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## Robotic Process Automation at Telefónica O2

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# Research on Business Services Automation

## Research Objective:

The academic researchers at the Outsourcing Unit (OU) aim to assess the current and long-term effects of business services automation on client organizations. While using software to automate work is not a new idea, recent interest in service automation has certainly escalated with the introduction of new technologies including Robotic Process Automation (RPA) and Cognitive Intelligence (CI) tools. Many potential adopters of the new types of service automation tools remain skeptical about the claims surrounding its promised business value. Potential adopters need exposure to actual and realistic client adoption stories. Academic researchers can help educate potential adopters by objectively researching actual RPA and CI implementations in client firms, by assessing what the software can and cannot yet do, and by extracting lessons on realizing its value.

## Acknowledgements:

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## About The LSE Outsourcing Unit:

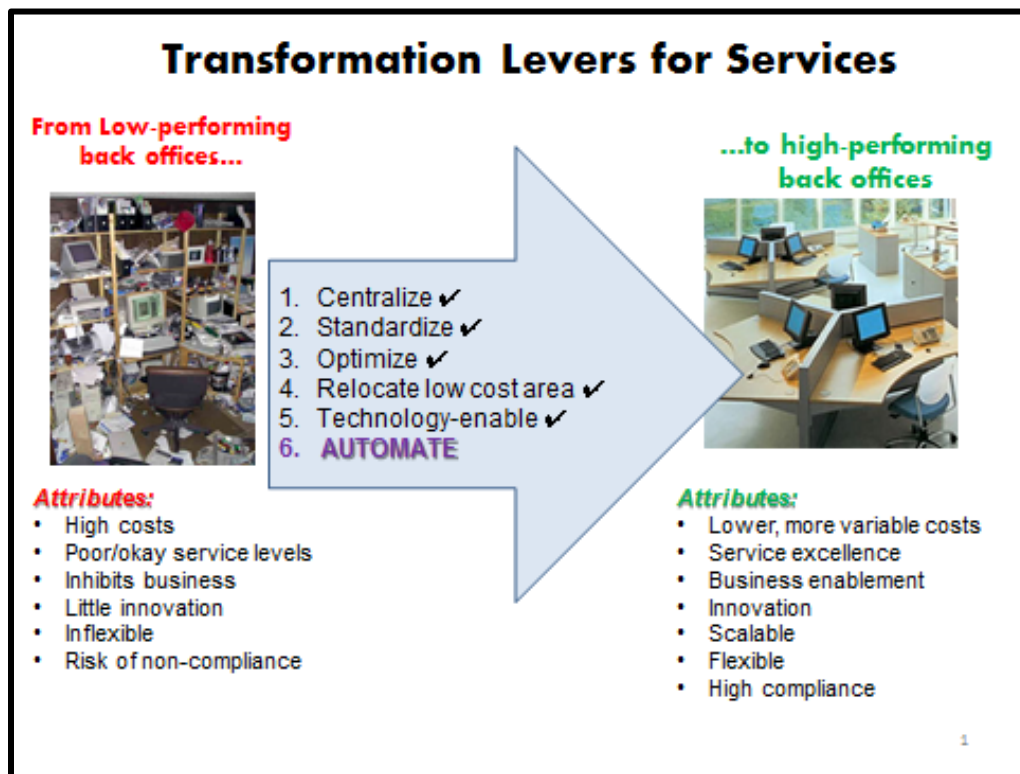
The Outsourcing Unit is part of the LSE, acknowledged as the world’s premier social science university, and in business and management studies ranked first above Cambridge and Oxford Universities in a 2014 Research Assessment Exercise. The OU draws upon a 2,300 plus case study database covering all major economic sectors and countries, and provides independent, objective and rigorous, timely research, report and advisory services to business, government and third sector organizations. Previous research and published client work can be reviewed on [www.outsourcingunit.org](http://www.outsourcingunit.org).

# Robotic Process Automation at Telefónica O2

“Robotic Process Automation is the next wave of innovation, which will change outsourcing. We already are seeing the beginnings of a race to become the top automation-enabled service provider in the industry. In time, we are likely to see an arms-race for innovation in automation tools leading to new offerings and delivery models.” -- Sarah Burnett, Vice President of Research at the Everest Group

## Transforming Back Offices with Service Automation

“Back offices” are where the operational support systems for services are created, managed, and delivered. Back offices are always under pressure to contain costs in highly competitive industries like telecommunications, but cost efficiency must be balanced with other performance imperatives such as service excellence, business enablement, scalability, flexibility, security, and compliance. From years of research on back offices, we learned that low-performing back offices can be transformed to high-performing back offices through six transformation levers: centralize physical facilities and budgets, standardize processes across business units, optimize processes to reduce errors and waste, relocate from high-cost to low-cost destinations, technology enable with, for example, self-service portals, and automate services (see Figure 1).<sup>1</sup>



**Figure 1: Six Levers for Transforming Back Office Services**

For the past 15 years, large companies have widely adopted the first five transformation levers to the point that they have become *institutionalized*—that is, an accepted and normal part of

managing back offices. However, it is only in the last few years that the real power of service automation has been unleashed. Heavy service automation adopters like Telefónica O2 have automated over 35 percent of their transactions. This service automation trend is called “Robotic Process Automation” (RPA).

Although the term “Robotic Process Automation” connotes visions of physical robots wandering around offices performing human tasks, the term really means automation of service tasks that were previously performed by humans. For business processes, the term RPA most commonly refers to configuring software to do the work previous done by people, such as transferring data from multiple input sources like email and spreadsheets to systems of record like Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) systems. To be clear—we are not talking about technology enablement where technologies like desktop scripts *assist* human agents but actual software automation that *replaces* some or all of the work previously performed by people.

