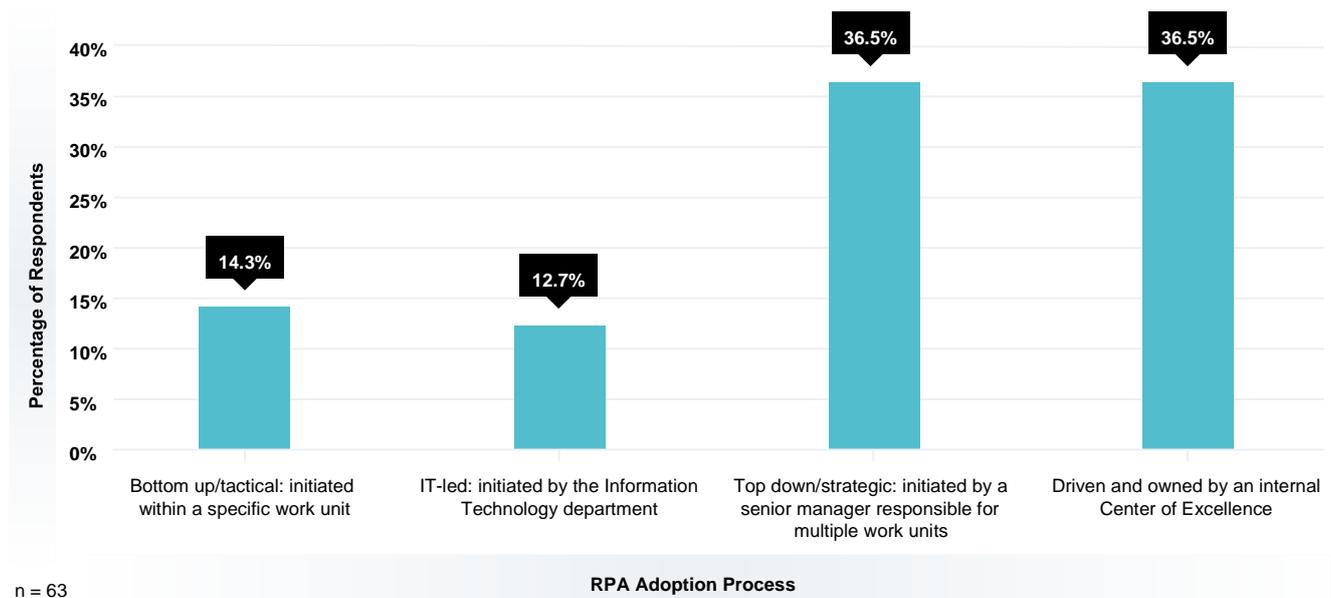


Figure 2 : RPA adoption Process

Source: KCP Survey

3. Planning vs. Opportunism

Jon Theuerkauf, in June 2016 managing director and group head of performance excellence at BNY Mellon, stated as one of his principles: *'begin with the end in mind'*. More precisely, looking at the case, BNY Mellon planned for the mid-term and long-term end-points, and recognized that the 'endpoint' would be continually redefined. We have found this typical of clients with a strategic mind-set. Much depends, of course, on what that end-point is defined as.

During 2017, most defined the end-point as establishing an RPA, then an automation Center of Excellence. By 2018 we found 67% of Blue Prism clients treating RPA as part of a larger automation or larger digital business strategy. Companies like American Express, IBM, BNY Mellon, ING, Nordea, and Siemens planned to start slow, then scale fast. They looked for a rich business value proposition. Such clients aim for high return on investment (ROI) – our research found evidence of 30-200% first year ROIs, depending on process. But they also look explicitly for, and get, 'triple wins', including typically improved service speed, consistency and quality, faster deployment of new services, improved regulatory compliance, differentiating customer experiences, and more flexible, satisfied workforces.⁹ In terms of mid-point, clients were increasingly enhancing RPA usage by adopting complementary cognitive technologies, for example at Zurich Insurance in the claim validation process,

and at KPMG in audit, business generation, and risk assurance validation processes.¹⁰ Such companies, typically, also plan carefully across the automation life-cycle – from strategy to maturity - to mitigate the 41 material risks likely to be encountered in any major automation program.¹¹

4. Program Governance vs. Project Delivery

A common mistake has been to treat RPA as just another piece of software. This leads on to limited governance arrangements, at best adopting standard project management techniques, and seeing scaling as just buying more software to spread across more processes, with little IT engagement.¹² By 2018 many clients, particularly those deploying robotic desk-top automation (RDA),¹³ found this approach inhibited both scaling and deploying RPA as a foundation for further service automation and digital transformation.

Our case research shows that leading RPA users across sectors take a different route, and, like Siemens, innogy SE and BNY Mellon, for example, see RPA as potentially more transformational.¹⁴ The constitution ('rules of the game') for automation is formulated Day One, and covers decisionmaking and responsibilities for technology, process, data, business and resources. In fact, Blue Prism clients get a lot of technical governance built into the software covering security, compliance, change management, ease of integration with infrastructure, and fit with enterprise applications. Blue Prism also sets out a detailed Robotic Operating Model that stipulates many enabling and policing rules. Blue Prism also details the vital role of the IT department in governance and making RPA function optimally. These governance features help, we think, to explain why Blue Prism clients are so positive about the technical platform's scalability, adaptability, security, ease of learning, and speed to deployment.¹⁵

5. Platform vs. Tool

The requirement for such governance comes from seeing RPA as a platform, rather than just another automation 'tool'. The 'tool' view sees RPA being sidelined and overtaken by more advanced cognitive automation. Conversely, in the leading Blue Prism client companies, RPA is utilized as part of a continuum of complementary automation and digital technologies supporting digital transformation of the enterprise. Blue Prism, clients adopt a platform capability with over 92% adopting server or cloud, as opposed to desktop, deployment to support enterprise wide scalability and strong security.

6. Change Management vs. Silo Tolerance

Used opportunistically, RPA tools can gain quick wins, but too often they have been deployed as a band aid or sticking plaster on pain points in the organization. This has the advantage of not having to deal with change management issues, but the serious disadvantage of turning down the transformation potential of automation, and consequent strategic benefits. But most organizations are surprisingly heavily siloed, not just in terms of structure, but just about everything else.¹⁶ From mid-2018 into 2019, as RPA adopters increasingly scaled to reap more benefits, we found them encountering major challenges on change management.¹⁷

Amongst leading Blue Prism clients, senior executives anticipate the transformation potential of RPA, and explicitly manage the change implications for data, technology, people, processes, and structures. Siemens, for example, established a global RPA Center of Excellence in mid-2017, to define a global approach. It looked to integrate RPA with the business process/management/operations platform and enterprise platform globally, by integrating RPA into a broader automation strategy, aligning process governance with C-level support and process optimization.

As many Blue Prism clients have found, getting early stakeholder buy-in is particularly important i– from business operations managers, IT, employees and senior executives. This requires fully resourcing change management capability, messaging the purpose and value of RPA to staff, and ensuring strategic alignment, new competencies, and changes are institutionalized and imbedded in work practices. When we asked Blue Prism clients what they did with the FTE savings generated from RPA (see Figure 3) their responses demonstrated a strategic approach.

What does your organization do with the FTE savings generated from RPA?

Organizational Use of FTE Savings - RPA

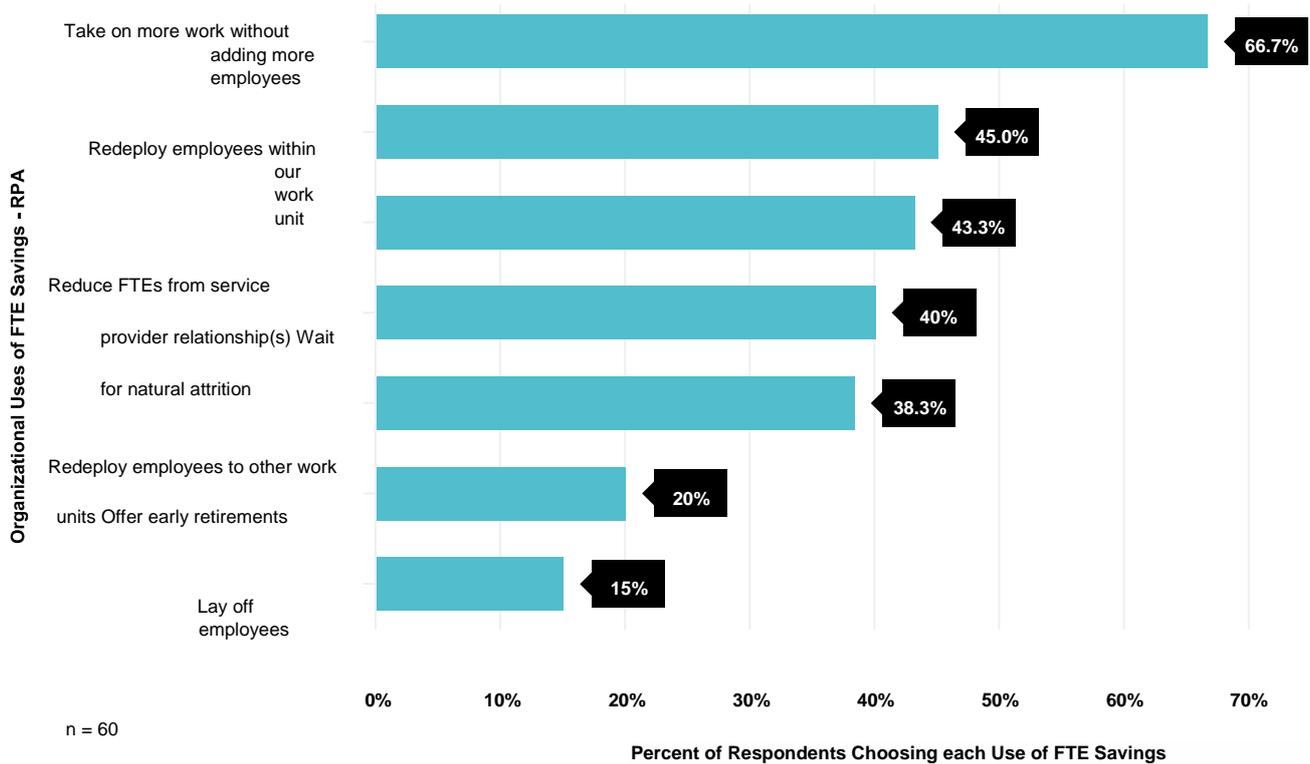


Figure 3 – Client Use of FTE Savings Generated From RPA

Source: KCP Survey

Over two thirds take on more work without adding more employees, supporting our accumulating evidence that organizations are experiencing dramatic increases in the amount of work to be done, and that automation is not so much replacing labor, as helping organizations cope. Blue Prism clients also adopted five other strategic human resource approaches, with only 15% saying they had laid off employees. The key issue here is communicating clearly, honestly and early what is likely to happen to jobs as this is a key worry issue for employees.

7. Measurement

The evaluation of IT investments has always been problematic. At the same time, getting the right measurement system has been a major key to driving business value.¹⁸ In the past organizations have tended not to fully investigate risk and potential costs, to understate knock-on cost of operations and maintenance, and not to properly account for rising human and organizational costs. Typically, we found that organizations using traditional ROI cost/benefit analysis understated real costs, which

frequently exceeded technical costs by 300-400%.¹⁹ Our evidence is that many RPA users are committing the same mistakes.

One inclination, inherited from IT evaluation practice, has been to establish a viable business case by understating total costs, in order to be able to allocate only hard, financial benefits allowable under traditional ROI measurement regimes. But this does not lead to gaining strategic value from RPA, or treat RPA as strategic. Fortunately, as KCP has shown in an earlier study, the size and speed of benefits from RPA so exceed those from previous major technology rounds through 1990-2015, including IT outsourcing, IT offshoring, business process re-engineering, ERP systems, and business process management systems, that this has not inhibited RPA investment disastrously.²⁰ However, we believe that a new measurement framework is needed to drive strategic behavior and gains.

For Blue Prism clients some good work has already been done in this area.²¹ One remedy has been to focus on Total Cost of Ownership (TCO), defined as the ***total technical, project, human and organizational acquisition and operating costs as well costs related to replacement or upgrades at the end of the life cycle***. TCO directly relates to an enterprise's asset and/or related systems total costs across all projects and processes, thus giving a picture of the profitability over time. By mid-2018 some 67% of Blue Prism clients had a TCO model. Of these, 40% started with a TCO model while 60% developed it over time (for more detail see Part 4 below).

The TCO framework is a clear improvement over ROI as a business measurement. The real limitation so far in RPA assessment, however, has been in establishing *benefits*.²² In Part 2 below we develop further a more comprehensive measure we call **Total Value of Ownership (TVO)**, designed to ensure full accounting for costs and, importantly, the potential business benefits and future value opportunities that RPA can enable.

Part Two: Key Selection Challenges

There are major risks incurred at the RPA selection stage. On **sourcing** their RPA implementation, we have seen clients lacking the necessary skills for self-administered automation. We have seen them pick the wrong advisors or partners, or choose the right ones, but too late. Some clients gain too little value sourcing RPA from their business process outsourcing (BPO) providers. And while cloud has been an emerging sourcing option, it can bring extra data protection risks, especially in highly regulated industries.

Tool/platform selection can also be hazardous. Drowning in market hype and confusion, clients risk choosing the wrong tool(s) too many, or bad tools. The proliferation of vendors marketing 'RPA' has not helped (over 48 vendors claimed to be selling RPA as at early 2019). In fact, as we have found, even amongst the top three vendors, not all vendor products are the same. The follow-on risk from choosing the wrong tool is experiencing costly tool 'lock-in', and needing to find a migration exit path.

There are many reliable ways of mitigating these risks, as we have established in several previous publications.²³ Here we enrich this analysis by identifying key sourcing and platform selection practices adopted by Blue Prism clients in order to gain superior business value from their RPA deployments. We then introduce a further key measurement practice emerging from our most recent research into RPA business value: Total Value of Ownership (TVO).

Sourcing Approach

In reviewing the general market, we see five main sourcing approaches:

- Insourcing (DIY)
- Insourcing plus consultancy
- Use RPA vendor/partners
- Use BPO outsourcing service providers
- RPA-as-a-service (cloud)

Which to choose? Amongst Blue Prism clients the overwhelmingly preferred option is insourcing, with or without consultants (70%). Outsourcing to an RPA or BPO provider is practiced by only 15%. Only 11% of clients were using RPA As-A-Service (cloud), though we would expect this to rise as cloud comes to be perceived as less risky and is experienced as more usable for a greater range of tasks (see Figure 4).

Which describes the best approach for you?

