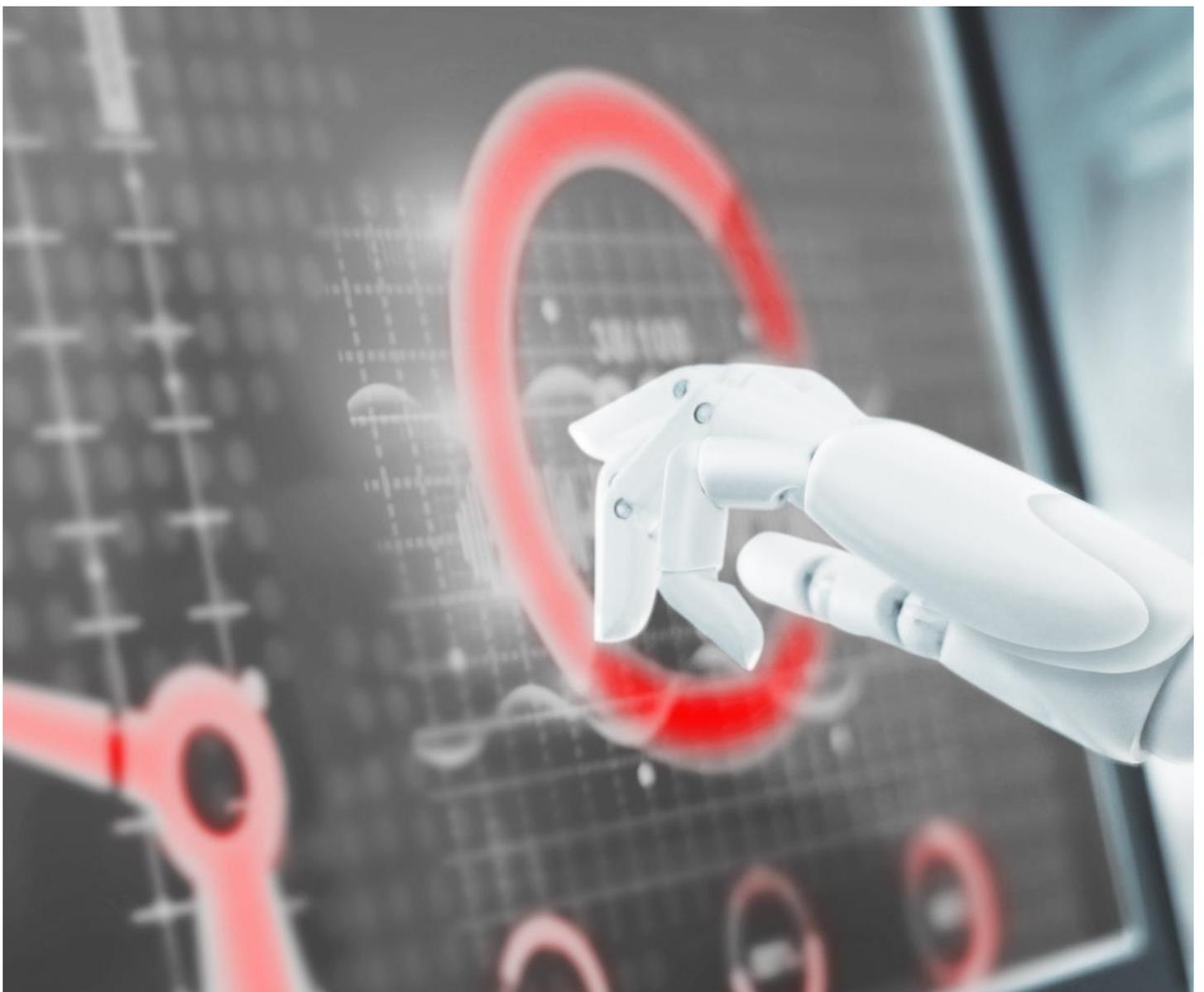


Industrializing Automation

Breaking through the scale out glass ceiling

The potential benefits of Robotics and Cognitive Automation are clear. So why are enterprises globally struggling to exploit these at scale?

Fujitsu examines the automation landscape and identifies the real world value that automation can bring to enterprises, the barriers to widespread adoption and offers a re-imagined approach to delivering Robotics and Cognitive Automation at scale.