Early adopters of RPA are finding that automation can radically transform back offices, delivering much lower costs while improving service quality, increasing compliance, and decreasing delivery time. But as with all innovations, organizations must learn to manage RPA adoption to achieve maximum results. In this case study, we describe Telefónica O2’s successful and highly lauded implementation of RPA using Blue Prism software and share the lessons it learned to attain results.

To convince potential RPA adopters of the business value achievable with RPA, we begin this case study with the end results. As of April 2015, Telefónica O2 deployed over 160 “robots”<sup>1</sup> that process between 400,000 and 500,000 transactions each month, yielding a three-year return on investment of between 650 and 800 percent (see Table 1). For some processes, it reduced the turnaround time from days to just minutes. Subsequently, customer “chase up” calls have been reduced by over 80 percent per year because fewer customers needed to inquire about the status of service requests. Scalability was unbeatable—its robotic workforce could be doubled almost instantly when new products were about to be launched—and then scaled back down after the surge. How did Telefónica O2 achieve such remarkable results?

**Table 1: Telefónica O2’s 2015 RPA Capabilities at a Glance**

<b>Number of processes automated</b>	<b>Number of RPA transactions per month</b>	<b>Number of Robots</b>	<b>Number of FTEs saved or redeployed</b>	<b>Payback Period</b>	<b>3-Year ROI</b>
15 core processes	400,000 to 500,000	>160 and growing	Hundreds	12 months	Between 650 and 800%

<sup>1</sup> One “robot” equals one Blue Prism software license.

## Telefónica O2's Pioneering RPA Journey

To put the RPA journey into context, we here explain Telefónica O2's business background. Telefónica O2 is owned by Telefónica Group. It is the second-largest mobile telecommunications provider in the United Kingdom (UK) after Everything Everywhere (EE) and is headquartered in Slough. O2 was founded in 1985 as Cellnet, a venture launched by BT Group and Securicor. Fourteen years later, BT Group bought the entire venture and, in 2002, rebranded the company as "O2". In 2005, Telefónica bought O2 and retained its name and continued to be based in the UK, keeping both the brand and the management team. As of 2015, O2 had 24 million customers and operated over 450 retail stores.<sup>2</sup> In 2013, Telefónica UK's revenue were €6.69 billion (about £4.8 billion) and employed 21,580 people. Like all large organizations, Telefónica O2's back offices needed to scale up to match business growth while keeping costs low to thrive in the highly competitive mobile market. This case study explores how Telefónica O2 managed its back offices to accomplish these objectives since 2004.

Like many large organizations, Telefónica O2's ten-year journey of back office transformation began with the transfer of work from the UK to India in 2004. Telefónica O2 initially did a "lift and shift" of a significant amount of back office work from the United Kingdom to India by engaging a BPO provider with a delivery center in Mumbai. By 2005, there were 200 Full Time Equivalents (FTEs) working in India, while 98 FTEs remained onshore in the UK. By 2009, the headcount in India swelled to 375 FTEs and headcount in the UK was reduced to 50 FTEs. Telefónica O2 was reaching the ceiling on extracting any more value from offshoring; There was not that much more work that could be moved to India. Furthermore, wages in India were rising. Finally, the contract did not incentivize the BPO provider to innovate. The BPO offshore contract was largely based on hourly wages and the service levels were based on turnaround times and accuracy, not on reducing costs per transaction.

As the volume of work offshore grew from about 400,000 transactions per month to over a million transactions per month, Telefónica O2's back office costs escalated. Wayne Butterfield, Head of Back Office services at Telefónica O2 in 2010 recalled, "*Low cost wasn't so low anymore.*"<sup>3</sup> The mandate became: Do more work with less money. His vision was to reduce FTE count by 50 percent, reduce average response time by 50 percent, and reduce Back Office failure customer calls by 50 percent. (Pertaining to this last point, if service is executed quickly and accurately, customers would not need to contact Telefónica O2.)

In 2010, Telefónica O2 managed over 60 core processes (amounting to about 400 sub-processes). To reduce costs further, Telefónica O2 began eliminating non-value added processes and optimizing and simplifying the processes that remained. As an example of an eliminated process, Telefónica O2 removed a legacy process that verified order shipments. The order process had become so mature that it was 99.99 percent accurate—the legacy verification process was no longer worthwhile. Butterfield explained, "*The verification was a process in place for people to check hundreds of thousands of orders and they would potentially find one that hadn't gone out. That's a really pointless process. It was there for many, many years and no one had looked at its value.*" Verifying bar removal from a customer's account after a

Subscriber Identity Module (SIM) swap (process explained below) was a similar example of a legacy process. The bar removal process was automated, so the bar removal verification process made no sense. Telefónica O2 eliminated that process as well.

Besides process elimination, Telefónica O2 also sought to optimize processes by simplifying them, and by bringing the BPO provider onshore to gain a better understanding of Telefónica O2. The entire process rationalization initiative—which included process elimination, simplification, and optimization—reduced labor headcount by ten percent.

During this two-year long journey, the possibility of automating processes surfaced when the Head of Finance told Butterfield about Blue Prism. After an initial assessment of Blue Prism's capabilities, Telefónica O2 decided to conduct two pilot projects to prove the concept.

### **RPA Proof-of-Concept**

Telefónica O2 needed the answers to three questions: Will RPA integrate with Telefónica's systems of record without breaking them? Will the technology provide quality services? Will the technology provide enough of a return on investment?