RPA Sourcing Approach

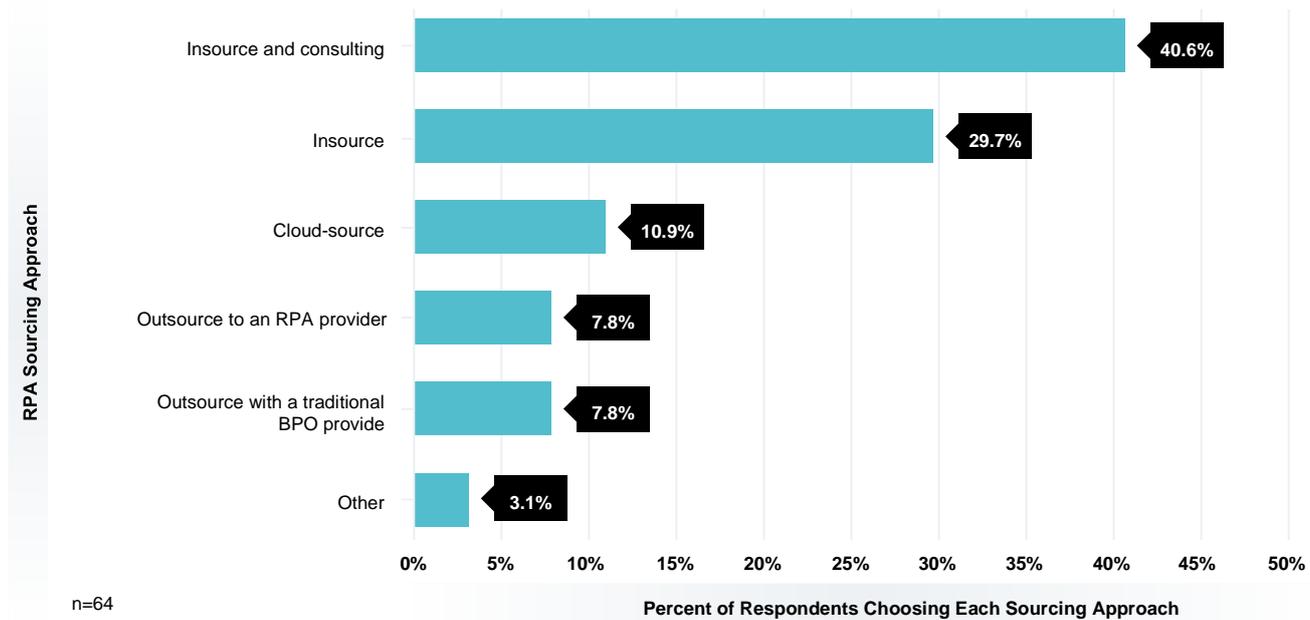


Figure 4 – Sourcing Approaches of Blue Prism Clients

This is in marked contrast to our 2018 findings on the general market where clients mostly (72%) reported that they relied on their current service providers to automate services for them, while 23% used RPA-As-A-Service.²⁴ Given the very positive results Blue Prism clients were getting, against some market trends, this suggests that building internal capabilities and fostering internal learning at the early stages of deployment are keys to effective RPA performance, rather than relying too heavily on BPO service providers. Drawing on external advisory expertise also seems to be a common and helpful practice.²⁵ We note increasing use of RPA-as-a-service over the last year amongst Blue Prism and non-Blue Prism clients alike.

By insourcing, it would appear that Blue Prism clients are seeking long term benefits from owning the RPA solution and are more willing to pay for the learning curve and resource commitment required. For clients choosing to partner with their BPO providers, the benefits can include a full suite of integrated services that combine labor arbitrage, process excellence, change management maturity and technology expertise (see also Figure 5). One downside, however, is provider-lock in. Switching providers may also mean having to re-jig automations with the new provider.²⁶

How do Blue Prism clients choose RPA providers? Reputation, reference site, and advisor recommendation are the top three criteria cited, in descending order. Underlying that overall ranking, a prior relationship with the provider is the strongest *relatively weighted* decision factor (followed by reputation and advisor recommendation). There is an anonymous, aphorism that might well apply here:

“All things being equal, you do business with people you know and trust; all things being unequal, you (still) do business with people you know and trust...”

Tool/Platform Selection

There are at least four major archetypes of technology labeled ‘RPA’ in the marketplace (see Figure 5).

Automation Technology Archetypes

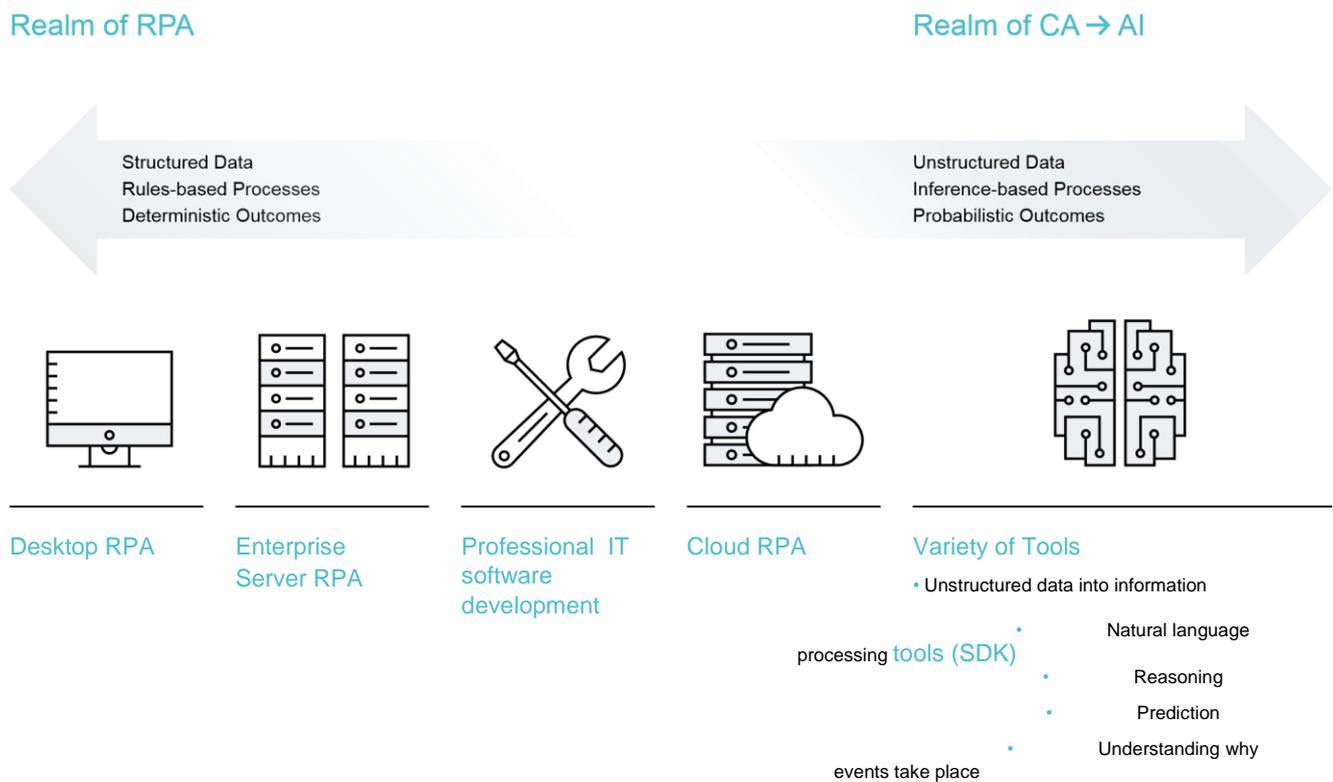


Figure 5 – Four RPA ‘archetypes’

We see a trend: different types of buyers, with differing business and stakeholder objectives, and different technical backgrounds will buy different kinds of RPA. For example, business operations people wishing to achieve quick wins and independence from the IT queue go for desktop recorded automation. Those wanting to customize the tool, and ‘own’ the technology, tend to go for self development kits. Blue Prism clients have a predilection for an RPA platform that is scaleable, and that provides an enterprise grade, secure solution. Speed to adoption and ease of use are more secondary. Even lower priority is given to reusability, auditability, multi-skilling capability and cost. That said, we

found Blue Prism clients registering high satisfaction levels on all these criteria, as well as on employee satisfaction, service quality and business value.²⁷

Is it, then, just a matter of a client company defining its objectives and finding the ‘best fit’ tool? That is necessary, but insufficient. For all too many, there is a critical missing question to be answered for the evaluation jigsaw to be complete: what kind of journey are you locked into when you choose a specific type of RPA technology?

The answer emerging from our most recent research is shown in Figure 6. The problem has been that most RPA clients in the general market have only started their journeys relatively recently – the take-off point seems to have been late 2016-early 2017. The promises and challenges inherent in their technical choices only really start to emerge in Phase 2, then more seriously over the next two years. We are finding that RDA (Robotic Desktop Automation), RPA and SDK take clients on different journeys, with significantly different management challenges and cost and benefit consequences. However, because many clients did not think strategically from the start, used traditional cost/benefit analysis and ROI metrics, and saw RPA as a tool rather than a platform, they failed to take into account a key issue: the total cost and contribution of their RPA investments.

RPA providers are improving their technology continuously and some technical fixes are emerging to the difficulties we identify in Figure 6. But, our evidence is still that the initial choice of technology can, over a five year period, commit a client to significantly less or more difficult management challenges, and much higher or lower total costs and contributions. To mitigate the risks here, we suggest a new metric – Total Value of Ownership (TVO) that clients can use for assessing initial RPA feasibility, and for tracking RPA investments over their lifetimes.

Three Journeys: KCP Evidence 2016-18

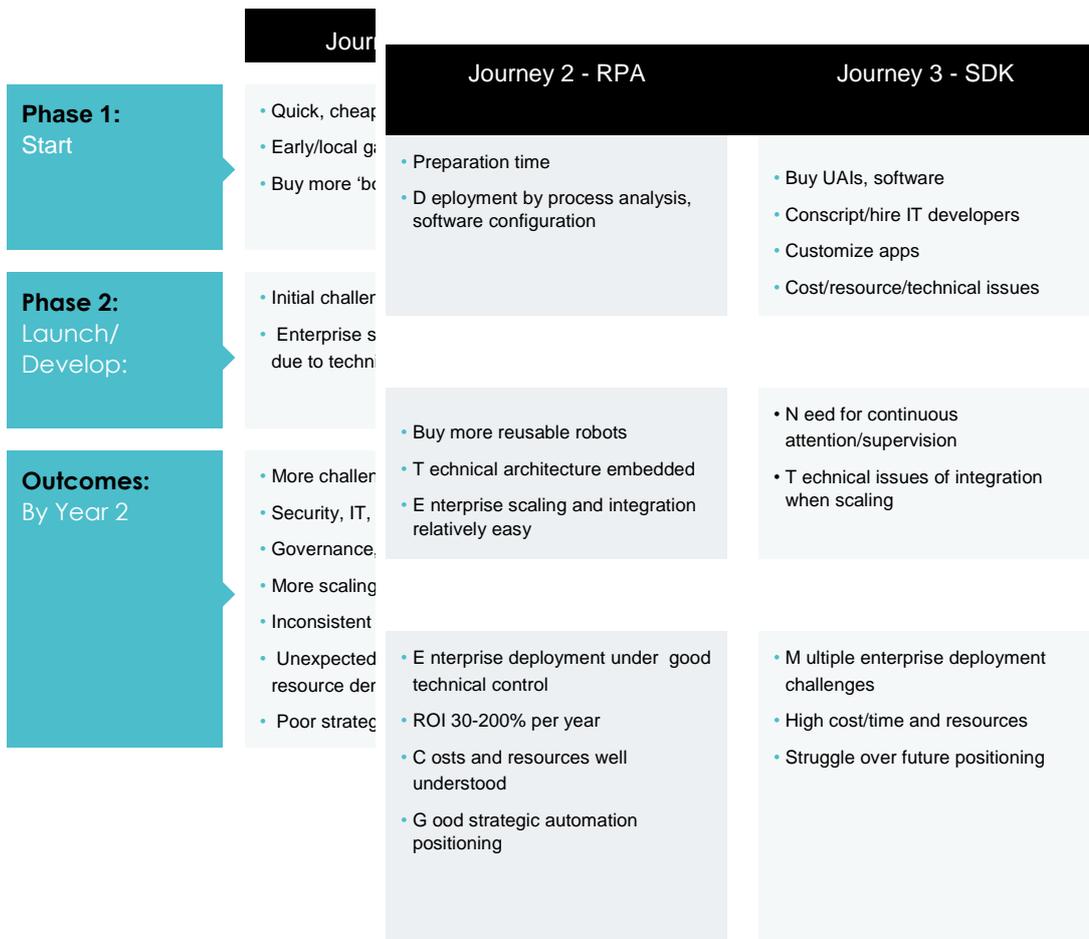


Figure 6 – Three RPA Journeys and Their Management and Financial Implications

Measurement: From ROI to TCO to TVO

Total Value of Ownership (TVO). With this concept, developed by Knowledge Capital Partners, the objective is to ensure that business cases for service automation are driven by (1) total costs, (2) multiple expected business benefits and (3) the strategic returns from future business and technical options made possible by RPA. Our TVO Framework is shown in Figure 7.

Total Value of Ownership: The KCP Three E's Framework

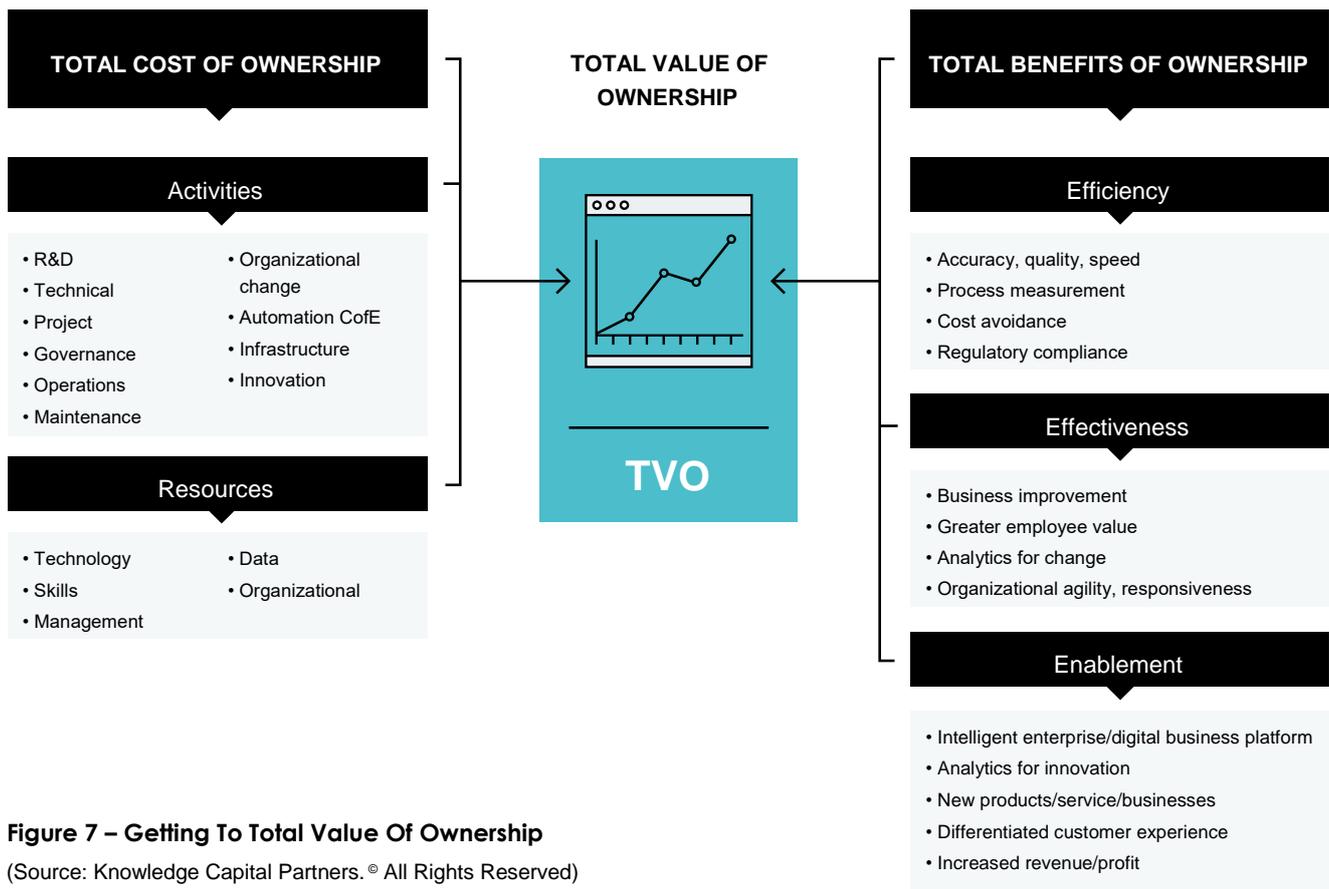


Figure 7 – Getting To Total Value Of Ownership
 (Source: Knowledge Capital Partners. © All Rights Reserved)

Some introductory remarks are useful here. TCO (left) is arrived at by summing all resource costs encountered across the activities comprising the automation life-cycle. This flushes out hidden costs so often missed when using more traditional metrics. On the value side of the model (right), we have already found very strong empirical evidence amongst Blue Prism and other clients using RPA for a ‘triple win’ – for shareholders, customers and employees. Our three E’s framework is designed to capture all these, but also locates further hidden value frequently omitted from clients’ business cases.