The Potential of Robotics and Cognitive Automation

Robotic Process Automation (RPA) technology has been around for some years but it is only in the last three years that this technology has matured and now offers the type of stability and ease of use required for scalable enterprise solutions. Cognitive Automation, the collective term for AI enabled robotics, builds on RPA and is using recombinant innovation to connect robotics with technologies that deliver enhanced capabilities such as; Optical Character Recognition for reading documents, Natural Language Processing for Chatbots, or Machine Learning to assist in adjudication and decision making.

The industry is awash with proof points that demonstrate eye catching reduction in effort of 60% to 80%, and sometimes higher depending on the scope of the process. But look closely, and you will see that these are discrete proof points on individual automations, pre-selected based on their suitability for RPA automation. In the early days of RPA, these massive savings were being touted as indicative of the level of savings across the enterprise. This false assumption contributed to ¹40% buyer's remorse, as the lofty savings failed to materialize. With their complex application landscapes, incorrect process selection, and mis-aligned stakeholder expectations, enterprises realized that RPA programs were not a panacea, but subject to the same constraints as any large scale technology program.

The real question asked by CxOs is "what should my level of automation ambition be for my business?" This poses a very different challenge, with a focus on defining the real world benefit of enterprise wide adoption of Robotics and Cognitive Automation.

The reality is there are only a handful of enterprises, less than 4% globally, who claim to have scaled beyond 50 robots, and they are not sharing their outcomes.

In order to answer this burning question Fujitsu has devised a hypotheses that estimates that enterprises should be targeting 12% to 16% benefits in operating budgets across the enterprise.

Calculating Level of Automation Ambition

So how do I know the level of Automation Ambition?

1. Enterprises should be targeting a **minimum of 12%** benefits from operating budgets and labor substitution from automation.
2. Fujitsu has determined that ²20% of the process landscape is suitable for automation.
3. This is then applied to the well proven automation benefits of 60% to 80% on discrete processes to arrive at a level of transformation ambition of **12% to 16%** (60% to 80%) x 20%.

The key deciding factor in this hypothesis is the percentage of the process landscape that is suitable for automation. To support this hypothesis, there are various proof points for this in the market.

- » PricewaterhouseCoopers (PwC) estimates that ³30% of jobs will be automated by 2023
- » McKinsey estimates a ⁴30% reduction in basic cognitive skills (roles suitable for RPA) by 2030 rising to 38% in the Financial Service Sector.

Fujitsu analysis indicates that the lower end of this scale is a more realistic starting point, and that 20% of the process landscape is suitable for automation with current technology, and will give a return on investment within 9 to 12 months.



Let Loose the Dogs of Automation

Emboldened by the success of initial pilot engagements, there has been a massive spike in market demand for automation services. Many early implementation partners took the benefits from initial pilots at face value, and simply extrapolated these across the enterprise - promising huge returns in unrealistic timeframes. This market hype has led to an explosion of some 1,200 RPA professional services vendors and over 45 RPA platforms⁵.

The possibility of short-term programs with an associated, and unprecedented, reduction in operational costs - pushed RPA to be a top priority for corporations around the globe. In 2017 ⁶4 out of 5 members of the C-Suite viewed RPA as a foundation of their operations strategy, and 98% of enterprises had a RPA agenda.

RPA was seeing widespread adoption with some 70% of enterprises claiming that they will achieve RPA maturity over 2 years, with a whopping 50% claiming that they will achieve AI maturity over the same time frame. Fast forward to 2019 and the picture looks much different, with organisations now recognizing the barriers to RPA adoption, and the associated challenges.

Organizational challenges pose the most significant long-term barrier to RPA adoption.

As is the case with all technology deployments, security is a top concern. Other pressing concerns are organizational: resistance to change, lack of executive support from the executive team and governance, risk and compliance concerns. As enterprises realize double-digit improvements in productivity, speed and quality from RPA, these barriers will eventually deflate, creating a steep hill for late adopters to climb to remain competitive.



Source: ISG Research 2018 Q1 EMEA RPA Study, n = 549

The Automation Scale Out Glass Ceiling

Despite much lauded market hype, exiting 2018 - the total number of enterprises worldwide who claimed to have scaled beyond 50 robots was just ⁷4%. And this was a modest 1% increase on the previous year's analysis. So what went wrong? Put simply, enterprises fell into the trap of assuming that a black box technology solution would cure all ills, and they overlooked the basics of technology enabled change.