In 2010, Telefónica O2 launched an RPA trial on two high-volume, low-complexity processes. One process was SIM swaps—the process of replacing a customer's existing SIM with a new SIM but keeping his or her existing number. The other process was the application of a pre-calculated credit to a customer's account. People using various software systems normally executed these processes. For the pilot tests, Blue Prism's consultants came onsite and configured the "robot" to perform what people normally did to execute the processes. The "robot" was assigned a logon ID and password and it logged in, executed perfectly the tasks on test accounts that used actual data, and logged out of the systems, just as people did. The pilot was completed within two weeks.

Regarding the first question, "Will RPA integrate with Telefónica's systems of record without breaking them?," the trial proved that the technology could seamlessly work with Telefónica O2's systems and it performed tasks as expected. The trial proved so effective that it raised alarms in the IT Security system. The "robot" executed so many transactions in such a short period of time that Telefónica O2's Fraud and Security team tried to hunt down the presumed intruder. When security traced the intrusion to Butterfield's pilot project, he was nearly fired. Butterfield reminisced, *"Although it was scary to be escorted by the Head of Security into a private room, we actually proved the RPA concept quite well!"*

The IT team had already developed very negative ideas about RPA. The IT team had a mature Business Process Management System (BPMS) in-house and questioned why additional automation software was needed. The IT team also incorrectly assumed that Blue Prism was a

“screen scraper”<sup>2</sup> package that recorded how computer screens were altered when users executed tasks. Butterfield explained, *[the IT team viewed RPA as] screen scraping, which isn’t fit for an enterprise company—Unsupported macros created by keyboard warriors in darkened rooms in our offices, people left to their own devices to create macros, running unsupported and quite often needing regular check-ups to keep them running. That was the stigma that we originally received from our colleagues in technology.*<sup>4</sup>

Telefónica O2 wanted to test whether the BPMS could achieve the same results as RPA. A team was assigned to automate two processes with BPMS technology. One of the processes was identical to the RPA trial (SIM swaps) and one process was different but with similar attributes. The BPMS team successfully automated the two processes within three weeks, which was comparable to the RPA trial. However, when it came to the financials, RPA was the clear winner. Butterfield said, *“Our projections showed that RPA for 10 automated processes would pay back in 10 months. In contrast, the BPMS was going to take up to three years to payback.”*<sup>5</sup> The three-year business cases estimated zero net financial benefits with BPMS and nearly £1 million with RPA. Regarding the last proof of concept question, “Will RPA provide enough of a return on investment?”, the answer was clearly yes.

The financial discrepancy between the business cases for BPMS and RPA was attributed to BPMS’s additional IT resources. BPMS projects required IT resources like developers and SCRUM teams, whereas process improvement staff members from Back Office executed RPA projects. The Head of Back Office would just reassign some people from a process improvement team to a process automation team with zero effect on the Back Office budget.

## **RPA Rollout**

After the trials, RPA was selected as the obvious choice over BPMS. Before automatically adopting Blue Prism at the software vendor, Telefónica O2 issued a request-for-proposal. Back in 2010, the only truly RPA response was from Blue Prism; the other five responses were BPMS solutions. Telefónica O2’s IT department eventually became convinced of the value of the tool and Blue Prism became part of Telefónica’s technology offerings.

Telefónica O2 also asked its Indian-based provider to consider doing the automation on Telefónica O2’s behalf. Telefónica O2 understood that the commercials would need to benefit both parties. After a six-month investigation, the BPO provider backed off. Telefónica O2 chose to implement RPA on their own with the help of Blue Prism.

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<sup>2</sup> According to Neil Wright, Director of Professional Services for Blue Prism, screen-scraping was a poorly executed technology with a fundamentally sound idea to replicate how a user interacted with software. He explained, *“To teach the screen-scraaper, all you did was set a recorder and then you navigate around systems and it recorded when the user copied data off of one screen and pasted it into another screen. The recorder remembered everything verbatim. The problems with screen-scraping were many fold—so for example, if anybody touched that screen while the screen scraaper was running, the screen scraaper fell in a heap. IT architects quite rightly hated them because they weren’t resilient.”*



Two Back Office staff members attended a weeklong training program at Blue Prism's headquarters. (Since then, Blue Prism's training is mostly online). After the training, a Blue Prism consultant worked alongside the trained staff members for about a month at Telefónica O2. After that, Blue Prism support was reduced to once a week to review the staff member's work. The staff members became nearly 100 percent independent in about 12 weeks. On the ease of which business process people can master RPA, Butterfield said, *"So I think from having never automated a process before or having any qualifications that would even stipulate that they could do this type of thing to automating processes end-to-end, probably took the guys about three months."*

Telefónica O2 began its rollout with 20 robots. The next wave increased the number of robots to 75. Eventually, a third staff member was trained. With just a team of three RPA developers in-house, Telefónica O2 automated 15 core processes including SIM swaps, credit checks, order processing, customer reassignment, unlatching, porting, ID generation, customer dispute resolution and customer data updates, representing about 35 percent of all back office transactions by first quarter of 2015.

How many FTEs did automation save? It is difficult to assess the total FTE savings over time because some of Telefónica O2's UK-based people were redeployed to other service areas and the business continued to grow. But the estimated FTE savings are in the hundreds. Butterfield also reported, *"Not only have we saved FTE in the Back Office we're now actually saving FTE in the front office as a result of those reduced calls. And then lastly, experience. It's very difficult to measure from a customer experience perspective what benefits we've had by using RPA. But with reduced turnaround times, reduced calls, how can experience not be improved?"*<sup>6</sup>

Despite these high levels of automation, Telefónica O2 continued to have a good relationship with its Indian-based BPO provider. Although the provider's FTEs had been reduced on the automated processes by a few hundred, the BPO provider continued to deliver the non-automated Back Office processes with about 250 FTEs. (Without automation, the offshore FTE headcount would be closer to 500 because of Telefónica O2's growth since 2010.) Beyond the Back Office, the BPO provider also handled nearly all of Telefónica O2's email and web chat services. In total, the BPO provider had about 900 FTEs supporting Telefónica O2 in first quarter of 2015.