Much hidden value resides in the potential from business analytics for efficiency, effectiveness and enablement (the “3E’s”). Additional hidden value is located in the Effectiveness area (‘doing things right/differently’), by using automation to change how business is done, or extending its capabilities. Meanwhile when we come to Enablement, we have already found multiple examples of enhanced customer journeys, new services, and increased profit/revenue. However, this is just scratching the potential in these directions, given how the technology is developing. Furthermore, we need to capture the hidden strategic value of the future options created where automation contributes to building a digital business platform, multi-faceted in its internal and external utility. Discounting such major hidden, future value is a serious mistake.

You do not have to go far for exemplars that support TVO thinking as a compelling proposition. For example, in the 1970s. American Airlines developed Sabre initially as a more efficient reservation system. It became an enterprise operating platform not just for flight bookings, but for crew scheduling, equipment management, customer loyalty (miles programs). Sabre was eventually spun off as an independent, multi-service platform serving more than 400 airlines, 220,000 hotels, 42 car rental brands, 38 rail providers and 17 cruise lines. Other airlines (and other industries) have copied this model to become digital businesses.

More recently, Amazon started out in the 1990s with books – by re-imagining the customer experience – and then evolved the platform to sell a vast range of goods – most recently including groceries with the integration of Whole Foods. Its automation of business processes now ranges from one-click ordering, right through the myriad independent vendors who market their wares on the Amazon platform, including payment systems, order tracking and optimizing the choice(s) for fulfillment (shipper selection, booking, payment, etc.). Amazon is both a retailer and a middleman servicing other retailers along with advertisers and other service providers. The underlying IT investments supporting these innovations, moreover, were themselves commercialized by Amazon for third party use -- an entirely new and highly profitable line of business. Amazon today is one of the largest providers of cloud services to enterprise customers.

These are the kinds of “Enablement” benefits and opportunities that come from having a robust, intelligent and flexible automated operations platform – benefits which the TVO framework is designed to capture.

Part Three: Stakeholder Buy-in and Governance

Part of starting right and institutionalizing fast is gaining an early grip on stakeholder buy-in and governance. In our survey, top Blue Prism client performers operationalized distinctive practices on these two fronts, which we report on here.

The politics of automation is often overlooked as managers under pressure prioritize technical concerns, costs and implementation deadlines. But organizations have multiple **stakeholder groups**, often with different, legitimate objectives and interests. Unsurprisingly during implementation, job content and departmental interests are disrupted. Politics breed in times of technological change, and managing this 'politics track' well is critical to avoiding employee backlash, insufficient funding and resources from senior executives, un-involved or uncooperative IT, trade union/worker recalcitrance, and/or organizational resistance from those not directly involved in delivery.²⁸

Governance can mitigate such problems by establishing the constitution, or 'rules of the game' for RPA development and deployment. Governance specifies decision rights and accountabilities for important automation decisions, and creates a framework for encouraging desirable behaviors in RPA use.²⁹ With IT generally, good governance has been found to produce up to 40% greater ROI. Firms with above-average IT governance, that followed a specific strategy (e.g. operational excellence or customer intimacy), have more than 20% higher profitability than firms with poor governance following the same strategy.³⁰ Our detailed RPA case and survey findings are consistent with these kind of figures.³¹

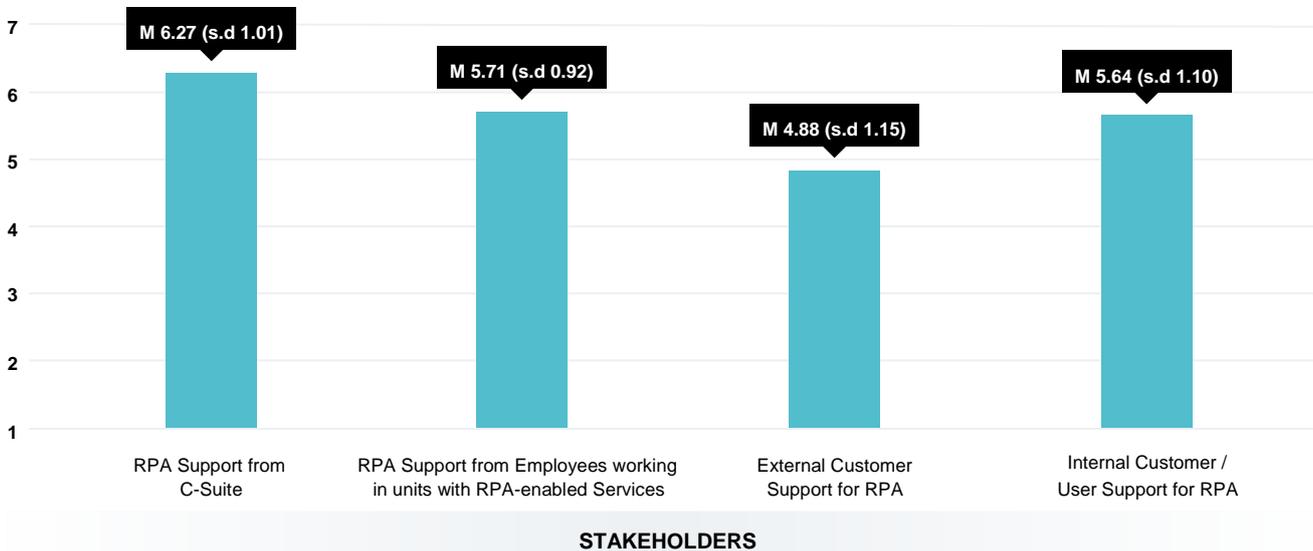
Stakeholder Buy-In

Amongst Blue Prism customers, successful RPA automations are characterized by strong support from multiple stakeholders, chiefly senior management and employees working directly with the automated services (see Figure 8). Internal customer support is experienced as more important than external customer support, because process improvement involves multiple internal functional areas, while in successful automations, external customers might not even know, or need to know.

Please indicate the level of support for RPA from the following stakeholders:

Level of Support for RPA from Stakeholders

(1=Strongly Oppose; 4 Neither: 7=Strongly Support)



"n" responses	
RPA Support from C -Suite	62
RPA Support from Employees working in units with RPA-enabled Services	63
External Customer Support for RPA	49
Internal Customer/User Support for RPA	58
Valid N (listwise)	48

Figure 8 – Stakeholder Buy-In

In one major North American bank the project leader for automation was appointed and supported by the Head of the bank’s service operations unit. In an insurance company the CEO appointed the project leader, the two having worked with each other in a prior organization. In a BPO service provider, the CEO endorsed automation, describing the organizational mission as ‘having technology at its core’. In all three organizations, RPA has expanded greatly and proven successful. These are just three illustrative examples of the importance of getting early, active, on-going chief executive and senior board management support for strategy, resources and project protection.

But CXO buy-in, while necessary, is hardly enough. Organizations have multiple stakeholders, all of whom can support or derail RPA in some way. Gaining stakeholder buy-in means instituting strong change management practices from the start, including continuous communication of the vision, clarity about the end point and what is going to happen, active stakeholder participation, and full information about roles and likely impacts. (see also Part Four below)

The IT department represents a particularly important group to involve early. Successful RPA deployments are characterized by IT involvement and support in providing infrastructure for RPA, assessing platforms and tools, and managing robotic access to core enterprise systems. Some early Blue Prism adopters excluded IT because RPA was seen as a business operations program, an opportunity to bypass the IT priority queue, and because RPA did not need IT programming and development expertise. In nearly all cases this proved a poor approach. Customers learned the lesson: bring IT on board early.

Blue Prism software requires IT support on a number of critical fronts:

- Compliance with IT security, auditability, and change management
- Help with infrastructure configuration and scalability
- Prevention of 'shadow' IT and proliferation of RPA islands

IT is in the best position to build a scalable, safe, and robust infrastructure. IT can ensure business continuity, data and system security, and change management compliance. IT creates access rules and identities for robots, and can also minimize network latency.

A very first practical step, ironically, is educating the CIO, IT architecture and IT infrastructure managers about RPA, and how it differs from IT-led service automation tools – for example software development kits (SDK) and business process management (BPM) solutions. When IT understands RPA, the evidence is that IT then sees the benefits, including: reduction in IT demand from business operations; applicability of RPA to its own operations, better control and security over a growing part of the IT ecosystem, and restricting 'shadow' IT growth. Clearly IT has to be heavily involved in parts of automation governance, but which parts?

Governance

High performing Blue Prism customers (56%) make an RPA (or automation) Center of Excellence the primary vehicle for governing RPA capability. The variations shown in Figure 10 are explained by a number of factors, some to do with where the RPA imperative began, - for example in a centralized innovation/R&D function or business operations - others to do with how recently RPA has been adopted. In 15% of cases, the IT function has primary responsibility, sometimes because business operations are not mature enough yet to manage RPA, sometimes because the organization has not yet developed a fuller automation strategy, and IT seems to be the obvious first place to house software

expertise. As automation scales and becomes more strategic, governance tends to become more centralized, and complex.

Which organizational unit is primarily responsible for governing the RPA capability?

Org. Unit Primarily responsible for governing the RPA capability

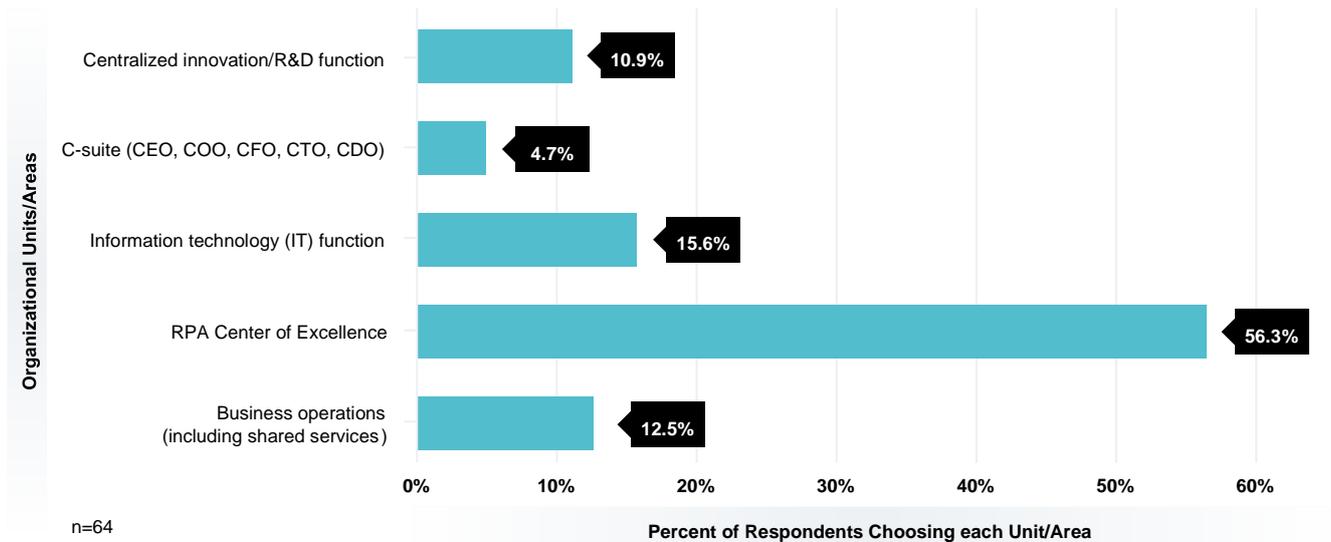


Figure 9 – Organizational Unit Primarily Responsible for RPA Governance

Following a similar pattern, the COE is overwhelmingly the preferred locus for designing and developing RPA automations, followed by Business Operations, Innovation/R&D, and IT (Figure 10). Why do IT/BPO service providers barely rate here? Are they too tied to their own internal methods? Or perhaps automation is seen as a vehicle for clients to control/bring service back in-house?

Which organizational unit is primarily responsible for designing and developing RPA automations?

Org. Unit Primarily responsible for designing and developing RPA

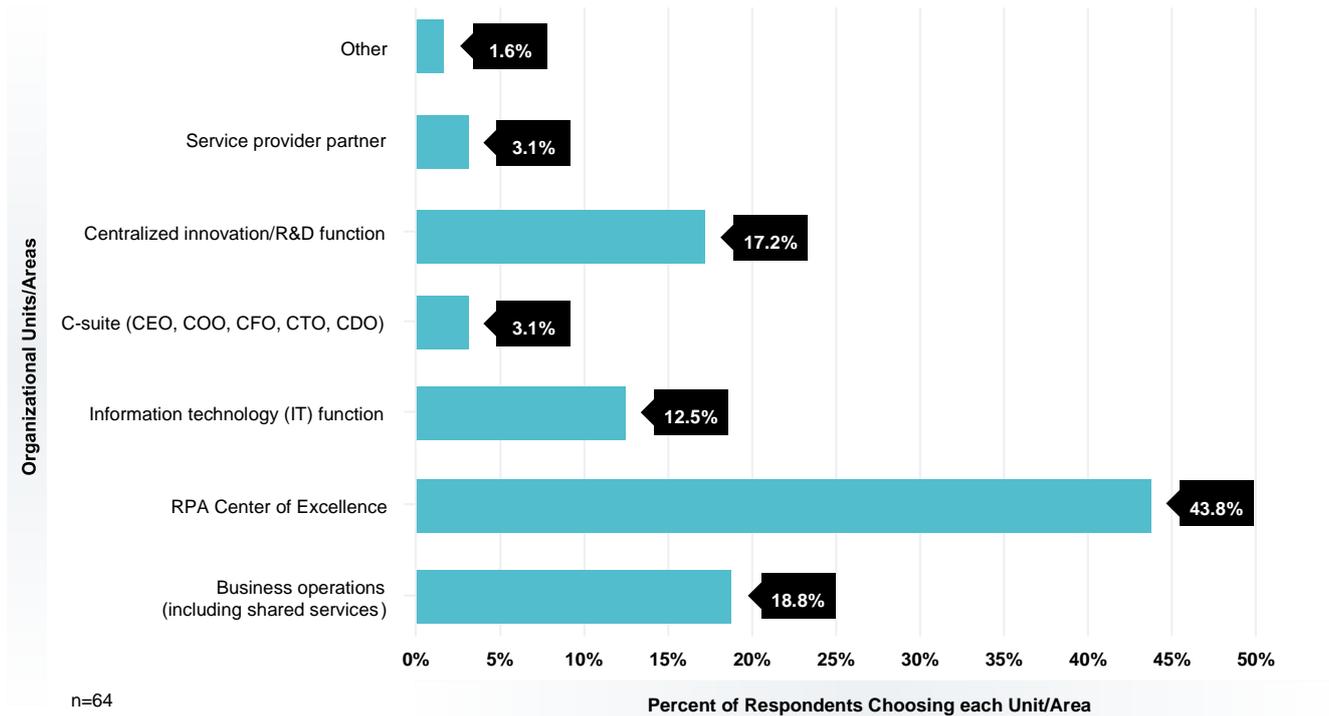


Figure 10 – The COE is the Preferred Unit for RPA Design and Development

The COE is also the principal choice for *operating and maintaining* RPA automations (see Figure 11). It is seen as the simplest way of achieving enterprise control and as a way of building internal capability in the face of increasingly scarce skills. The COE emerges clearly as a critical success factor.