The barriers to RPA and Cognitive Automation adoption will be easily recognized by seasoned technology industry players. What is remarkable, is that these challenges pre-date RPA technology and are in fact perennial industry challenges.

IT security concerns are the single biggest barrier to automation adoption, with some ⁸42% of enterprises confirming that this is their top barrier to scale out. However, combined factors of Organizational Resistance to Change, Governance Concerns, Lack of IT Support and Lack of Executive Commitment, all add a significant organisational change barrier to the glass ceiling which has prevented wide scale RPA adoption.

Coupled with these "development" barriers, enterprises also struggled with the unexpected effort needed for discovery activity, and the ongoing support effort needed to manage and run robot farms at volume. Many 'advisory' implementation partners did not adequately consider the full RPA program lifecycle, and ongoing support needs, and instead viewed RPA implementations like a project - rather than a sustainable technology enabled change program.

The net effect of this was that the ongoing support overhead on farms of over 50 Robots was such that it overwhelmed the traditional RPA Center of Excellence (CoE) structure, and was a material constraint to scaling. The lack of separation between the project, build and support functions within the CoE structure meant that resources would lean towards the maintenance of deployed robots in production, stifling the build effort.

In addition, the explosion in adoption created a war on talent for skilled automation resource, and the market simply was not able to sustain the hockey stick growth in demand. RPA developers started to become choosy about the roles they took, and only working with interesting, fast growing companies.

Nature abhors a vacuum and buoyed by RPA platform provider's claims "that anyone can deliver robots with some training", a high percentage of limited experience developers entered the market. Anyone can indeed build a robot, however there is big difference in building a robot that breaks one in 10 times, versus 1 in 10,000.

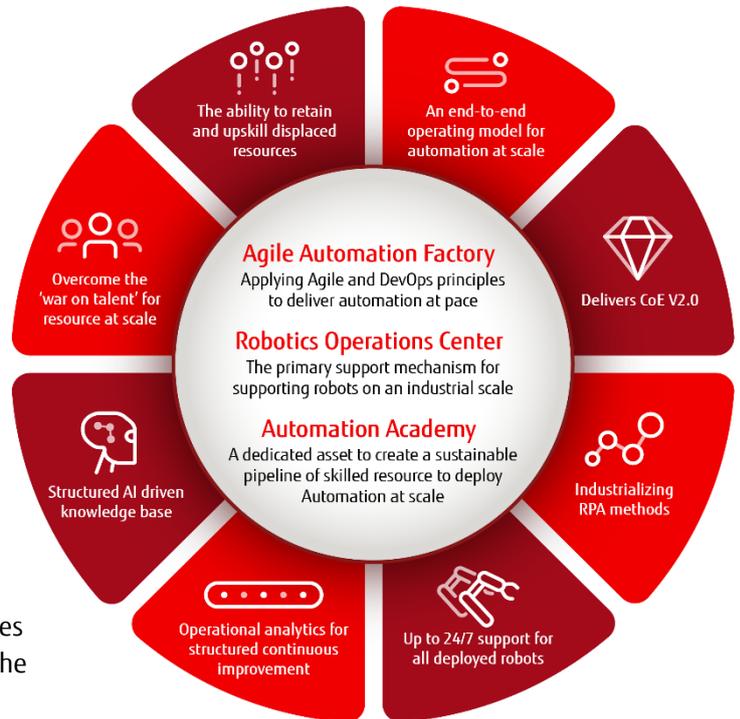
⁵ Information Age - Will a new Robotics Process Automaton standard be an RPA trend in 2019? ⁶ HFS - 2017 The State of Automation and AI ⁷ Deloitte - The Robots Are Waiting ⁸ ISG - Research 2018 Q1 EMEA RPA Study

Fujitsu's Industrialized Automation Operating Model

Given these barriers to scale out, a new industrialized Automation Operating Model was needed. Fujitsu spent the last 2 years both influencing and tracking these trends in the market, systematically examining the core reasons why scale out failed - before going on to define a new operating model and approach to Industrialized Automation to mitigate these risks. Along the way we are proud to say that we learned from our own mis-steps in delivery scale-out and emerged better informed, better equipped, and with a plethora of automation scale out experience that leveraged our over 80 year pedigree as a systems integrator.

Fujitsu is delighted to launch our reimagined industrialized Automation Operating Model to the market.