## **The Future of RPA at Telefónica O2**

As of 2015, Telefónica O2 planned to continue to automate processes. From a volume perspective, Telefónica O2 was running between 400,000 and 500,000 transactions through RPA each month. It estimated that RPA could increase volumes to 700,000 per month or more. Butterfield said, *"We're certainly not at the end state yet."*<sup>7</sup>



## Discussion

Potential adopters of RPA often ask how to assess the suitability of RPA relative to their existing processes. We first review the recommended set of process attributes based on academic research, then share a simpler heuristic used at Telefónica O2.

Although RPA is new to many organizations, shared services and outsourcing are long-standing practices that can serve as a starting point for understanding the suitability of RPA for existing processes. Based on years of research,<sup>8</sup> we know that processes are most suitable for shared services or outsourcing (SS/O) when they have high volumes because high-volume processes provide the most opportunity for reducing costs (see Table 2). The easiest processes to move to SS/O have high degrees of process standardization so that all of the company's business units expect the same service.<sup>9</sup> Processes that are highly rules-based are also easier to migrate to SS/O because rules can be documented, which results in lower knowledge transfer costs compared to processes that require tacit knowledge transfer.<sup>10</sup> Mature processes are easier to move because they are measured, well-documented, stable, and predictable and their costs are known.<sup>11</sup> Complex processes that require compound steps and the control of many variables are harder to move to SS/O.<sup>12</sup> Highly integrated processes that are tightly coupled and difficult to detach from other processes are also harder to migrate.<sup>13</sup> High levels of process interoperability across many platforms are easier to migrate.<sup>14</sup> Some processes are difficult to move to different jurisdictions because of compliance risks.<sup>15</sup> The degree of business value is also pertinent. Academic research shows that the most critical processes are often insured close to the business.<sup>16</sup> How does this set of process attributes for SS/O compare to RPA?

**Table 2: Process Attributes Suitable for Shared Services, Outsourcing, and RPA**

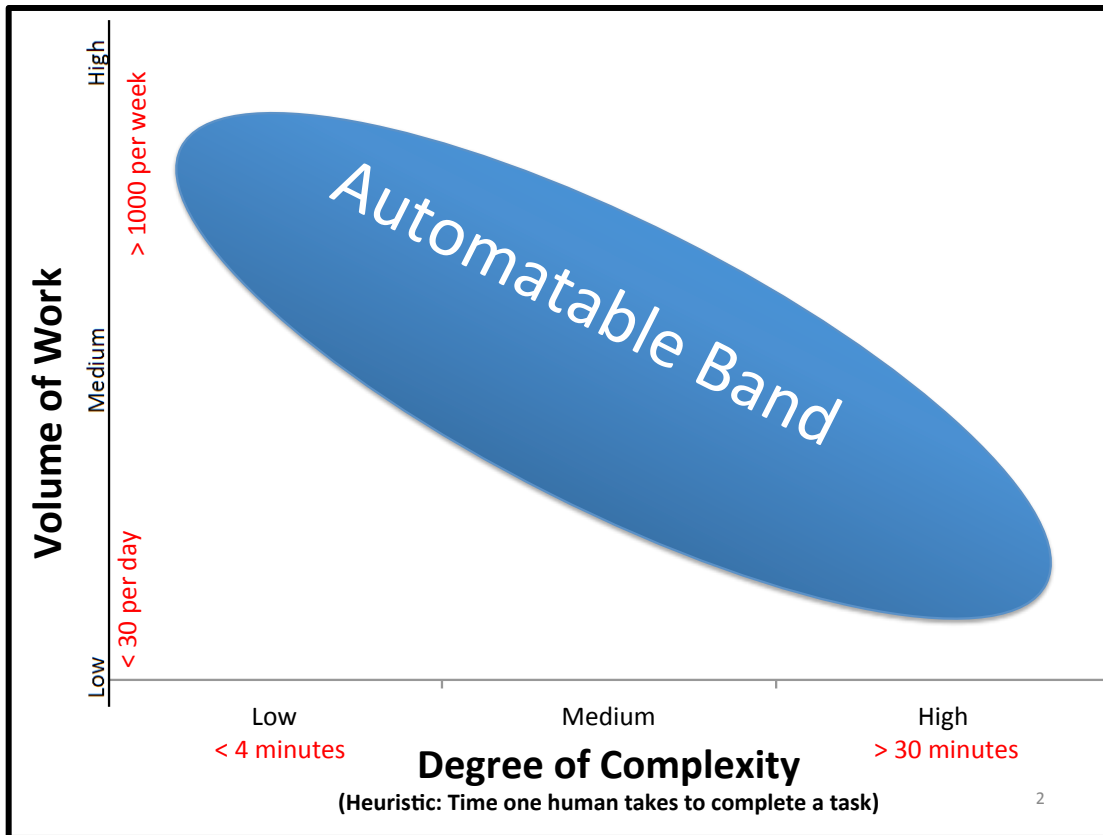
	<b>Value recommended for shared services and outsourcing</b>	<b>Value recommended for RPA</b>
Volume of transactions	High	High
Degree of process standardization	High	High
Degree to which process is rules-based	High	High
Degree of process maturity	High	High
Degree of process complexity	Low	n/a
Degree of interoperability	High	n/a
Degree of process interdependence	Low	n/a
Degree of compliance risk	Low	n/a
Degree of business value	Low	n/a