Which organizational unit is primarily responsible for the daily operating and maintaining of RPA automations?

Org. Unit Primarily responsible for Operating and Maintaining RPA

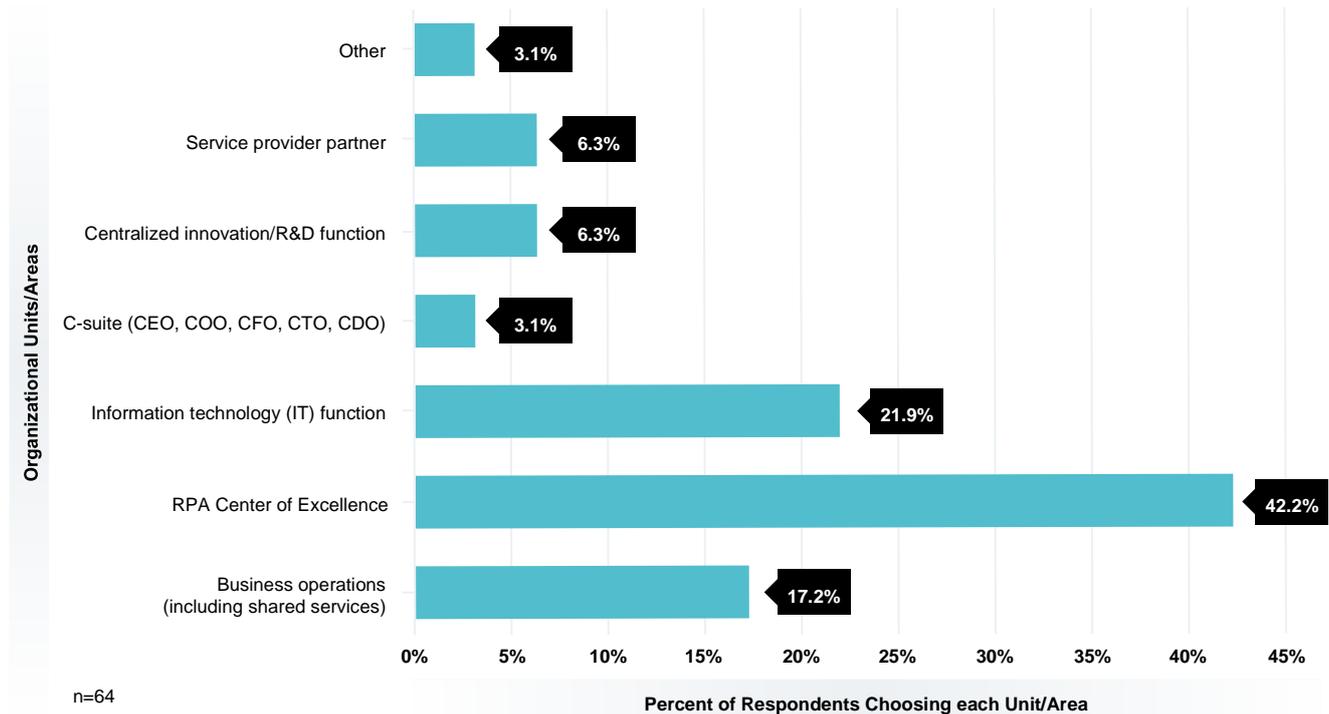


Figure 11 – The COE is The Preferred Unit for Operating and Maintaining RPA

So far, so good. However, RPA governance needs to be seen in terms of three areas – technical, project and program governance. Effective RPA deployments invariably do *project governance* well. They establish a senior *project sponsor* who spends up to 6% of her/his time resourcing and supporting the project, a *project champion* from the business, with high credibility and track record of delivery to articulate and communicate and drive the vision through, and an experienced *project manager* with a track record of delivery, either in business process or IT, preferably in both. RPA is thus seen as a business change project, with multi-disciplinary teams, working to fulfill business goals. Projects tend to operate a time-box philosophy with quick delivery time-scales achievable by applying the 80/20 rule, that is focusing on the 20% that gave 80% of the business value sought.

On the other hand *technical* and *program governance* often run into problems. In our research, top performers 'start right' and 'institutionalize fast' by dealing with the challenges and clarifying governance structures early.

To achieve corporate coherence on technologies, RPA activities need to be linked to wider IT, cognitive automation and digital transformation developments in the organization, and decisions need to be made in five major areas:

- Automation Principles – Clarifying the business role of automation technologies
- Automation and IT/digital Architecture – Defining integration and standardization requirements
- Automation and IT/digital Infrastructure – Determining shared and enabling services
- Business Application Needs – Specifying the business need for purchased or internally developed automation applications
- Automation Investment and Prioritization – Choosing which initiatives to fund and how much to spend.

In practice a governance and management strategy is needed to cover decision and participation rights, roles and responsibilities, required governance capabilities and preferred governance and management structure. One suggestion here is shown in Figure 12.

Corporate Coherence

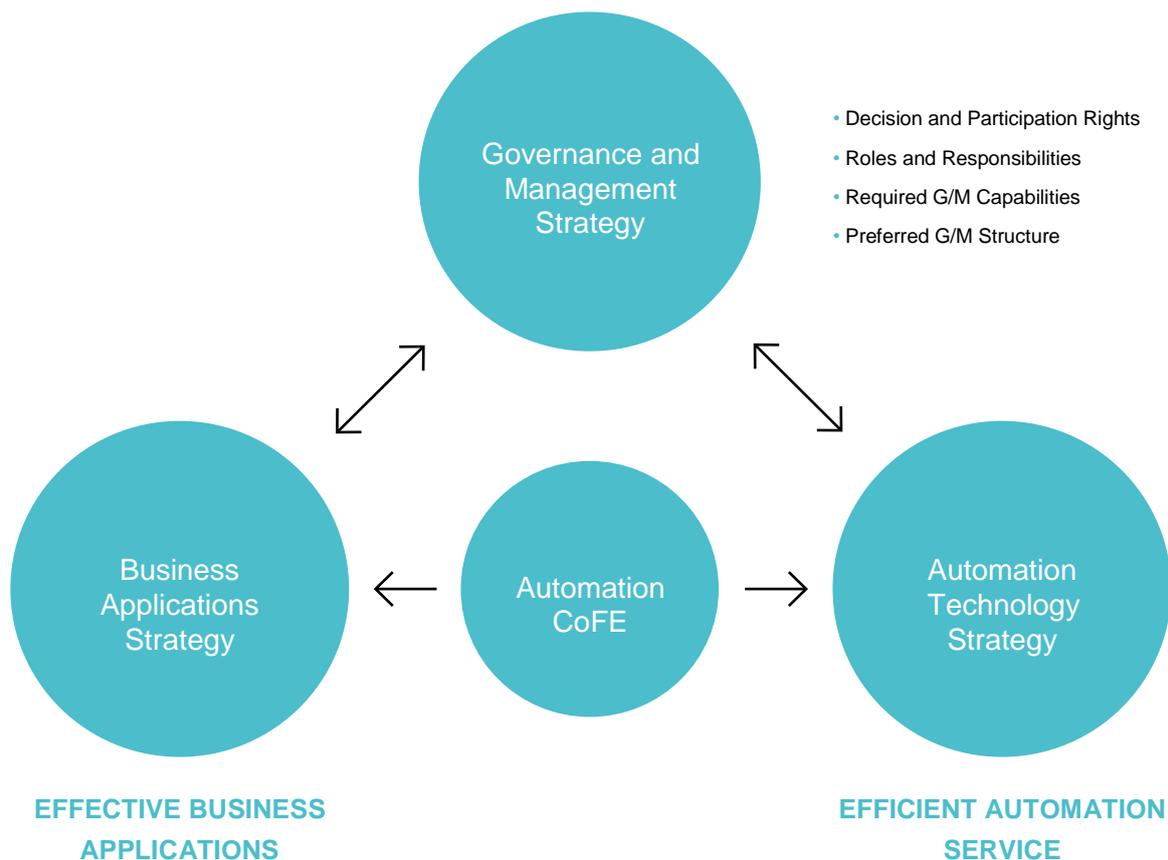


Figure 12 – Strategies for Governance, Technology and Business Applications

The governance and management strategy is drawn up by the CEO and senior executives

representing the business and service units, including the IT function. The strategy will take into account and be consistent with the wider governance structures for business and for Information Technology within the organization. The RPA COE is thus positioned to evolve into an Automation Center of Excellence, to manage and coordinate all automation projects and the overall program. Business and service unit managers become primarily responsible for decisions on business and process applications, with expert support and some mandates from the COE. Technology decisions are primarily made by a combination of COE and IT, with the COE responsible for design, development, delivery, operations and maintenance, and IT for integration challenges, and IT architecture/infrastructure and IT trajectory issues.

Governance Principles

Getting stakeholder buy-in early is a critical part of change management. Governance structures are an important component in getting that buy-in and formalizing and clarifying relationships, roles and accountabilities. Some key leadership principles emerge, consistent with earlier findings on IT governance:

- Firstly, design governance early and as a whole. In large organizations, design governance at multiple organizational levels. Try to implement common governance mechanisms across the organization. This is especially important, given that RPA will have to fit with both legacy IT and with emerging developments in cognitive automation and digital transformation.
- Redesign governance infrequently. Involve senior managers, and aim for a simple structure with a small number of performance goals. Clarify the exception-handling process. Assign clear ownership and accountability. Align incentives.
- And finally communicate clearly how governance works -- what the rules of the game are. This will mean a constant effort to provide transparency and education.
- Our final finding: governance can feel very bureaucratic. If it becomes so, then you will not be a high performer.

Part Four: Change Management & Capability Development

Early buy-in and governance – as outlined in Part Three – are critical, but insufficient components of the larger process of change management. Here we analyze Blue Prism customers' approach to the key challenges in the areas of changing people, process and technology. We find that Blue Prism customers do many things right, but there is still room for improvement.

Our global research on change management found major risks facing organizations globally as they introduce RPA. A major trip-wire continues to be the old habit of getting buried in technical change, and neglecting the bigger picture. Particularly key are *people* – their skills and motivations; *processes* – marrying process design across the enterprise with what the *technology* can do. Success depends on how these three components are aligned and integrated to achieve superior business value. One consequence of focusing intensively on the technology aspects of RPA development and deployment has been the under-funding of change management. In our broader research, the symptoms and consequences of poor change management manifested themselves in many ways: stakeholders ignoring, stalling resisting or derailing the automation program; initial projects failing technically, financially, or politically; the robots not functioning as intended; and, as business rules evolve or IT interfaces change, organizations failing to adapt to RPA.

There are reliable ways of mitigating these risks, as we have established elsewhere.³² Here we enrich this analysis, through identifying the effective practices of leading Blue Prism customers. We then introduce further improvements identified in our research-in-progress.

People and Change Management

Blue Prism customers, as a whole, seem to do a good job on stakeholder communication and building human skill sets. In the wider RPA market we found performance is much more uneven than this.³³ Blue Prism customers score themselves highest on identifying the skills needed for developing and implementing RPA, and future skills needed for an automated environment (Figure 12). Despite the variable performances elsewhere, Blue Prism customers also see themselves doing well on

communicating the business value of RPA to stakeholders, and running an effective change management program to support RPA.

Please indicate the degree to which you agree with the following statements about stakeholder communication and human skill sets:

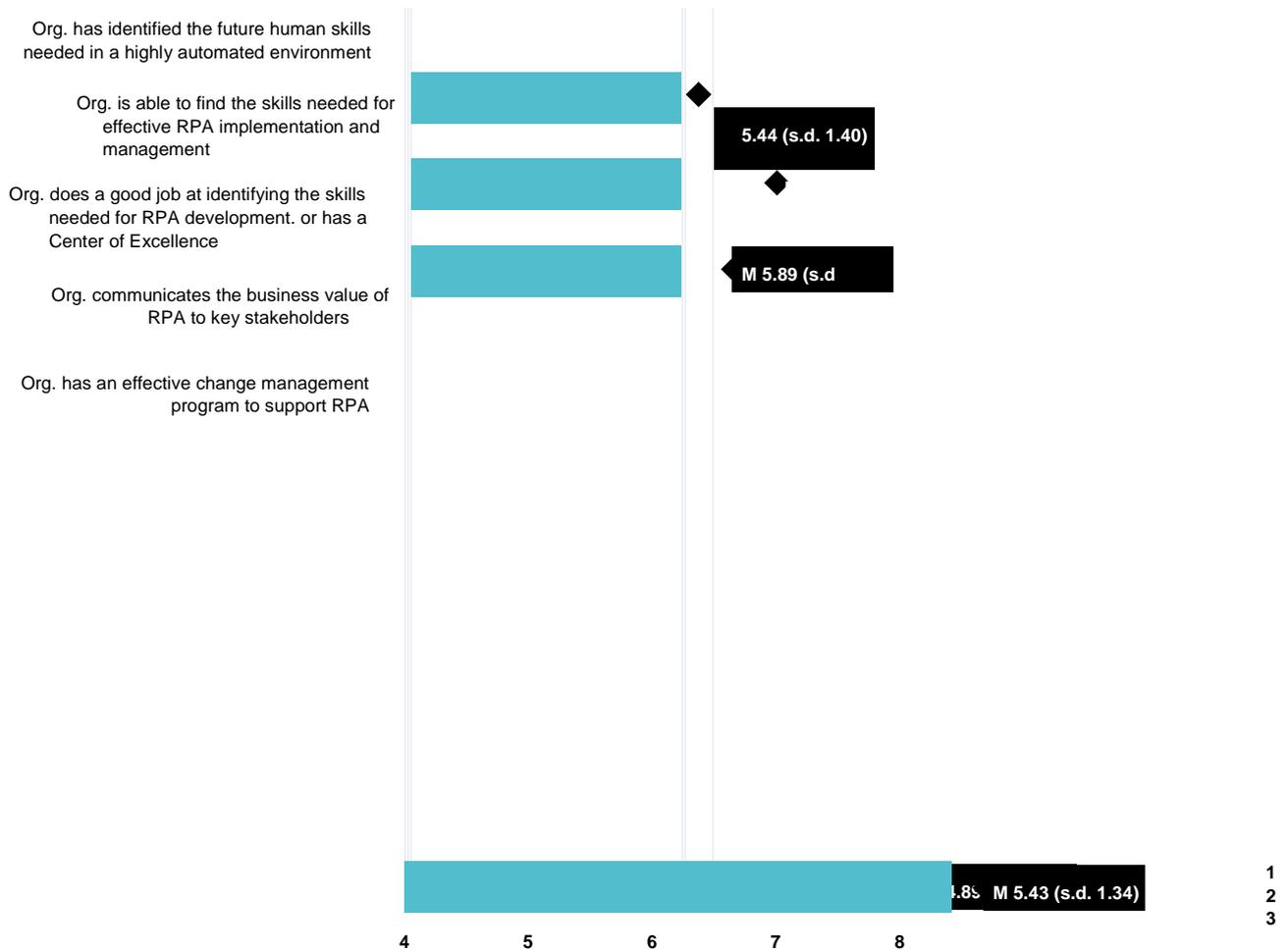


Figure 12 – Stakeholder Communication and Skill Sets

Looking across several hundred deployments of Blue Prism and other RPA technologies, we highlight the effective practices in Figure 13. Blue Prism customers like Bank of New York Mellon and Xchanging (now DXC Technologies) for example, have focused on the value of RPA to employees, including less repetitive, boring work, learning new skills and roles, being recognized as innovators, and able to focus more on customer service. Messaging has to be early, clear, consistent, and regular. An important aspect to deal with is employee fear of job loss. Employees hate uncertainty more than anything else so there needs to be clear messaging in terms of managing downsizing and its implications for

individuals and groups involved. Figure 13 also prioritizes the human resources practices used by Blue Prism customers to mitigate direct impact on employees, with redundancy seen as the last option.