This re-imagined model seeks to address the new set of challenges brought about by adopting automation at scale, and which has the following core components:



🔧 The Fujitsu Agile Automation Factory

Comprising our trained resources in UK&I and from our Global Delivery Centers to deliver a seamless service to discover, identify, build, deploy, and manage robots to support our clients' business outcomes. By combining our proven delivery capability and tools, with Agile principles we maximize delivery burn rate, and in so doing, return the maximum value to the enterprise at the earliest opportunity.

🔧 The Fujitsu Robotics Operation Centre (ROC)

The ROC will be the primary support mechanism for all deployed Robot configurations deployed into live production, and will offer our clients the ability to draw upon a number of commercial model such as RPAaaS. This support model includes everything needed to develop, support, monitor, maintain, secure and optimize RPA deployments at scale. In addition, the ROC will also include a Sandbox innovation capability that allows the Fujitsu RPA, AI/Analytics and Consulting teams to help our customers collaborate, experiment and innovate with various technologies to enable the evolution of the Automation landscape as new technologies become available.

🔧 The Fujitsu RPA Academy

Comprising best practices, methodologies and support to address two big questions. "How to scale RPA deployment teams and manage them most effectively?" Moreover, "How to deal with the skill shift challenge that RPA deployment at scale will create?" This capability will bring together elements of recruitment, knowledge transfer, employee reskilling and team coherence in Agile delivery structures, helping with the retraining and redeployment of staff to achieve business benefits. Fujitsu also makes this asset available to customers wishing to retrain or upskill resources displaced by automation.

30%

reduction in
basic cognitive
skills demand
by 2030¹

92%

Increase
in technical
skills demand
by 2030¹

The CoE is Dead – Long Live the CoE!

In the early days of RPA, the focus for enterprises was the initial evaluation of platforms, and the mobilization of cross functional teams. Challenges addressed were with respect to selecting the correct platform, standing up local infrastructure and deploying the RPA platform, as well as early business engagement in order to find some initial Automation candidates.

A typical CoE would comprise the usual suspects of Project Management, Business Analysts, Developers, Solution Architects, and Infrastructure Architects. For the most part this approach was successful, and enterprises were able to initiate pilots leading to the plethora of individual proof points with of RPA robots delivering savings on some discrete processes.

Encouraged by the success of these initial pilots and the prospect of huge savings, CFOs were keen to scale out across the enterprise. However there is a complication. The same CoE structure that served enterprises so well for initial mobilization is not designed to cope well with the new set of challenges that scale out brings.



The Automation CoE V2.0

To cope with these new challenges Fujitsu has devised the **Automation CoE V2.0**, owned and driven by the enterprise with the following core functions.

Automation First Strategy

For automation programs to succeed there must be a 'pull' from the business to want to adopt this technology, and a 'push' from the CoE. The CoE V2.0 has ownership of managing the enterprise wide adoption of this strategy.

Governance

Holistic governance is needed to manage the multiple moving parts of a large scale automation program across business, information security, and service management stakeholders. As well as creating the correct automation operating model environment that enables progress to be made.

Change Management

Given the potential wide ranging impact on the business, any automation program must be viewed as a business change initiative, not a simple IT change. It is crucial that the CoE V2.0 overcomes the organisational resistance to change, and is proactive in its sponsorship and communication around this initiative.

Benefits Realization

Just as with Change Management, the Benefits Realization function must be wholly owned by the business, and centrally managed to monitor benefits realization against the business case.

Automation Design Authority

Enterprises must view automation as a journey not a destination. RPA is an excellent foundation, but as AI matures and new technologies develop there will be a number of additional automation pathways that must be considered that augment and support existing technology and applications strategies within enterprises.

The Automaton CoE V2.0 will own the alignment of the automation journey with the enterprises digital and technology strategies, and will provide governance on the technologies best suited to fulfill an evolving automaton need e.g. legacy apps development, RPA and AI solutions or 3rd party workflow automation solutions such as ServiceNow or SFDC.