Like shared services and outsourcing, RPA experts and early adopters report that RPA is most suitable for processes with high transaction volumes, high levels of standardization, are highly

rules-based, and are mature.<sup>17</sup> However, RPA can deal effectively with complex processes as long as complexity is defined as requiring compound steps and the control of many variables. (Some researchers define process complexity as processes where cause and effect are subtle and dynamic, in which case complex processes would not be ideally suited for RPA.)<sup>18</sup> One of the advantages of RPA is that it is highly interoperable and can readily run on any platform—mainframes, client/server, or cloud systems. RPA only requires access to the presentation layer, i.e., the screens the user sees. A “robot” can be configured to logon to many systems and execute tasks just like a human would. Early adopters have reported that compliance risks are minimal with RPA because every action executed by the “robot” is logged and thus auditable.<sup>19</sup> Finally, Derek Toone, Managing Director at Alsbridge, suggested, *“The degree of business value inherent in the process is worth considering in situations where significantly increasing the speed or accuracy with which a process is executed can yield outsized benefits to the business, for example in terms of enhancing speed to market, product quality, customer satisfaction, regulatory compliance, etc.”*

Telefónica O2 also commented on the academic set of process attributes recommended for RPA; Butterfield strongly agreed that processes need to be mature and rules-based. He also added that processes need to have identifiable beginnings and endings. But Telefónica O2 developed a simpler heuristic—a process is automatable provided automation can save at least three FTEs. Butterfield explained, *“There are a lot of processes that require less than half an FTE a month. And we’re probably always going to keep those in Back Office because even though the commercials are very good for RPA, there’s no point in automating a process that saves you less than three FTEs at the moment.”* Telefónica O2’s excellent management information (MI) facilitates the ability to identify candidate processes for automation that will save at least three FTEs. Butterfield said, *“The MI that I receive from my BPO provider’s work allocation system is phenomenal. I can tell you to the zero point zero zero of an FTE what I’m going to save when I automate a process. I know to the second how long that process has taken to complete over a number of years.”*

So, which processes are candidates for saving three FTEs? Telefónica O2 uses volume of transactions and process complexity as guides (see Figure 2). To assess process complexity, time serves as proxy. A simple process requires a human to complete it in a few minutes. A complex process may take thirty minutes or more. Although Telefónica O2 tended to select simple processes with around at least 1,000 transactions per week for automation, Butterfield explained how complex processes can be automated to generate savings: *“If you were to automate a complex process, you may only be doing thirty of those a day but automation would still deliver the three FTE savings that you’re looking for.”*



**Figure 2: Telefónica O2’s Assessment of the RPA Suitability**

## Lessons Learned

As a pioneer of RPA with remarkable results, the Telefónica O2 case offers five lessons for other companies considering automation:

### **1. RPA is one tool along with process elimination, process improvement, and other business process tools.**

Although Telefónica O2 is clearly an RPA proponent, it views RPA as a complementary tool along with process elimination, process improvement and even with other automation tools. It also stressed the importance of sequencing these tools so that process elimination and process improvement preceded RPA. Telefónica O2 continued to use both BPMS and RPA solutions. Butterfield explained, *“Within the wider business, we still have ways and means of eliminating or automating processes using different technologies such as BPMS or removing a query type out of Back Office and adding it to our customer-facing online self-service capability. So RPA is not the only solution to everything, but it’s obviously a great tool to have in your repertoire.”*

Like Telefónica O2, Forrester Research<sup>20</sup> found that enterprises benefit from both BPMS and RPA technologies based on interviews in 12 large organizations (see Table 3). It argued that

RPA complements BPMS. *“The trick is to put them together in the right combination to achieve your strategic goals”* (Forrester Research 2014 p. 2).

Table 3: BPMS versus RPA Adapted from Forrester Research (2014)		
Attribute	BPMS	RPA
Business Goal	Reengineer processes	Automate existing processes
Technical Outcome	Create a new application	Use existing applications
Integration Method	Access business logic layer	Access the presentation layer of existing applications
Developers	Software developers	Business operations
Testing Requirements	System Testing	Output verification

Another way to compare BPMS and RPA is to consider the process value and degree of specialization as depicted in Figure 3. BPMS solutions are typically deployed using IT resources for specialized, higher-value processes to justify the IT development investment. RPA solutions are typically deployed by business operations staff with IT oversight (but not with IT developers) for processes that are lower-value and more generalized; The significantly lower IT investment costs now makes automating these processes financially beneficial. Pat Geary, CMO for Blue Prism, said, *“We are not trying to replace enterprise IT, and we are not really trying to compete with BPMS. It’s really this long tail of processes that are typically deployed by humans that are most suitable for RPA. Humans can be redeployed to more intelligent decision-making tasks.”*