Managing Change Through Automation

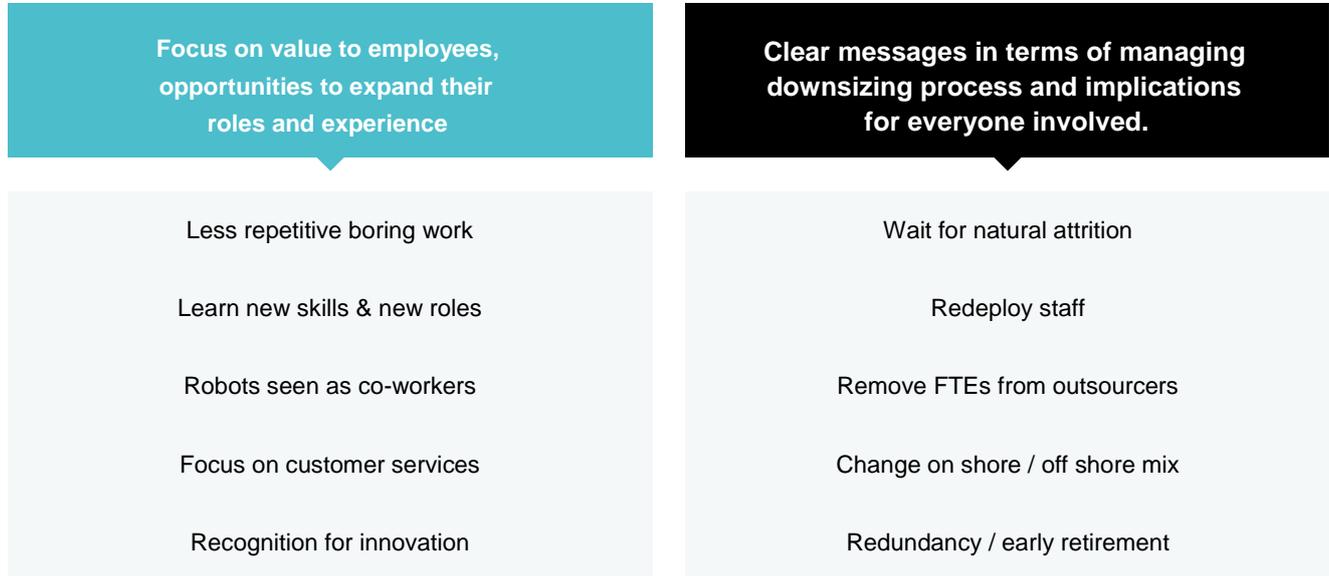
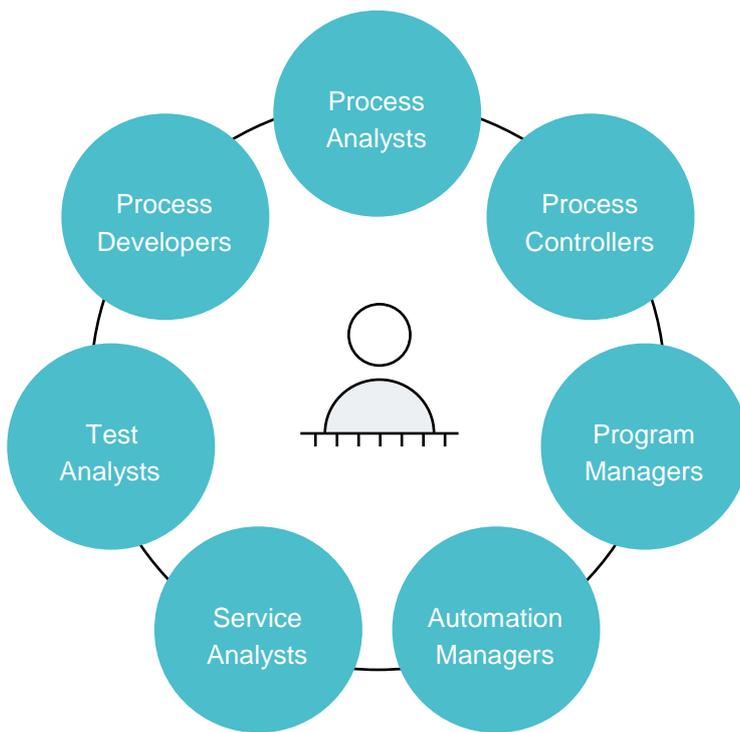


Figure 13 – Managing Change Through Automation

When we did a global market survey in early 2018, we found that this pattern was more or less followed by the majority of RPA customers. The main approach was to redeploy people within the work unit or elsewhere. Interestingly, 46% of organizations also used automation as an opportunity to take on more work rather than reduce headcount. A variety of other practices were followed, including slow recruitment, increasing training time, though 22% did register some layoffs.

One of the selling points of RPA (and cognitive automation), which rarely appears in those future of work reports that predict massive job losses, is the jobs and new roles created.³⁴ The direct job creation from RPA itself may not be large numbers, but Figure 14 indicates the kind of new roles and skills sets that need to be filled, and the numbers do increase as organizations scale their RPA over the next few years, and as cognitive automation software becomes much more widely adopted. Our survey of Blue Prism customers suggests that they are particularly strong on assigning more interesting work to employees as a result of RPA deployment, thus, in our phrase, ‘taking the robot out of the human’.

Change Management: automation creates new roles



- **Junior and Senior roles:**
The changes are at every level in the process
- **It's a continuum:**
Career opportunities available in RPA and there will be premiums to pay
- **Agile and Active Management:**
Managers of the operational processes will have to be agile as the way they manage and their focus changes
- **Potential blurring of roles:**
IT meets operations
- **Data, Compliance and Regulation** roles are growing in importance

Figure 14 – Automation and New Roles

Process And Technology

Customers face a dilemma on process and technology: whether to take what one executive described to us as ‘a quick and dirty approach’ and just automate the “as-is” existing process(es) in order to get business value cheap and fast, or to take a longer term “to-be” view. As detailed above, Blue Prism customers, wisely, tend to redesign processes in tandem with technology and people to achieve optimal performance. This sets up the organization for faster scaling, enterprise integration, and further re-engineering and automation down the line.

Successful Blue Prism customers redesign processes, and look to achieve end-to-end automation when deploying RPA. Note in Figure 15 the importance assigned to using automation to make more interesting and valuable work for humans. Clearly the successful users are integrating people, process and technology when designing future ways of working. But what processes are they focusing on, and how is this integration achieved?

Please indicate the extent to which your organization enacts the following practices:

Extent to which Organizations Enacts Practices

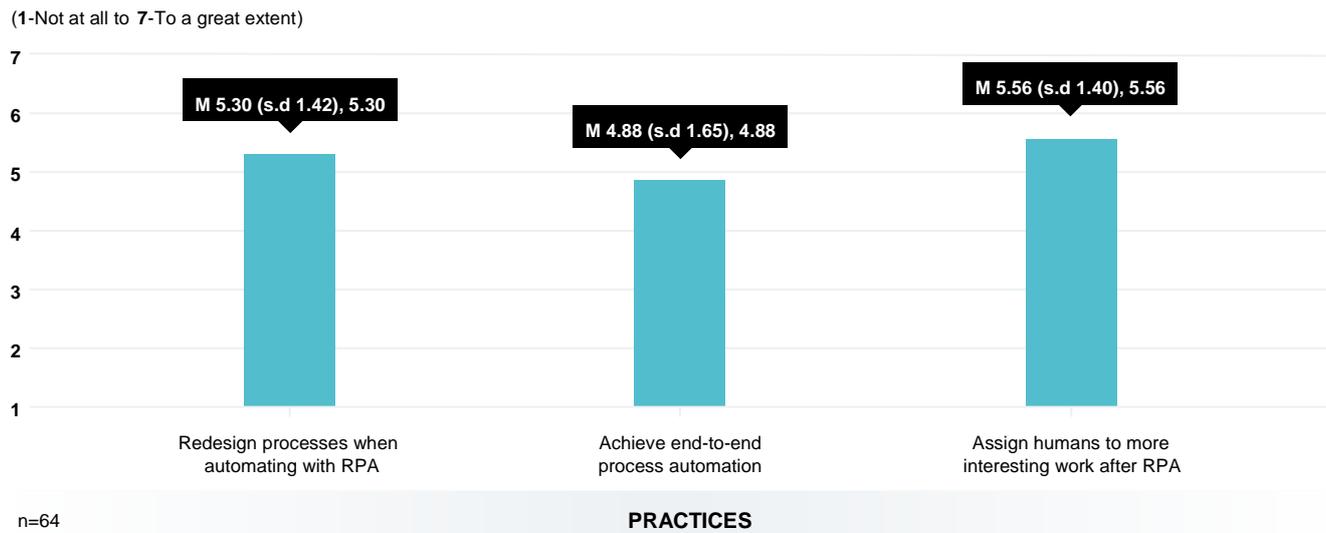


Figure 15 – Blue Prism Customer Practices on Process Redesign, End-to-end Process and skills

Amongst Blue Prism customers, the bulk of RPA automations are focused on back-office processes. However, opportunities are emerging for deploying RPA in middle- and front-office environments (15% and 21% of customers respectively) as enterprises become more creative in using RPA as a platform for digital enterprise transformation.

While RPA is used primarily for routine operational transactions, enterprises are also finding that RPA is a valuable resource for meeting unanticipated, “one-off,” and time-constrained requirements such as new regulations, mergers and acquisitions, or short-term requirements such as recruiting or marketing campaigns – see Figure 16.

Which types of processes does your organization prioritise as top RPA automation projects?

Types of Transactions Top Priority for Automation

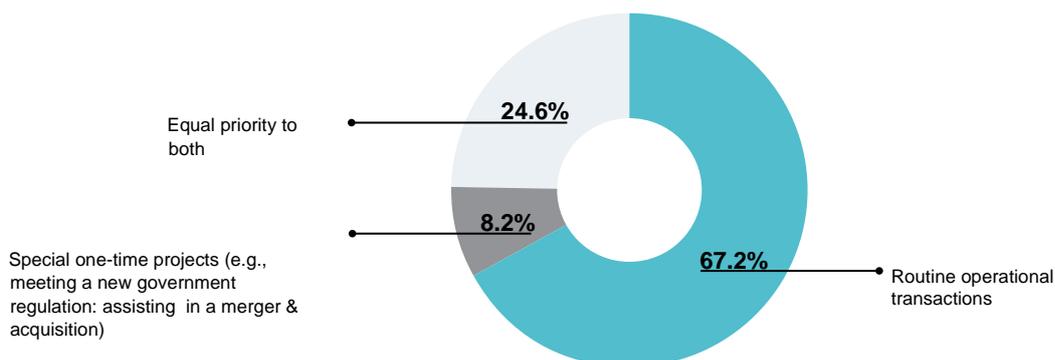


Figure 16 – Transactions Prioritized for RPA Deployment

So how is end-to-end process integration achieved? Figure 17 shows the Blue Prism customer responses to this question. The top three practices are: redesigning process to reduce RPA-human handoffs; requiring users to provide structured inputs; and digitizing and structuring data that is unstructured to make it ready for RPA input. Interestingly, few use multiple RPA tools (17.5%) while rather more (27%) are using cognitive, along with their RPA software, so preparing themselves for the next phase of service automation.

Which practices does your organization adopt to help the automate process end-to-end?

Practices Adopted to Help Automate Process End-to-end

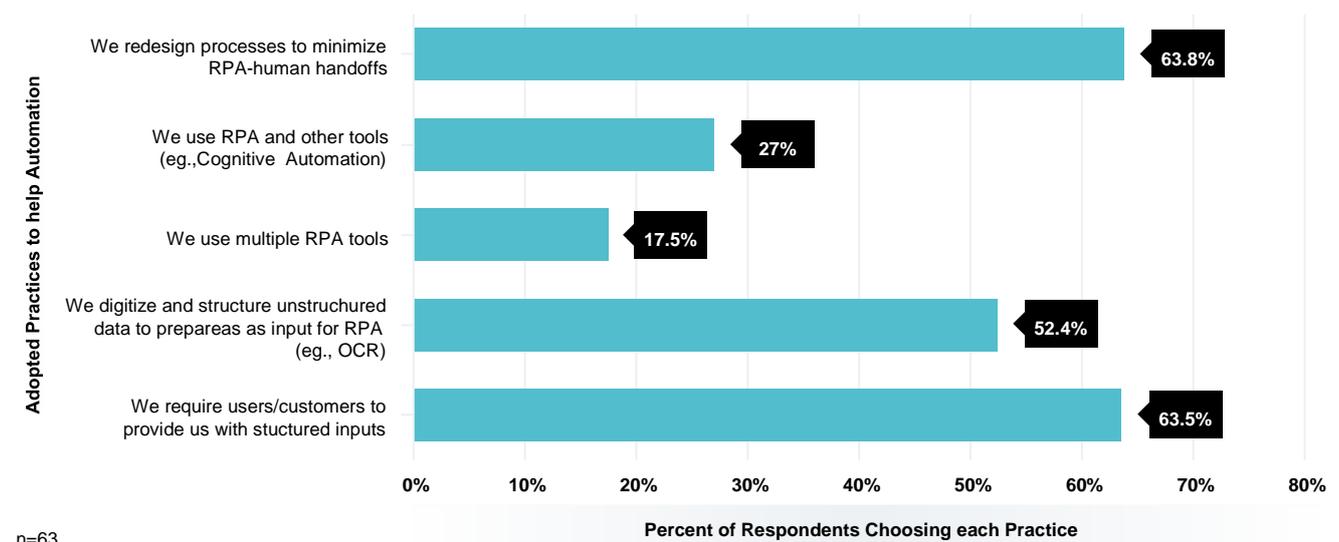


Figure 17 – Practices to Achieve End-to-End Processes

Room For Improvement

So far our research has highlighted the most effective RPA deployment practices, but is there room for improvement? Our follow-up survey gained over 100 respondents from Blue Prism customers attending BP World events in New York and London in 2018 suggests there is. The research focus was on Total Cost of Ownership, a theme we introduced earlier in this series. Only about half actually did a TCO analysis, and of those only about a half did it before the RPA project began. We will come back to this finding on measurement. Here we will focus on how the TCO analysis was carried out, and what was included and excluded.

Given our theme of change management, the results are enlightening. Looking at Figure 18, a range of stakeholders are variously involved in developing the TCO model, but it is striking that Human Resources are involved in only 16% of RPA deployments. This undoubtedly had an effect on what direct costs were included in the TCO model. One would assume that with the well known high human, organizational, and other hidden change management costs associated with introducing new technology into an organization,³⁵ there would be quite a large allocation of costs to cover these areas. But Figure 19 reveals that HR costs are the least considered direct costs, followed by consulting and integration costs. Paradoxically, licenses are the most often included costs, while in practice they are actually a relatively small part of the overall costs of an RPA program.