Discovery is a key battleground for automation scale outs

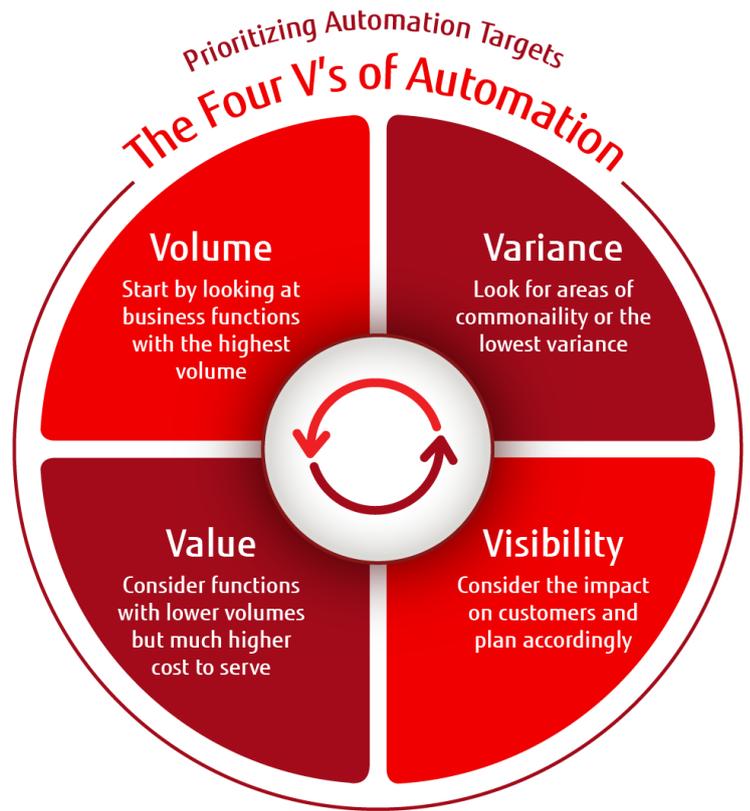
From our extensive experience with enterprise customers, the single biggest challenge to overcome is that of the identification of automation targets - commonly referred to as Discovery. Fujitsu agrees with Eliyahu Goldrat, the author of the optimized production technique, in that Discovery is the true battleground for automation as the development and delivery of automation solutions becomes mechanistic after this phase.

Discovery activity is hugely important to the success of the whole automation program, as it will identify the prime candidates for automation – as well as creating the backlog of requirements that will sustain the automation factory, and create a drumbeat of robots deployed week on week to deliver the desired level of benefits ambition. Enterprises that master Discovery will win the battle for automation scale out success. There are a number of key considerations for enterprises embarking on enterprise scale Discovery.

Simply asking process practioners for automation targets is a tactic that in most instances, will likely fail to identify the prime candidates. Many enterprises create the equivalent of a digital suggestion box to capture automation targets where employees are invited to come up with automation targets.

Yet process practioners seldom understand the correct profile of high volume, low variance processes that yield the greatest returns. Add to this employees, perceiving that their jobs may be at risk from automation, are not motivated to give transparency on where automation targets may exist. Instead they offer low volume, complex use cases for automation targets. When triaged, these targets are often found to be weekly, monthly or in some cases annual frequency which immediately sets alarm bells ringing as to their suitability, and the business case benefit for automation.

Instead, Fujitsu advocates that centrally driven 'top down' analysis is needed facilitated by an experienced Automation Consultant or Business Analyst trained to map out the process landscape; from Strategic outcomes and business imperatives down to high level functions and the core processes and sub processes that deliver these.



KPIs on transaction volumes, average handling times, and first time quality rates are applied to determine automation targets using the 4 vs of Automation. Volume, Variance, Value and Visibility i.e. selecting internally only processes initially as expertise and confidence builds then switching to externally visible processes so that end customers can then enjoy reduction in lead times, improved accuracy and added value of straight through processing.

Note that enterprises should not waste excessive time trying to find the process with the absolutely highest ROI before starting development, as this delays the delivery and associated Business Benefits. The key is pace and undertaking just enough discovery to enable development to commence and then run further discovery iterations.

“Automation is good, so long as you know exactly where to put the machine.”

Eliyahu Goldrat

Automated Business Process Discovery

One of the biggest constraints on the acceleration of automation delivery, is the pace at which processes are discovered and mapped in preparation for the development activity to take place. Historically this has been a workshop driven exercise with a consultant or business analyst lead session, over 1 to 2 days, that ties up 2 to 10 business SMEs.

As well as the cost of the activity (i.e. external consultants and internal resources), this approach creates a constraint on both the automation business analyst resources, as well as the business SME's, as they can only run these sessions sequentially, delaying the time taken to get to robot delivery by as much as 70%. Just as automation is disrupting white collar back office functions, this traditional consulting approach is now facing automation.