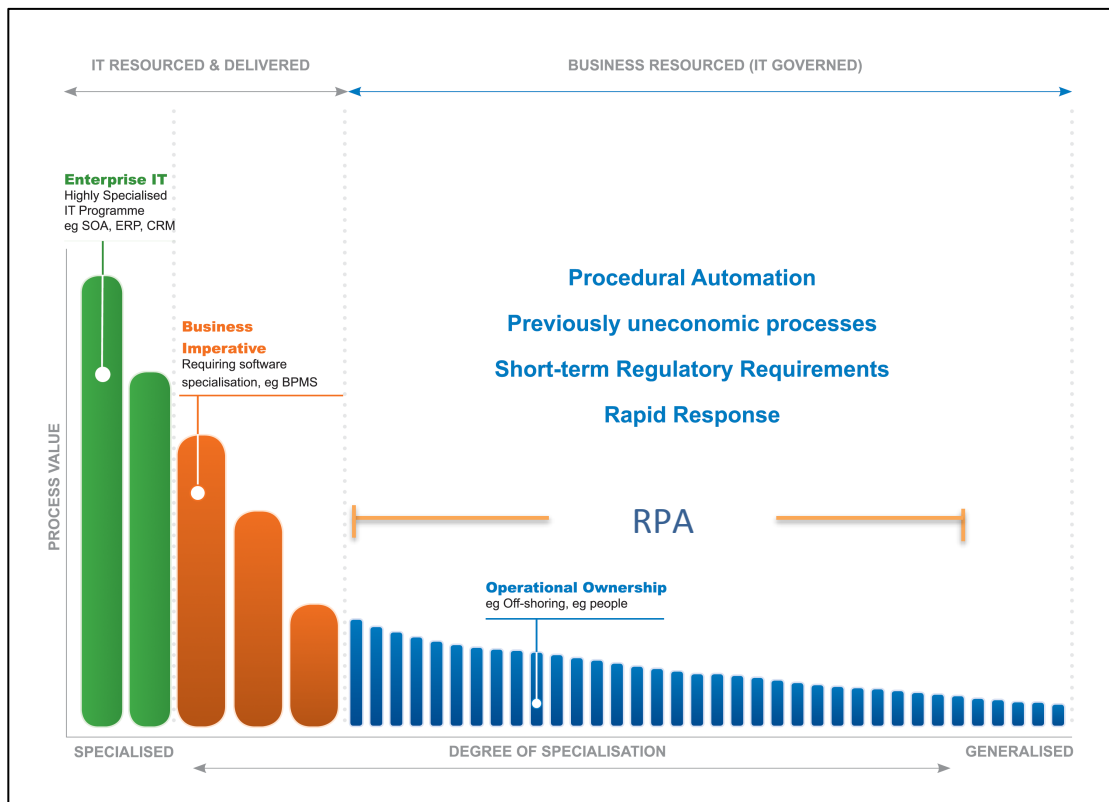


Figure 3: BPMS vs. RPA Source: Adapted from Blue Prism

## **2. Robots need more explicit instructions than humans.**

When humans execute processes, they make many little judgments based on common sense. So, for example, a human can gauge that “St. Louis” and “Saint Louis” are equivalents, but a robot will only recognize them as equivalents if instructed to do so. Robots will only execute exactly what they are configured to execute. In short, robots lack common sense. Thus, the explication of rules for robots must be much more detailed than for humans.

Telefónica O2 provided an anecdote that illustrated this lesson well. When the Apple iPhone was announced, Telefónica O2’s customers could preorder the phone. In their exuberance, some customers preordered the iPhone multiple times. Whereas a human would likely recognize that a single customer is really requesting a single phone, the robot did not. The robot shipped customers multiple phones. Butterfield said Telefónica O2 learned, *“In processes that we felt had hard and sufficient rules around them, we have found that when we put it into RPA and completely remove humans, we had to implement additional ‘common sense’ type rules not needed previously.”*

## **3. Make sure your own internal infrastructure grows in pace with automation.**

Telefónica O2 reported that Blue Prism was resilient and stable. (Butterfield said he could count on one hand the number of times Blue Prism had gone down in five years.) However, Telefónica O2’s internal infrastructure that runs Blue Prism had incurred significant launch problems and growing-pains.

For launch, Telefónica O2 decided to run Blue Prism on virtual machines (VM) where a “lead” VM machine orchestrated all the robots.<sup>3</sup> The virtual machines initially ran two to three times slower than when people were executing the processes. Telefónica O2 had to change server, database, and system locations to increase processing speed. Butterfield explained, *“Having a virtual infrastructure in Glasgow, for example, when your systems are down south in London and Slough, makes a difference.”*<sup>21</sup> It took about 16 weeks to optimize the infrastructure.

Once optimized, Telefónica O2 learned that it needed to scale up the infrastructure as the RPA adoption scaled. A “lead” VM machine worked fine when there were 20 robots deployed, but it imploded when the number of robots quadrupled. He mused, *“It was like driving a Ferrari with a lawn mower engine.”*

Since Telefónica O2’s initial RPA adoption, VM desktop technology has advanced considerably and Blue Prism has developed technical guidelines to minimize network latency. Neil Wright, Director of Professional Services for Blue Prism, explained, *“We obviously learn with our clients. We have refined our infrastructure data sheets so that clients coming on board don’t experience the problems O2 initially had. We have clients now who are running virtual workforces bigger than O2’s without any problems.”*

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<sup>3</sup> Blue Prism can run on the cloud, but Telefónica O2 had decided to keep the virtual machines in-house as of 2015 because it’s not made the leap away from its own server centers yet.