Which functions helped to develop TCO model?

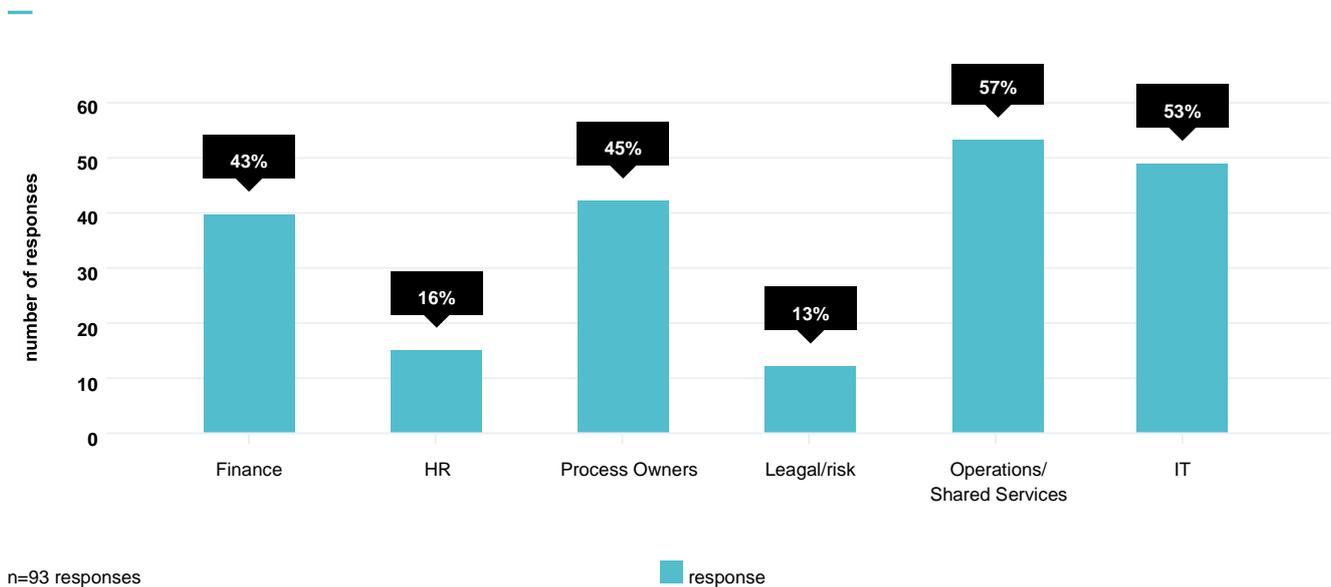
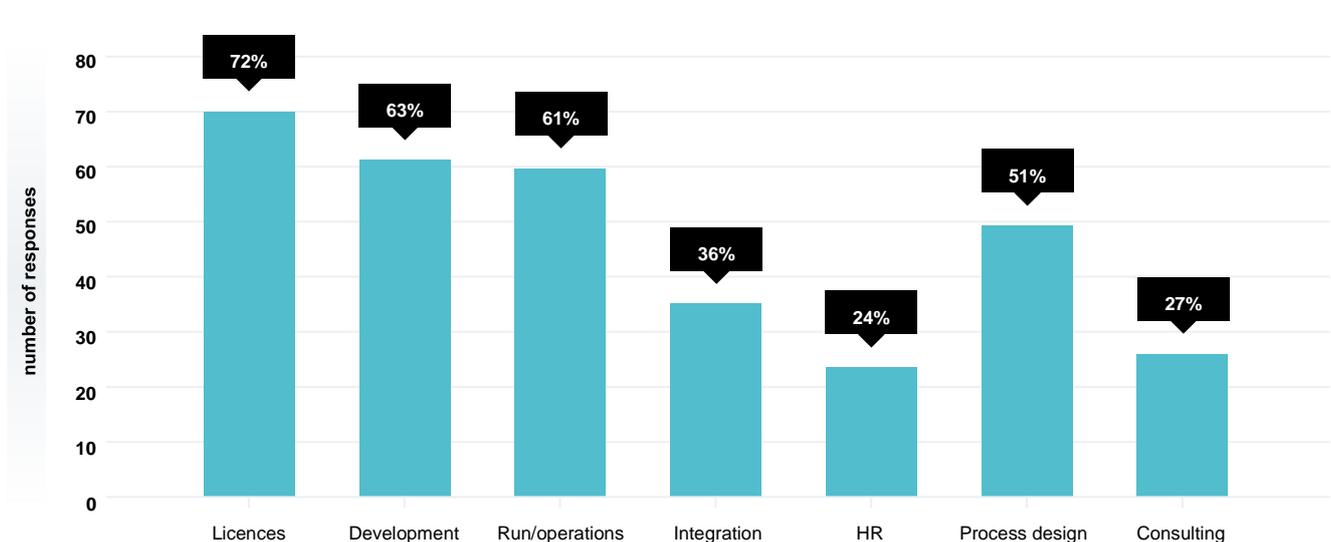


Figure 18 – Functions Developing the TCO model for RPA

Which direct costs were included in the TCO model?



n=97 responses

response

Figure 19 – Direct Costs Included in the TCO Model (Blue Prism Customers)

When looking at indirect costs, the situation does not get much better – see Figure 20. Only 55% add in training costs, only 20% build in retraining or severance costs, and more worryingly, only 24% consider enterprise change management costs. In past research into technology adoption we have found these costs are often two to four times the technical costs incurred for development, equipment, direct technology skills training. The other interesting factor that needs to be included in calculating TCO is the developing RPA skills shortage tending to drive up human costs. Run and operations costs also seem to be being underestimated: with other technologies we have seen knock-on operations and maintenance costs at levels of 40 cents per year for every dollar spent on the initial IT investment.³⁶

Which indirect costs were included in the TCO model?

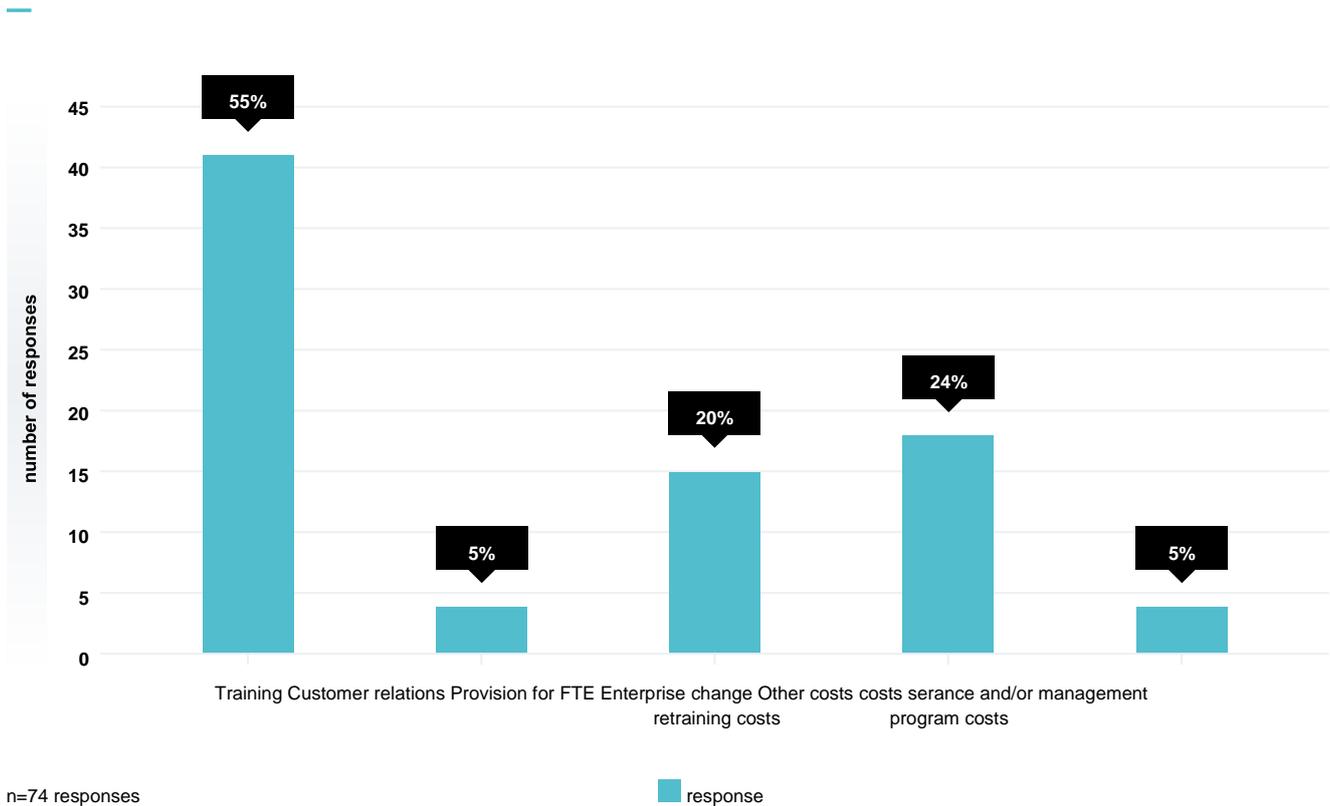


Figure 20 – Indirect Costs Included In The TCO model for RPA

The low numbers reported for HR and Change Management indicate an all-too-common and persistent failure to appreciate their importance. The failure to involve HR on the front end leads to low priority

given to acquire the necessary talent to implement RPA technologies, and on the back end, it leads to failing to provision for severance/re-training of affected populations. The lack of investment in change management is also indicative of failure to recognize or provision for the changes required across the organization and the way in impacts on customers, not just in the department where the technology is being deployed.

Part Five: The Path To Maturity

An organization that actions the risk mitigating, value enhancing practices detailed already in this Report³⁷ will be on the optimal path to maturity. RPA adopters who deploy 80% or more of the RPA action principles identified by our research gain superior, often unanticipated, business value. Leading organizations arrive at maturity after typically two years working with RPA, an interval that offers a key checkpoint date for examining progress and making corrections.

Our wider research shows the shape of general RPA performance across economies and sectors. By 2019, some 20% of RPA user organizations were getting superior business value; 40% were gaining most of the value they anticipated; 25% were getting some value but less than they expected; and 15% were struggling.³⁸ However, getting the value you anticipate does not mean that you secure all the value you could have. So firstly, we encourage the use of our total value of ownership (TVO) framework (see Part 2 above) to identify all potential benefits, and ensure value is not left on the table. Secondly, about half those getting less value than expected, were in fact getting much less value, or at best, not anywhere near as fast as anticipated. Thirdly, these figures suggest that the remaining 40% of RPA users are experiencing serious challenges with both mastering the technology, and managing it into business-effective operational use.

After two years the signs of challenged, sup-optimal RPA will be all too manifest. Typical symptoms and events, which come in clusters rather than singly, include: automation momentum has stalled; champions leave; progress is held up by skills shortages; the software robots are under-utilized; reinvention and ensuing duplication occurs across “automation islands” within the organization; scaling proves problematic; integration issues occur as cognitive and other emerging technologies are introduced; and RPA fails to fit with data and digital strategy efforts located elsewhere in the organization. Unfortunately, this is not an exhaustive list. All these symptoms result from not

implementing the practices delineated in this series. All come from choosing a flawed implementation path.

Our 2016-19 research so far has established the principles for achieving **operational excellence** when developing and deploying RPA.³⁹ But we found that leading organizations **innovate continuously**, on all fronts, and not just in technology. In Part One we detailed seven contextual prerequisites for driving constant innovation. We also highlighted in Part Four how leading organizations pursue innovation by integrating the full range of people, process and technology resources. Here we establish emerging practices for building further on maturity and gaining sustainable, superior business value from RPA investments as a platform for digital business transformation.

Governance - Beyond The RPA Center of Excellence

Amongst leading organizations, the Center of Excellence (CoE) is the preferred governance mechanism for designing, developing, maintaining and operating RPA (see above). Leading organizations also establish the CoE early, housing it typically in business operations. A mature CoE has the attributes portrayed in Figure 20.⁴⁰

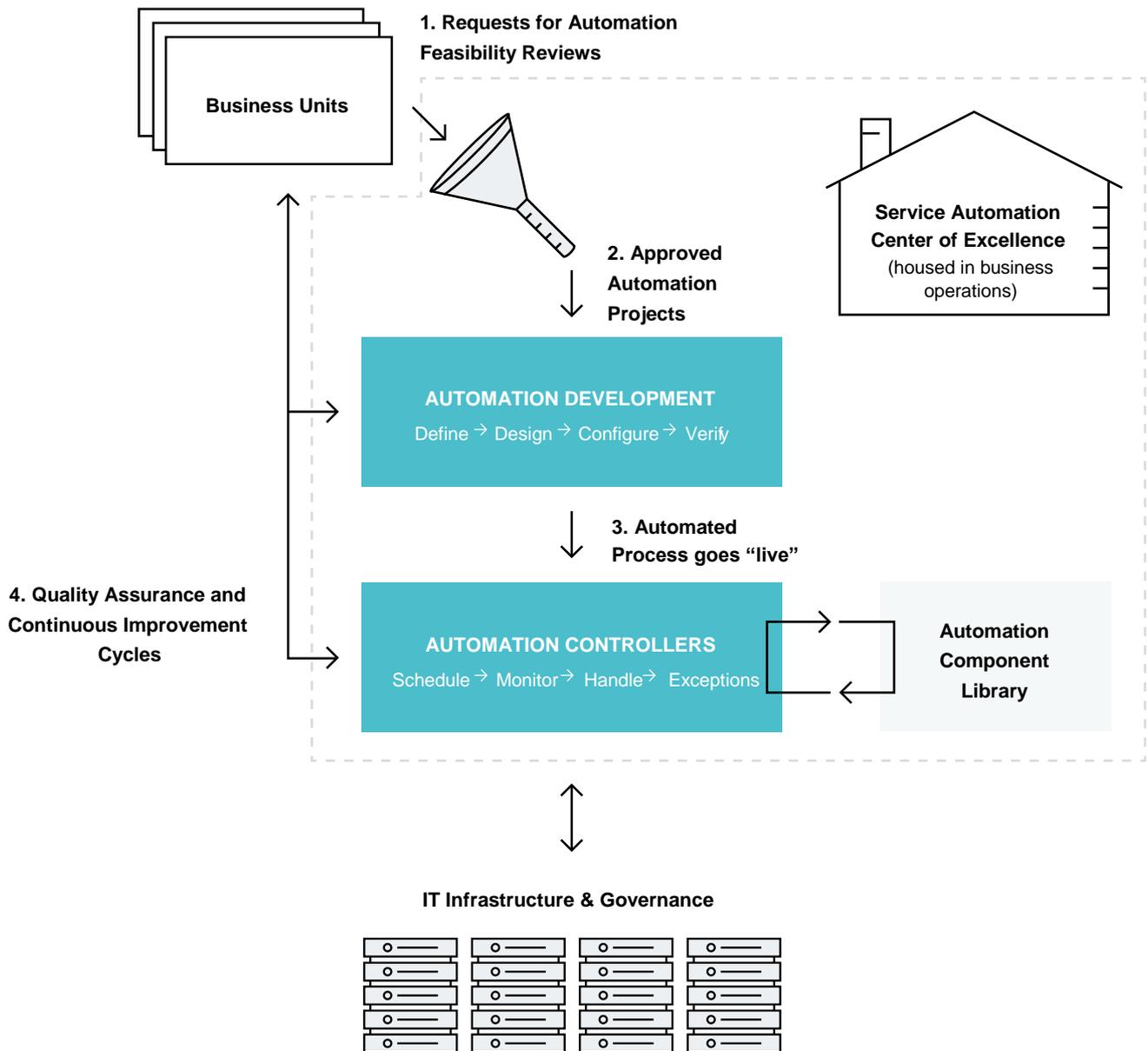


Figure 20 – Components of a Mature RPA Center of Excellence

Arriving at this governance structure involves moving through three stages: from initiation, through industrialization to institutionalization.⁴¹ The CoE must also be appropriately staffed with skilled resources. Our mature RPA CoE model exhibits the staffing mix shown in Figure 21.