Process mining tools, once cumbersome and limited to examining application transaction logs, are now able to conduct front end process discovery which is much more humanistic, and better suited to undertaking concurrent analysis. Multiple processes are captured at once, by tracking the actual processes being delivered by users, and in a concentric manner, capturing core processes and common exceptions to baseline the resource effort.

The automated/transformed process can also be modelled, and the two baselines contrasted to derive benefit savings based on empirical evidence - rather than the usual approach of further workshops or time and motion studies and estimated results.

The difference in effort can be staggering. Across 10 processes a traditional consultative approach will have:

- » 1 x Kick off workshop
- » 10 x As Is Workshops with Business SMEs
- » 10 x To Be workshops with Business SMEs
- » 10 x Benefits Realization engagements with business SMEs

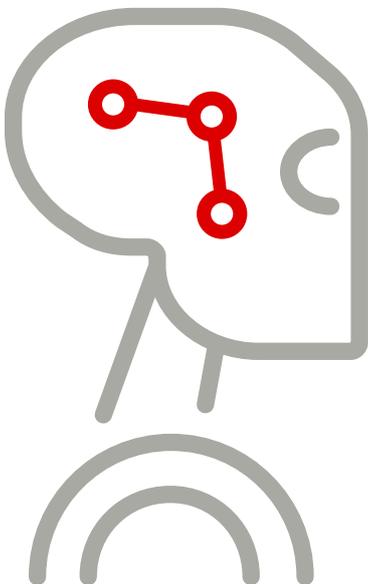
By contrast Automated Business Process Discovery needs

- » 1 x Kick of workshop...

After a single engagement to agree the automation targets, 'Discovery Robots' are deployed on user's desktops and these tools then passively track the actual processes being delivered, over a number of days. Within 10 days of starting the discovery activity, an algorithm is able to create a visualization of the process that combines 'as is' and 'to be' analysis into an optimal process flow that may be quickly translated into a Process Design Document by a business analyst.

Post transformation, the automated process is tracked again, and the effort to deliver each compared to the baseline, to ensure the benefits have been realized. The key difference is the resource needed to capture this information requires little or no input from business SMEs.

This technology driven approach is hugely advantageous and embodies the **Automate then Optimise** approach favored by Fujitsu where processes are automated into production in the shortest possible timeframe. This reduces time and money spent on expensive consultants, and allows the Discovery process to scale to a level that is currently challenging, as it requires significantly less Process SME input. Multiple Discovery exercises can be run in parallel, resulting in a 70% reduction in the lead time to get to the development stage not to mention a significant saving in the heavy consulting costs required for the traditional approach.



Automate then Optimize

A common misconception is that processes need to be optimized or transformed before they are automated. This has its roots in 'traditional' apps development, where development and testing time were very resource intensive, and ultimately, the end process would be driven by a physical worker. Consultancy led engagements have propagated this misconception, and have lead enterprises down the path of long drawn out transformation programs, and lean activities that promise future efficiencies, but end up resulting in heavy upfront investment which has in many instances, severely weakened or even removed the business case justification for automation.

At Fujitsu we reject that approach in favor of an automation first principle of **Automate then Optimize** for faster and greater benefits realization.

Robotics is incredibly tolerant of sub optimal processes, as long as the process does not change and does not produce errors. Clearly a process that is broken must be fixed however, due to the reduced development times, the obviation of regression testing (as source code of legacy applications is not touched) and the fact that Robots work at far greater speeds than a human - it is more important to get the robot into production, even with built in waste, so that 60% to 80% benefit savings will be achieved earlier in the benefits

Standardize as you go – Gartner

Should I standardize first then automate, or standardize as I go?

“Standardize then automate” has been the mantra for departments as they adopt new technologies. The traditional approach, while reducing the chances of project failure, often extends implementation times and limits the ability to reap early benefits.

When it comes to RPA, by contrast, Gartner recommends that leaders explore the areas of their business that can be quickly automated and standardize these processes as they go.”

The alternative is a lengthy process re-engineering or lean activity, requiring much consulting effort, and the co-ordination of a number of resources for ultimately minimal returns in reducing waste in the process given the speed that the robot works at. What takes a human 5 minutes to complete can be executed by a robot in about 10 seconds. It is far more advisable to automate the process first, then optimize using operational analytics in production, to release second stage benefits. One of the key reasons for this, is that once in production the robot generates a high volume of data points on the efficiency of the process, and these can be analyzed and the robot optimized without impacting scarce business SMEs.