#### 4. Consider carefully the best sourcing option.

Returning to Figure 1, we identified six levers for transforming low-performing back offices into high-performing back offices. These transformation levers were centralize, standardize, optimize, relocate from a high-cost to a low-cost destination, technology enable, and automate. These transformation levers can be deployed using a variety of sourcing options ranging from full insourcing to full outsourcing. Full insourcing uses internal resources to erect shared services and captive centers to employ the transformation levers. Full outsourcing engages outsourcing providers to “lift, shift, and transform” the back office on the client’s behalf. Most organizations, like Microsoft, BP, and EMC, use hybrid sourcing by creating global shared services internally but with significant help from BPO providers.<sup>22</sup>

In 2010, Telefónica O2 did not have many sourcing options when it came to automation. It initially approached its BPO provider to see if it would develop automation capabilities. Telefónica O2 proposed that financial gains from automation would be shared with the BPO provider. At the time, the BPO provider’s business model relied primarily on labor arbitrage, so it ultimately decided to pass on the automation opportunity. But for other organizations just now looking at RPA, there are more sourcing options to choose among, including:

- **Insource:** buy RPA licenses directly from an RPA software provider
- **Insource and consulting:** buy licenses directly from an RPA software provider and engage a consulting firm for services and configuration.
- **Outsource with a traditional BPO provider:** buy RPA as part of an integrated service delivered by a traditional BPO provider
- **Outsource with an RPA provider:** buy RPA from a new RPA outsourcing provider.
- **Cloud-source:** buy RPA as a cloud service (still emerging)

The benefits of insourcing, like Telefónica O2 did, is that the organization has high levels of control and keeps all cost savings. At the time, BPO providers and advisors did not offer RPA services.

Today, many traditional BPO providers have developed significant automation capabilities, including Xchanging, Accenture, IBM, TCS, and Genpact. The benefits of engaging a traditional BPO provider include a full suite of integrated services that combine labor arbitrage, process excellence, change management maturity and technology expertise. New RPA providers like GenFour and Symphony are also emerging. GenFour, for example, is a licensed reseller of Blue Prism and Celetron. Sarah Burnett, Vice President of Research at the Everest Group, commented on the different sourcing options: *“The open question is whether the service providers will be asked to provide the tool sets for automation or if their clients will prefer to license commercial tools themselves and just utilize the service providers’ expertise to implement and optimize automation. Fears of technology lock-in may drive a preference to separate tools from services...There is also the rise of the new breed of service providers to*

*consider. These are entirely focused on automated service delivery and could drive growth in consumption-based contract models.”*

## **5. To be an RPA pioneer, you will need to take some risks!**

Returning to Telefónica O2’s pilot test, Butterfield almost lost his job because he did not inform IT or other parts of the organization that he was testing new software. One might assume that the lesson to be learned is, “Bring IT onboard early”. Certainly this was the lesson Blue Prism took from this experience. Pat Geary, CMO for Blue Prism, said, *“The minute we engage with business owners, we insist on speaking with the IT function. When we talk to IT, we explain that we have a product that is designed to appease their requirements for security, scalability, auditability, and change management.”*

In hindsight, however, Butterfield defended his pioneering behaviors. He said, *“I’d probably do it again. I’d rather apologize for something I’ve done than seek permission for doing it in the first place. And I think as a pioneer in anything, whether it be RPA or digital customer services which is where most of my passion lies, I think if you seek permission for everything you do, everything slows down. Things can get stuck in governance for years and years.”* Pioneers are impatient and seek big results fast. When asked to rate the overall performance of RPA on a scale of 1 to 7, with 1 indicating very poor performance, a 4 indicating neither good or bad performance, and a 7 indicating exceptional performance, Butterfield only gave performance a 5.5. When asked to explain the moderate rating given the impressive business outcomes, he said, *“I’m quite critical of myself. Although I think we deployed RPA well as an early adopter, I think once we started to deliver benefits, we could have supercharged that and delivered more earlier. So we wouldn’t be talking about 400 to 500 thousand transactions and 160 robots, we’d be talking about you know, 70 to 80 percent of all transactions and 250 to 300 robots delivering tens of millions of savings, not two, three, or four million of savings.”*



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## Endnotes

<sup>1</sup> Lacity, M., and Willcocks, L., (2015), *Nine Keys to World-class Business Process Outsourcing*, Bloomsbury Publishing, London.

<sup>2</sup> <http://www.o2.co.uk/abouto2>

<sup>3</sup> Quote from Burnett, S. (2015), "A Conversation with Wayne Butterfield, Head of Digital Service Innovation & Transformation at Telefónica," Everest Group Practitioner Perspectives, EGR-2015-4-0-1422.

<sup>4</sup> Quote from presentation during the Everest Group Webinar, "Service Delivery Automation: The Next Big Thing," February 26, 2015.

<sup>5</sup> Op. cit. Burnett (2015)

<sup>6</sup> Op. cit. Everest Group Webinar, "Service Delivery Automation: The Next Big Thing".

<sup>7</sup> Op. cit. Everest Group Webinar, "Service Delivery Automation: The Next Big Thing".

<sup>8</sup> Lacity, M., and Willcocks, P. (2012), *Advanced Outsourcing Practice: Rethinking ITO, BPO, and Cloud Services*, Palgrave, London;

Lacity, M., Solomon, S., Yan, A., and Willcocks, L. (2011), "Business Process Outsourcing Studies: A Critical Review and Research Directions," *Journal of Information Technology*, Vol. 26, 4, pp. 221-258.

McKeen, J., & Smith, H., (2011) "Creating IT Shared Services" *Communications of the AIS*, Vol. 29, 34, pp. 645-656.

<sup>9</sup> Mclvor, R., McCracken, M., & McHugh, M., (2011) "Creating outsourced shared services arrangements: Lessons from the public sector" *European Management Journal*, Vol. 29, 6, pp. 448-461.

Sako, M., (2010) "Technology Strategy and Management Outsourcing Versus Shared Services" *Communications of the ACM*, Vol. 53, 7, pp. 126-129.

Svejvig, P., (2011) "A Successful Enterprise System Re-Implementation Against All Odds – A Multisourcing Case Study" *Journal of Information Technology Case and Application Research*, Vol. 13, 4, pp. 3-31.