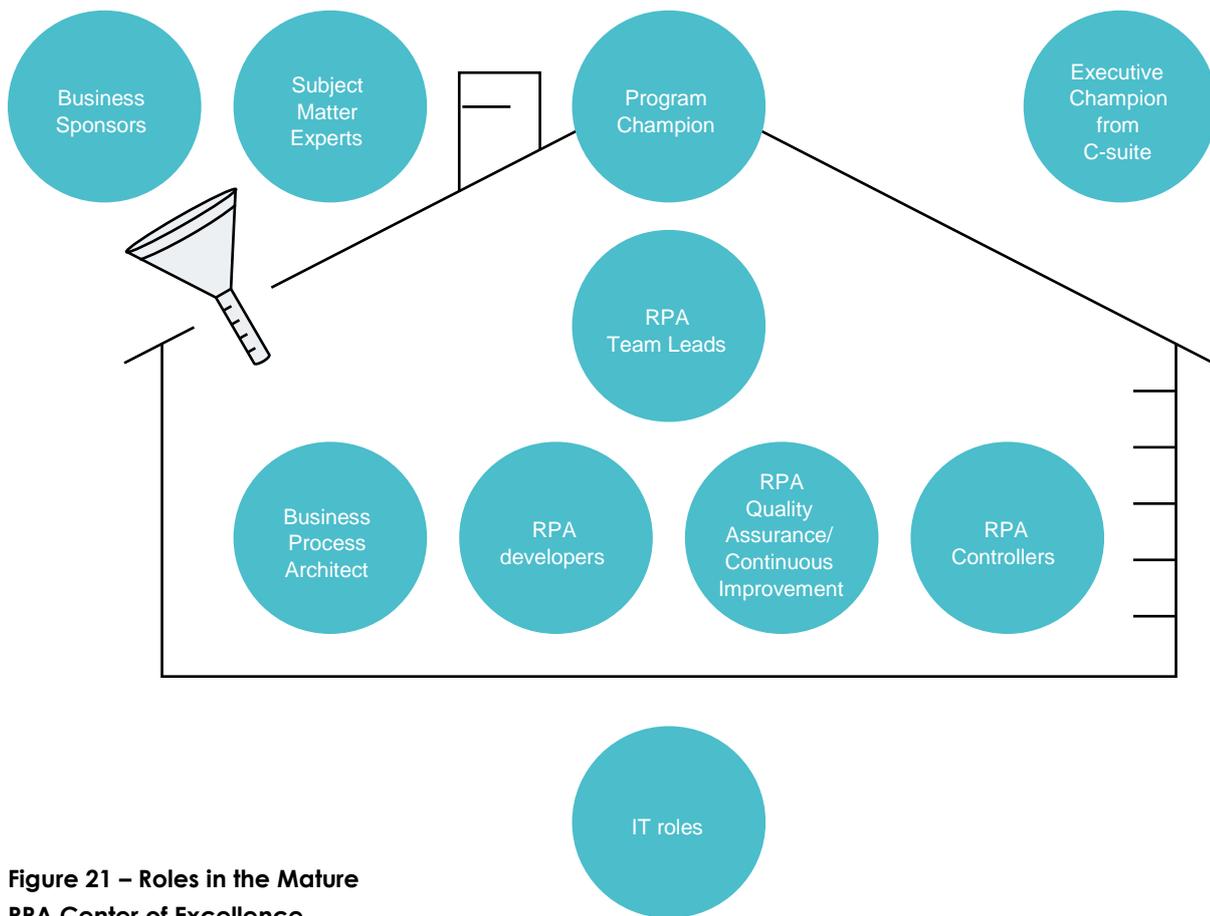


Figure 21 – Roles in the Mature RPA Center of Excellence

However, as noted earlier, we are finding that mature RPA users are looking to move beyond **operational excellence** to **continuous innovation**. Grappling to embrace newer technologies and deliver on ever-changing business demands, leading mature users are also tasked with fitting into and supporting the firm's broader digitization agenda. This requires upgrading the Center of Excellence to become a **Center of Enablement**.

One approach is to expand and uplift the existing CoE mission, supported by additional skills and resources. Another practice would be to bring several different centers together – e.g R&D, innovation, digital, RPA, cognitive – and co-locate, integrate and scale their efforts. In practice the specific structure adopted is less important initially than introducing the extra capabilities needed for continuous innovation. Our prior work⁴² on deploying IT and cloud computing suggests the added innovation value of including five capabilities, wherever located, expressed as future-focused roles:

- **Innovation leader.** Business-focused, executive-level. Devising and engaging in organizational relationships and arrangements supporting innovation. Listening to emerging technologies and where the business value might be, and aligning strategy, structure, process, technology and people required to migrate the organization to new sources of business value.

- **Technical architect.** Technology-focused. Future proofing the 3-5 year technology trajectory through architecture planning and design for an efficient, effective, enabling technology platform.
- **Relationship builder.** Business- and technology-focused. An integrating, operational role building understanding, trust and cooperation with business users, and identifying and helping delivery of valuable business innovations.
- **Supplier/partner developer.** Service-focused. Understanding and benchmarking the external market for automation technologies and services. Engaging with external parties and in-house service staff to release combined innovation potential in order to gain mutual business value.
- **Innovation monitor.** Value-focused. Developing and auditing metrics on efficiency, effectiveness, and enablement. Looking for continuous improvement and innovation. Reviewing progress, anticipating problems, driving out business value. Below we discuss the our Total Value of Ownership (TVO) framework, specifically designed to help value and innovation monitoring.

Technology Optimization

Within this broader innovation agenda, leading organizations still find multiple opportunities to achieve **operational innovation** by optimizing their ever-developing RPA technologies with other intelligent software tools and services. Relationship builders can help in the identification process.

As illustrations, four major discoveries from our research are:

1. Multi-skill the software robots. This is a practice of a mature RPA user:

“A piece that I think is very attractive is the ability to use the robots on multiple tasks. From a robot, I just say, do the payroll run this morning and in your downtime, go over and do this task in accounting that’s at a different time of day and that is incredibly powerful.”

(Financial services executive)

In contrast to robots, the human workforce tends to be organized by and assigned to specific work units. Humans typically cannot be dynamically re-assigned to balance out demand fluctuations across units. A Blue Prism client told us:

“Multi-skilling. I’m amazed people don’t do this....Get all robots on your virtual servers able to do any process. You can get them doing stuff when they’ve got no other work to do, and it doesn’t cost you anything extra. It’s an easy win that few follow.”

A surprising finding, looking across all RPA tools, is that even by 2019 very few CoEs fully utilize robots even though robots can operate tirelessly 24x7x365. All too many organizations have the robots on ‘idle time’ (in a few cases as much as 16 hours a day!); many processes are designed to have too much back and forth human input with all the latency and time penalties that introduces. Some Blue Prism clients operate robots with close to 100% utilization, but a more typical figure is between 50-70% utilization.

2. Reuse components to scale quickly and reduce development costs. Blue Prism products are based on “object-oriented” robots whose tasks can be stored and reused in an automation component library. RPA with a component library capability means each task only has to be defined once and can be pulled from the library and applied to many different automations.

Value capture becomes exponential rather than additive.

As one example, implementing RPA projects at a utility company took between 30 and 40 percent less time because of reusable components. The RPA provider account manager explained:

“It’s a self-fulfilling prophecy, the more processes you automate, the more objects you build in your robotic library, therefore, the more re-use you get, therefore, the assembly and delivery costs of those objects into new processes becomes more and more economic.”

3. Continually improve and expand existing automations. Initially, organizations are advised to automate the most common paths in a process. For example at a Blue Prism insurance client, RPA only processed 15 percent of the paths for a Payment Protection Insurance (PPI) process, with subsequent iterations capturing more and more exceptions. For processes that change frequently, like PPI rules, 80 percent automation may be the ceiling for RPA delivery.

Another example:

“So you’re not going for the 100 percent automation, an all-singing, all-dancing solution. But you might go for a 30 percent first of all...an incremental approach allows you to

manage your expectations and also makes sure that the foundations you're putting down in that system and for that process are robust and secure and actually work and deliver.”
(Utility executive)

Within an end-to-end process, the company automated a range of sub-processes from as high as 100 percent automation to as low as two percent.

4. Integrate tools to automate services end-to-end. Cognitive technologies are now with us, and being added to regularly. The tool kit at the moment is dominated by machine learning, algorithms, visual processing and natural language processing, supported by impressive developments in computer power and memory. Because tools are suited for different tasks and infrastructure environments, integrating several automation tools can create a multiplier effect. Consider one service provider. Its client's customers submit invoices to an email mailbox, which gets loaded into the ERP work queue. In the past, a human had to do much of the checking to match each invoice line item with a legitimate Purchase Order (PO) number and line item. The service provider now sends the invoices to a cognitive automation provider that pulls the data from the invoices and populates a structured template that gets passed back to the service provider.

One insurance company calls their OCR tools the “eyes of the robot”, with OCR feeding directly into the RPA tool. Traditional OCR software is getting better at converting images to text with time, but it is still not 100 percent accurate. According to Cvision, a typical OCR accuracy rate is about 98 percent on a good quality image.⁴³ One bank we researched uses a tool developed by re:infer to classify and analyse all incoming data. This can lead to identify improvements in data management, while acting as a feeder to other technologies such as customer relationship management, RPA automated processing and management information systems.⁴⁴

Blue Prism now offers a platform for utilizing RPA together with cognitive products that add important capabilities to the digital workforce: knowledge and insight, learning, visual perception, problem solving, collaboration, and planning and sequencing . Integration that provides high connectivity, ease of use and is easy to control has become the new game in town.

Monitoring Value and Innovation: The TVO Framework

A well set up metrics regime can make an even good management much better - more informed in real time, focused, in control, insightful, and so more able to seize opportunities. As established earlier, traditional FTE-based evaluation methods tend to understate both costs and benefits, often quite drastically.

In Figure 7 we mapped a more comprehensive way of arriving at an assessment of Total Cost of Ownership (TCO) by establishing every major activity and monitoring the five resource costs associated with each activity, across the RPA life-cycle.⁴⁶ An understanding of full costs will guide investment strategically, and galvanize commitment to gain substantial returns from the investment. For example, if managers knew the real initial cost of getting data into shape for use by cognitive tools, they would become much more committed to driving out value from tool adoption.

In Figure 7 we also point to the main areas where RPA (and cognitive automation) value resides. The framework here suggests three headings under which to monitor and assess the performance improvements generated by automation-enabled innovations: Efficiency, Effectiveness and Enablement. The Efficiency gains, mainly from labor substitution and augmentation, and better use of data, are quite well known though frequently not well documented. The Effectiveness gains can be quantified – for example business process improvements – but many are more difficult to isolate, let alone quantify, and some are quite ‘soft’ benefits gains (for example improved employee satisfaction levels). But what has stopped many client organizations from behaving more strategically is the failure to identify early or to be intentional in seizing the potential Enablement gains from their automation investments, and therefore discounting future potential value creation. Long-term this could be a potentially crippling omission, putting the organization at an ever-rising competitive disadvantage.

Why so?

Our research into the economics of automation is still work in progress, but to date it suggests that the area of Enablement is where that the biggest long term gains are to be had from building RPA as a platform for further cognitive and AI development. Modelling by McKinsey Global Institute (2018) supports this working assumption.⁴⁷ MGI suggests that by 2030 augmentation and substitution impacts of AI technologies⁴⁸ will give a 14% boost over and above 2018 economic performance and run rates. But the boost from the impact of AI technologies on product service innovation and extension will be a further 24%. Three examples they give are expanding the firm’s portfolio, increasing channels, and developing new business models. In terms of global GDP, McKinsey estimate the innovation impact of AI technologies as potentially a 7% increase, representing \$US 6 trillion, over 2018.

However, at the sectoral level there is also sobering news. More digitally intensive (and digitally savvy) sectors like hi-tech and telecommunications, with an 18% higher 'AI absorption' than say healthcare, are likely to experience 2.3 times the economic gains from RPA/cognitive/AI by 2030. And time matters as well. At the firm level, McKinsey projects that by investing early in RPA/cognitive/ AI technologies the strong will get stronger through technical and business innovation, while the rest, increasingly, will fall behind. By 2030 front-runner companies – early and broad adopters – could increase their net economic output by a stunning 122% over existing 2018 run rates, with followers gaining a much-lower 10%, while laggards would in fact lose an estimated 23% in economic value.

The scale of potential gains – or losses – makes evaluation more necessary, just at the point where it becomes harder to operationalize. Thus the crying need for a core capability in this area which we call innovation monitoring.

Conclusion: Beyond Mature

We are often asked: what are the top three recommendations for securing RPA success.

As a summary of our research we suggest in fact four:

- Think strategically
- Start right
- Institutionalize fast
- Innovate continuously.⁴⁹

Here we have shown how to become strategic. Blue Prism clients have been good at 'starting right' in their sourcing and platform selection practices. We have also discussed how to 'institutionalize fast' through governance, stakeholder-buy-in and change management practices. Finally we have shown how to reach and go beyond the stage on building an RPA Center of Excellence and 'innovate continuously'. Our work on Total Value of Ownership provides a vital steering mechanism, strengthening the ability to track costs and potential benefits, and take a more long term and strategic view of investments in RPA and complementary, fast developing cognitive automation tools.

Building on our RPA research, we began research on cognitive automation (CA) adoptions back in 2016. Interestingly, several of the companies launching CA also had an RPA CoE. However, the two automation initiatives— that is CA and RPA programs—were managed by different organizational units.⁵⁰ We think that it makes sense to integrate these initiatives going forward as organizations realize that both RPA and CA realms enable new business strategies; together they can complement and magnify value. In general, we foresee the rise of **service automation Centers of Enablement** that bring the full force of the service automation landscape under one centralized center. We think this center will report to a Chief Digital Strategy Officer or other C-suite executive. By early 2017, we already saw evidence of this prediction. By early 2019 we saw several financial service companies moving in this direction.

This will be an accelerating trend. Increasingly, organizations will create competitive advantage by connecting various innovations such as **S**ocial media, **M**obile technologies, **A**nalytics and Big Data, **C**loud services, **B**lockchains, **R**obotics, **A**utomation of knowledge work (like RPA and CA), **A**ugmented reality, the **I**nternet-of-Things, and **D**igital Fabrication (i.e., 3-D printing), which we call SMAC/BRAAID for service delivery. Organizations usually experiment with new technologies in innovation labs, but getting vetted technologies out of digital labs and into Centers of Enablement, focused on rapid delivery, will become a competitive differentiator.