Only Unattended robots will deliver savings right? – Wrong

There is a belief in some areas that only Unattended robots, (i.e. that operate independently in a scheduled manner) will deliver labor substitution savings, as they do not require any human workers to operate them. Unattended use cases are significantly harder to identify than Attended robots (initiated by a user on smaller components of a customer journey), as by definition - they require a mature end to end process to be in place already, or require a lengthy transformation effort to get to that point.

One of the most severe cases seen by Fujitsu was a large BPO organization in EMEA, who spent 2 years trying to find Unattended use cases and were about to abandon RPA scale out entirely, until Fujitsu advised a switch to an Attended robot focus. This effectively removed the log jam that existed and this organization is now in the process of scaling out a team of up to 300 automation resources and targeting over 1,500 robots.

Put simply, if you have a team of 10 process workers, Attended RPA can deliver that process with 2 to 4 resources i.e. our benchmark 60% to 80% improvement. So whilst it's not untrue to say that humans are still involved in handling exceptions, and triggering the robots, the savings are clear

Additionally, automating the parts of the processes that are mundane and repeatable can actually improve not just efficiency, but also the job satisfaction of the people who still have a key role in the Attended process by up to 66%, making the acceptance and adoption of automation much easier.

It is also much easier to find uses cases for Attended robots working alongside physical colleagues. Attended robots are much easier to slot in to support various discrete stages of a customer journey. Over time as the automation posture matures these robots may be joined together for true straight through processing and converted into Unattended robots.

Breaking Through the Automation Glass Ceiling

Clearly there is enormous potential for enterprises able to break through the Automation Glass ceiling. So what guidance can Fujitsu give? Based on the discussion in this white paper here are 8 simple rules for breaking through the automation glass ceiling.

1. Identify your level of automation benefits ambition

The level of ambition will be the single guiding light in constructing an automation scale out program, so it is critical that you get this right. The easiest way to achieve this is to assess the percentage of the process landscape suitable for automation within your enterprise. Fujitsu can then extrapolate this into a custom Financial Model that will outline the high level benefit of delivering this ambition.

2. Embed an Automation First Strategy

Leaders need to not only buy in to the Automation First strategy, but embed the drivers for this change at all levels within their organization. Indeed our recommendation would be to adjust budgets, and align goals and related compensation, to drive the required outcome.

3. Don't try to get married on the first date

Automation programs will have a profound effect on your enterprise. Rather than go big bang with an overly ambitious automation program, instead adopt agile phasing principles with low initial investments and rewards that increase in iterations, as competency, confidence, and scale grows.

4. Deploy the CoE V2.0

Enterprises need to break away from the traditional CoE Model and move to a CoE V2.0 charged with leading, directing and governing the new Automation Scale Out Operating Model, whilst also managing the change within the business and tracking benefits.

5. Select a Partner

Automation benefits must be realized quickly if they are to be maximized which drives a 12 to 24 month window and consequently sizeable delivery teams. Enterprise will struggle to deliver this without help.

6. Automate Then Optimize

Avoid lengthy consultative based engagements that add significant cost and attempt to transform your processes by opting for an Automate then Optimize strategy, leveraging Automated Business Process Discovery tools.

7. Create the correct Automation Operating Model

Core components of the operating model expand on the traditional CoE, and have dedicated functions for Plan (CoE and Governance) , Change (Automation Factory and Automation Academy) and Run (Robotics Operations Centre) activities to support Automation at scale. However each enterprise will have unique requirements.

8. Manage the Skills Shift

As with previous industrial revolutions, enterprises will undergo a massive skills shift as labor with the incorrect skills profile, are substituted with new skills required. If not managed correctly this could alienate the employee base and severely limit the effectiveness of the program.

The future is here – it's just not evenly distributed

William Gibson, the author of *Nuromancer*, the 1984 book widely credited with inspiring the Matrix movie series, was once quoted as saying *"the future is here, it's just not evenly distributed"*. At Fujitsu we believe that this applies to the automation space where enterprises are not maximizing the possibilities of current established Robotics and Cognitive Automation technologies. The future possibilities of automation are here already, but clearly their adoption is far from evenly distributed.

Contact Fujitsu today and get your fair share!

Contact

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Reference: 3884

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