Whitaker, J., Mithas, S., & Krishnan, M., (2010) "Organizational Learning and Capabilities for Onshore and Offshore Business Process Outsourcing" *Journal of Management Information Systems*, Vol. 27, 3, pp. 11.

<sup>10</sup> Srikanth, K., & Puranam, P., (2011) "Integrating Distributed Work: Comparing Task Design, Communication, And Tacit Coordination Mechanisms" *Strategic Management Journal*, Vol. 32, 8, pp. 849-875.

<sup>11</sup> Bidwell, M., (2012) "Politics and Firm Boundaries: How Organizational Structure, Group Interests, and Resources Affect Outsourcing" *Organization Science*, Vol. 23, 6, pp. 1622-1642.

Lacity, M., and Fox, J. (2008), "Creating Global Shared Services: Lessons from Reuters," *MIS Quarterly Executive*, Vol. 7, 1, pp. 17-32.

<sup>12</sup> Aubert, B., Houde, J., Patry, M., & Rivard, S., (2012) "A multi-level investigation of information technology outsourcing" *Journal of Strategic Information Systems*, Vol. 21, 3, pp. 233-244.

---

Jorgensen, C., (2010) "Offshore supplier relations: knowledge integration among small businesses" *Strategic Outsourcing: An International Journal*, Vol. 3, 3, pp. 192-210.

Verner, J., & Abdullah, L., (2012) "Exploratory case study research: Outsourced project failure" *Information and Software Technology*, Vol. 54, 8, pp. 866-886.

<sup>13</sup> Luo, Y., Wang, S., Zheng, Q., & Jayaraman, V., (2012) "Task attributes and process integration in business process offshoring: A perspective of service providers from India and China," *Journal of International Business Studies*, Vol. 43, 5, pp. 498-524.

Jayaraman, V., Narayanan, S., Luo, Y., & Swaminathan, J. M. (2013). Offshoring business process services and governance control mechanisms: An examination of service providers from India," *Production and Operations Management*, Vol. 22, 2, pp. 314.

Narayanan, S., Jayaraman, V., Luo, Y., & Swaminathan, J., (2011) "The antecedents of process integration in business process outsourcing and its effect on firm performance" *Journal of Operations Management*, Vol. 29, 1-2, pp. 3-16.

<sup>14</sup> Sia, S., Koh, C. and Tan, C. (2008). Strategic Maneuvers for Outsourcing Flexibility: An empirical assessment, *Decision Sciences*, Vol. 39, 3, pp.407-443.

Tanriverdi, H., Konana, P., and Ge, L., (2007), "The Choice of Sourcing Mechanisms for Business Processes," *Information Systems Research*, Vol. 18, 3, pp. 280-299.

<sup>15</sup> Currie, W., Michell, V., and Abanisque, A., (2008), "Knowledge Process Outsourcing in Financial Services: The Vendor Perspective," *European Management Journal*, Vol. 26, pp. 94-104.

Desai, D., Gearard, G., and Tripathy, A. (2011), "Internal Audit Sourcing Arrangements and Reliance by External Auditors," *Auditing: A Journal of Practice and Theory*, Vol. 30, 1, pp. 149-171.

Dunbar, A. and Phillips, J. (2001), "The Outsourcing of Corporate Tax Function Activities," *The Journal of the American Taxation Association*, Vol. 23, 2, pp. 35-49.

Mathew, S., (2011) "Mitigation of risks due to service provider behavior in offshore software development A relationship approach" *Strategic Outsourcing: An International Journal*, Vol. 4, 2, pp. 179-200.

<sup>16</sup> McIvor, R., Humphreys, P., McKittrick, A., and Wall, T. (2009), "Performance Management and the Outsourcing Process: Lessons from a Financial Services Organisation," *International Journal of Operations and Production Management*, Vol. 29, 10, pp. 1025-1047

Ventovuori, T., and Lehtonen, T. (2006), "Alternative Models for the Management of FM Services," *Journal of Corporate Real Estate*, Vol. 8, 2, pp. 73-90.

Wahrenburg, M., Hackethal, A., Friedrich, L., and Gellrich, T. (2006), "Strategic Decisions Regarding the Vertical Integration of Human Resource Organizations," in *International Journal of Human Resource Management*, Vol. 17, 10, pp. 1726-1771.

<sup>17</sup> Discussion from The Robotic Automation Advisory Council, Chicago Illinois, April 14, 2015

<sup>18</sup> For a comprehensive set of process complexity measures see:

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Day, A. (2009), "On Process Complexity," *In Proc. Fifteenth Computing: The Australasian Theory Symposium (CATS 2009)*, Wellington, New Zealand. CRPIT, **94**. Downey, R. and Manyem, P., Eds. ACS. 29-34.

Gruhn, V., and Laue, R., "Complexity Metrics for Business Process Models," University of Leipzig working paper, available at:

<http://czm.fel.cvut.cz/research/BPM%20Research%20knihovna/Complexity%20Metrics%20for%20Business%20Process%20Models.pdf>

Shen, W., N.L. Hsueh, N. and P.H. Chu, P. (2011), "Measurement-based software process modeling," *Journal of Software Engineering*, Vol. 5, pp. 20-37.

<sup>19</sup> Panel discussion, "The Impact of Robotic Process Automation on BPO," Automation Innovation Conference, New York City, December 10, 2014.

<sup>20</sup> Forrester Research (2014) *Building a Center of Expertise to Support Robotic Automation*.

<sup>21</sup> Op. cit. Burnett (2015)

<sup>22</sup> op. cit. Lacity, M., and Willcocks, L., (2015)