Research Base

This study draws upon detailed research into 70 RPA client adoption case studies in 2015-2018 period, with a review of a further 104 cases in that period. Much of this material can be accessed in Mary Lacity and Leslie Willcocks as *Service Automation, Robots and The Future of Work* (2016), *Robotic Process Automation and Risk Mitigation: The Definitive Guide* (2017), and *Robotic Process and Cognitive Automation: The Next Phase* (2018). All these books are published by SB Publishing, Stratford, and there are also multiple working papers available at roboticandcognitiveautomation.co.uk. We also draw upon three surveys specifically of Blue Prism clients. The first was carried out using McGuire client contacts. The second was carried out through Knowledge Capital Partners and gained client results consistent with the McGuire data. The client satisfaction results were published as Lacity, M. Hindle, J. Willcocks, L. and Khan, S. (2018) *Robotic Process Automation: Benchmarking The Client Experience* (KCP, London). The results on effective management practices are published for the first time in this report series along with data collected from clients surveyed at the Blue Prism World Events at New York and London in June 2018. For this series we are also carrying out additional client interviews to verify our findings and conclusions, and collect new data.

About Knowledge Capital Partners

Knowledge Capital Partners is a global knowledge resource for organizations seeking expert advice and best practice in the sourcing and operation of technology, business services and public services. Offering empirically based research, executive education, and advisory services to businesses and governments worldwide, we provide an independent perspective through a global network of senior business professionals, academics and consultants. We help organizations design and implement sustainable sourcing and operations strategies that are ethical, socially responsible, commercially effective, and professionally managed. www.knowledgecapitalpartners.com

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Notes

¹ The technical platform benchmark is comprehensive, covering also effect on scalability (94% positive, 66% very positive), adaptability (90% positive, 66% 'very agile'), security (84% positive, 68% 'very secure'), effect on service quality (96% improved, 68% 'greatly improved'), effect on employee satisfaction (86% improved, 60% greatly improved), ease of learning (88% positive, 60% 'very easy to learn'), and speed to deployment (60% less than 8 weeks, 32% less than 6 weeks). We also benchmarked return on investment (ROI) where 66% reported

more than 25% ROI in the first year, and 33% reported more than 50% first year ROI. On customer/user experience, 83% of clients reported overall improvement, while 63% recorded 'significant improvement'.

² Leslie Willcocks (2018). *Being Smart About Enterprise RPA: Now, Soon, Later*. Presentation at Blue Prism World, London June 13th 2018.

³ See Lacity, M. and Willcocks, L. (2018)

Robotic and Cognitive Automation: The Next Phase. (SB Publishing, Stratford).

⁴ Unlike 'best practices' that imply 'one-size-fits-all', Action Principles are made effective or otherwise by four factors: the objectives an organization is trying to achieve; the organization's unique context; whether the organization has the retained capability to implement the practice effectively; and timing – there are good and less good moments to apply a specific practice. We found successful Blue Prism

- clients deploying management practices judiciously in the light of these four factors. See Lacity and Willcocks (2018), *Robotic Process and Cognitive Automation: The Next Phase*. (SB Publishing, Stratford)
- ⁵ More detail on this section can be found in our paper 'Becoming Strategic With RPA: How Blue Prism Clients Gain Superior Long-Term Business Value. Available on www.blueprism.com website.
- ⁶ See Willcocks, L. Feeny, D. and Islei, G (1998) *Managing IT As A Strategic Resource*. McGraw Hill, Maidenhead). Also Willcocks, L., Venters, W. and Whitley, E. (2014) *Moving To The Cloud Corporation*. Palgrave, London).
- ⁷ See Willcocks, L., Petherbridge, and Olson, N. (2003) *Making IT Count: Strategy, Delivery, Infrastructure*. Butterworth Heinemann, London.
- ⁸ See Willcocks, L. and Lacity, M. (2016) *Service Automation, Robots and The Future of Work*. (SB Publishing, Stratford). Chapter 4.
- ⁹ See Willcocks and Lacity (2016) op. cit. and Lacity and Willcocks (2018) op. cit.
- ¹⁰ See Lacity and Willcocks (2018) op. cit chapters 4 and 7.
- ¹¹ We identify and detail these 41 risks, and how companies mitigate these, in Lacity and Willcocks (2017) *Robotic Process Automation and Risk Mitigation: The Definitive Guide* (SB Publishing, Stratford).
- ¹² This tends to repeat the mistakes when ERP systems were first introduced, except that in the 1990s and 2000s the implementation tended to be abandoned to the IT department, as opposed to business operations. Historically it needed a second wave of deployment to reap the transformative capabilities of ERP systems. See Seddon, P., Shanks, G. and Willcocks, L. (2003) *Second Wave ERP Systems*. (Cambridge University Press, Cambridge).
- ¹³ The term used in the *IEEE Guide on Terms and Concepts in Intelligent Automation* (2017); also called agent assisted automation. Such tools were designed from a desktop use perspective, rather than fit with enterprise systems.
- ¹⁴ For these two cases see Lacity and Willcocks (2018) op. cit. chapter2.
- ¹⁵ See Hindle, J. Lacity, M., Willcocks, I and Khan, S. (2018) *RPA: Benchmarking Blue Prism Client Experiences*. KCP, London.
- ¹⁶ Tett, G. (2016) *The Silo Effect: The Perils of Expertise and The Promise of Breaking Down Barriers*. (Simon and Schuster, New York).
- ¹⁷ See Lacity and Willcocks (2018) chapter 2. Also Leslie Willcocks (2018), op. cit.
- ¹⁸ For a detailed discussion see Willcocks, L. and Lester, S. (1999) *Beyond The IT Productivity Paradox*. (Wiley, Chichester) chapter 1 – Information Technology: Transformer Or Sink Hole?
- ¹⁹ See Willcocks, L. And Graeser, V. (2001) *Delivering IT and E-Business Value* (Butterworth Heinemann, London)
- ²⁰ Hindle, J. Willcocks, L. and Lacity, M. (2017) *RPA In Context: How Are We Doing?* Knowledge Capital Partners, London, November.
- ²¹ Thus a Forester Research study into two Blue Prism clients in the financial sector enabled a TCO estimate of \$US14.9 million to move from 20 robots in Year 1, to 130 robots in year 2 and 600 in year 3. However, these estimates only include the costs to deploy and maintain Blue Prism RPA, plus license fees. Meanwhile Chappell Associates (2018) produced a useful TCO model for RPA, pointing to six sources of cost: purchasing software, creating initial processes, creating later processes, executing processes, managing and scaling processes, and securing and auditing processes. The paper suggests that while Robotic Desktop Automation tools are likely to experience lower costs for purchasing software and creating initial processes, their costs after the first three months and for the next five years will be much higher in the other four areas. While this is supported by our own ongoing research into customer journeys using different kinds of automation tools, the analysis lacks examples and figures, and omits several costs covered by our definition of TCO.
- ²² A 2017 Forester Research study created a composite organization from the two Blue Prism client organizations and estimated quantified benefits of \$49.19 million over three years. However, these were attributable to labour savings (\$45.2 million through headcount saved, hiring avoidance, and hours back to the business), and recruitment, training and facilities savings (\$4.07 million, resulting from headcount reductions). The study also mentions unquantified benefits in top-line revenue from improved customer satisfaction (e.g. lower customer churn rates, increased revenue opportunities), and in lower security and compliance costs as a result of deploying Blue Prism RPA). In our view RPA, and indeed automation, measurement needs to go much further.
- ²³ See Lacity, M. and Willcocks, L. (2017) *Robotic Process Automation and Risk Mitigation: The Definitive Guide*. (SB Publishing, Stratford).
- ²⁴ IAOP Survey by Mary Lacity and Leslie Willcocks published in *Pulse Magazine* May 2018. Note that the general market see some mixed sourcing approaches with nearly half of clients also managing some automation programs themselves, without outside help from providers or advisors, and some 64% hiring advisors at some stage.

- ²⁵ Our comment here is that between 2016-18 years, we saw advisors quickly build service automation practices in response to increasing client demand. Advisory firms track the service automation landscape and help clients with their service automation journeys. Credible advisors need to master a variety of tools to be “tool agnostic” and they must understand which tools are best suited to meet a client’s needs. Advisors are building capabilities by a variety of means. These include: adopting tools to automate their own internal services, hiring pioneers from early enterprise adopters, and sending analysts through the software provider’s training certification programs.
- ²⁶ We have also seen some BPO providers reluctant to share the benefits from automation, and also adopt less radical kinds of automation to avoid cannibalizing their existing labor arbitrage model.
- ²⁷ See Hindle, J., Lacity, M. Willcocks, L. and Khan, S. (2017). *Benchmarking the Blue Prism Client Experience*. KCP, London, December.
- ²⁸ See Lacity, M. and Willcocks, L. (2017) *Robotic Process Automation and Risk Mitigation: The Definitive Guide*. (SB Publishing, Stratford).
- ²⁹ The definition is developed from the work of Weill, P. (2003) Don’t just lead, govern: How top performing firms govern IT. MISQ Executive, 3, 1, 1-17
- ³⁰ Figures from Weill, P. (2003) op. cit. and Willcocks et al. (2003) op. cit.
- ³¹ See Lacity, M. and Willcocks, L. (2018) *Robotic and Cognitive Automation: The Next Phase*. (SB Publishing, Stratford).
- ³² See Lacity, M. and Willcocks, L. (2017) *Robotic Process Automation and Risk Mitigation: The Definitive Guide*. (SB Publishing, Stratford).
- ³³ See Lacity, M. and Willcocks, L. *Robotic Process and Cognitive Automation: The Next Phase* (SB Publishing, Stratford).
- ³⁴ One of the major criticisms of some of the earlier reports such as Frey, C. and Osborne, M. (2017) *The Future of Employment: How Susceptible are Jobs To Computerisation? Social Forecasting and Technological Change*, 114, pp. 254-280 and Ford, M. (2015) *The Rise of The Robots* (Basic Books, New York) is that they tend to assume that if it can be automated it will be, that it will be whole jobs automated rather than parts of jobs, and they choose to omit job creation. Some subsequent reports factor these considerations back in and end up with much less drastic figures for job losses, and in some case conclude there will be long term job gains as a result of automation. See McKinsey Global Institute (2018) *Notes From The AI Frontier: Modelling the impact of AO+I on the global economy*, McKinsey, San Francisco, September; World Economic Forum (2018) *The Future of Jobs Report 2018*, (WEF, Geneva); Asia Development Bank (2018) *Asian Development Outlook 2018 – How Technology Affects Jobs*, ASD April.
- ³⁵ See Willcocks, L. Petherbridge, P. and Olson, N. (2002). *Making IT Count: Strategy, Delivery Infrastructure*. McGraw Hill, London).
- ³⁶ For the original research see Willcocks, L. and Graeser, V. (2001) *Delivering IT and E-Business Value* (Butterworth Heinemann, London). We gained similar findings looking at cloud computing and several other technologies.
- ³⁷ See also the foundational research and complementary findings in Lacity, M. and Willcocks, L. (2018) *Robotic and Cognitive Automation: The Next Phase* (SB Publishing, Stratford) especially chapter 2. Also Lacity, M. and Willcocks, L. (2016) *A New Approach To Automating Services*. MIT Sloan Management Review, 58, 1, 40-49; and Willcocks, L. and Lacity, M. (2016) *Service Automation, Robots and The Future of Work* (SB Publishing, Stratford).
- ³⁹ See Willcocks and Lacity (2016) op. cit.; Lacity and Willcocks (2017) op cit.; and Lacity and Willcocks (2018) op cit.. Also Hindle, J., Lacity, M. Willcocks, L. and Khan, S. (2017) *Robotic Process Automation: Benchmarking the Client Experience*. (Knowledge Capital Partners, London).
- ⁴⁰ A detailed practical and technical guide is provided by HFS Research and Symphony (2017) *The RPA Bible: Advanced Topics*. HFS and Symphony, Boston. In a vendor neutral way, this usefully covers the vital areas of architecture, usability, integration, exception handling, security, configuration and deployment features and vendor and support documentation. Quanton (2018) *Robotic Process Automation: Preparation and Early Stage Planning*. (Quanton, Auckland) also provides fresh insights and applies many of our findings to New Zealand clients.
- ⁴¹ Blue Prism also provides a robotic operating model (ROM) which provides detail on how to get there. Mature scaled RPA users that have imbedded effective versions of the ROM model include npower (retail and business solutions), Shop Direct, Telefonica O2, Xchanging (now DXC Technology), Barclays Bank, and Bank of New York Mellon. But many clients are now looking to use RPA in harness with other emerging technologies. Digital Workforce, a leading RPA implementation consultancy in the Nordic region, usefully provides a variant ROM for RPA delivery through the Cloud.
- See Willcocks and Lacity, (2016) op. cit. page 124 for the RPA enterprise maturity

model developed by HFS Research and Blue Prism and applied to Xchanging (now DXC Technology). Interestingly, this company as a BPO service provider has intimated that it may well rename its services as business process automation based on its core capability in this area (DXC technology blog: 'Why we renamed our BPO business, and why we might have to do it again soon' by Bob Law, Director of BPS Core Engineering, April 16, 2018, www.dxc.technology.com).

⁴² Willcocks, L. Venters, W. and Whitley, E. (2014) *Moving To The Cloud Corporation*. (Palgrave, London); Willcocks, L., Cullen, S. and Craig, A. (2012) *The Outsourcing Enterprise: From cost management to collaborative innovation*. (Palgrave, London); Willcocks, L., Oshri, I. and Kotlarsky, J. (2018) *Dynamic Innovation In Outsourcing*. (Palgrave, London).

⁴³ <http://www.cvisiontech.com/library/ocr/accurate-ocr/ocr-accuracy-rates.html>. OCR accuracy rates increase when the software is enhanced with a good supervised machine-learning algorithm. Advanced OCR tools (or OCR tools paired with a new CA tool) can further automate the extraction of data from images such as faxes, paper documents, and PDFs into structured digital formats. This means there will still be about 200 errors on a 10,000 word document (about 30 pages).

⁴⁴ Discussed in detail in a forthcoming book Willcocks, L., Hindle, J., and Lacity, M. (2019) *RPA, Cognitive and AI: From Foundations to Innovation* (SB Publishing, Stratford).

⁴⁵ See Blue Prism (2018) *Future Proof Your Digital Strategy*. White paper, Blue Prism London.

⁴⁶ Strategy here is taken to be a corporate cost, but could be assigned if isolatable and significant management time is spent on automation strategy. The

framework is based on work by Willcocks and Lester on assessing Business IT investments generally – see Willcocks, L., Petherbridge, P. and Olson, N. (2003) *Making IT Count: Strategy Delivery, Infrastructure*. McGraw Hill, Maidenhead, chapter 5.

⁴⁷ McKinsey Global Institute (2018) *Notes From The AI Frontier: Modeling the impact of AI on the world economy*. MGI Discussion paper, September 2018

⁴⁸ Note the MGI here defines 5 key AI technologies: computer vision, natural language, virtual assistants, robotic process automation, and advanced machine learning. Interestingly strong AI ('using computers to replicate what minds can do' – Margaret Boden) is omitted, while Robotic Process Automation is included. This is probably a pragmatic reflection of how the term 'AI' was being widely, if loosely, used in the RPA/cognitive/AI market of 2018.

⁴⁹ As formulated by Mary Lacity. See video interview 'Scaling your RPA and developing a risk management plan' July 2018 – on www.roboticandcognitiveautomation.co.uk.

⁵⁰ Whereas an RPA CoE was typically housed in business operations, the CA initiatives were typically owned by a centralized innovation or R&D group. The size of CA investments were significantly greater than RPA investments, and therefore required different levels of approval. Also, RPA was seen as "today's" tool that could be quickly deployed whereas the CA adoptions were more speculative and seen as "tomorrow's" tool.