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Setting Up a Robotic Process Automation Center of Excellence

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Abstract. *Robotic Process Automation (RPA) has proven a solid and affordable solution for organizations in order to tackle the repetitive, low added value work. Not only that this solved another issue (e.g. high turnover rate), but came with further opportunities that raised the moral in the organization. Humans working side by side with (software) robots it's not anymore something science-fiction, but already in place in many organizations worldwide, including in Romania. The RPA path has been so far the following: organizations started with a Proof of Concept (PoC) validating the concept, then moved to a Pilot where a full process with all exceptions was automated end-to-end. After developing more than three Pilots organizations have realized that a team should be handling the robots inside the organization. This team should not only monitor the current robot, but also should have look for additional processes to automate. On the long term the most efficient way to treat this challenge is for a big organization (e.g. from banking, retail, oil&gas etc.) to create a Center of Excellence (CoE). By doing that each organization should take some follow some steps. These steps will be analyzed and developed further by the author of this paper, which is also a Subject Matter Expert for one a worldwide consulting firm.*

Keywords*: Robotic Process Automation (RPA); Center of Excellence (CoE).*

Introduction

This research will lay down all the steps for setting up a Center of Excellence (CoE) in an organization. The paper will focus on the CoE Target Operating Model, which is the desired state of an organization (Rumelt, 1986), and it will analyze each component one by one. After that, we will continue with the RPA desired team on the ground and the metrics associated with it (e.g. KPIs). Forrester, one of the leading research companies in the Robotic Process Automation estimated that in 2017 that automation market will hit approx. 3bn USD by 2021 (Le Clair, Cullen, & King, 2017). With a leading pack of three companies (i.e. Automation Anywhere from the USA, BluePrism from UK and UiPath from Romania) detaching from the competition (Everest, 2018). The most important of these three in terms of revenue is UiPath. The company has raised recently 153 million USD in Series B funding (2018) with an evaluation of more than 1,1 billion USD. A big chunk of this amount will go to further developing the platform, but also in research and development. Having an impressive board of directors and backed by the leading Silicon Valley capital funds the future of UiPath looks more than bright. What they have to do now is to apply the principles of strategic and knowledge management, which ultimately will lay down

the foundation for future innovations beyond RPA (Bolisani & Bratianu, 2017; Bratianu & Bolisani, 2015; Rumelt, 1986). In the case of UiPath, a huge merit for its ascensions has had its CEO, Daniel Dines, which saw the window of opportunity in this market and grew the company from a team of ten persons in 2014 to a team close to 1,000 today by employing unique leadership traits (Bratianu & Anagnoste, 2011).

Key concepts and ideas

When setting up a CoE organization, there must be taken into account the following areas.

A. The CoE Target Operating Model

This model has three dimensions: (i) maturity, (ii) scope and (iii) delivery model.
(i) Maturity – this dimension has two sub-divisions: (a) built and (b) run.
a) built: when the CoE is build having in consideration the following aspects, such as: assessing and prioritizing the processed to be automated, develop the selected processes and put them into production, train people from the beginning to the end (*e.g. from advanced RPA technical trainings for future developers to introductory RPA trainings to the management team*), set-up the RPA organization inside the company, assess each vendor (*e.g. some vendors have better software capabilities for your systems than oth*ers), develop a change management program (*i.e. some people will be affected by automating their jobs*) and finally the process reengineering which has to be done before the selected process is automated
b) run: after build the CoE organization you have to run it by: making sure the robots run without any issues, continue identifying and automating new processes, handle changes (*e.g. process change, system change etc.*), perform security and compliance (*e.g. audit trails*) and develop Key Performance Indicators (KPIs).

(ii) Scope.
When defining the CoE boundaries the responsible management team should answer the following questions:
- Will the CoE setup will cover only back-office functions (*e.g. HR, Supply Chain, Procurement, finance etc.*) or also front office functions (*e.g. sales, customer support etc.*)?
- How many entities/ business units should be covered?
- Should the program include only a country, a region (*e.g. Eastern Europe*) or the whole world?

(iii) Delivery model
All the functions of a RPA program can be totally insourced or outsourced. There are eight steps in the end-to-end process: (Step 1) Process identification, (Step 2) Process assessment, (Step 3) Process reengineering, (Step 4) User stories definition, (Step 5) Process automation, (Step 6) User Acceptance Testing (UAT), (Step 7) Hyper-care and (Step 8) On-going support. The process is further detailed in Figure no. 1.

Figure 1. Insourced vs. outsourced CoE model

Once the key parameters on maturity, scope, and delivery model are known, the leadership of the company must decide on the key components of the CoE: (1) Skills for each role in the new organization, (2) Organizational structure, (3) Governance and (4) Processes & KPIs.

1. Skills needed for each role

The new created organization will have a team with a mixed of skills involved in the newly created CoE. In order to understand the complexity of their involvement, in Figure 2, I highlighted each role.

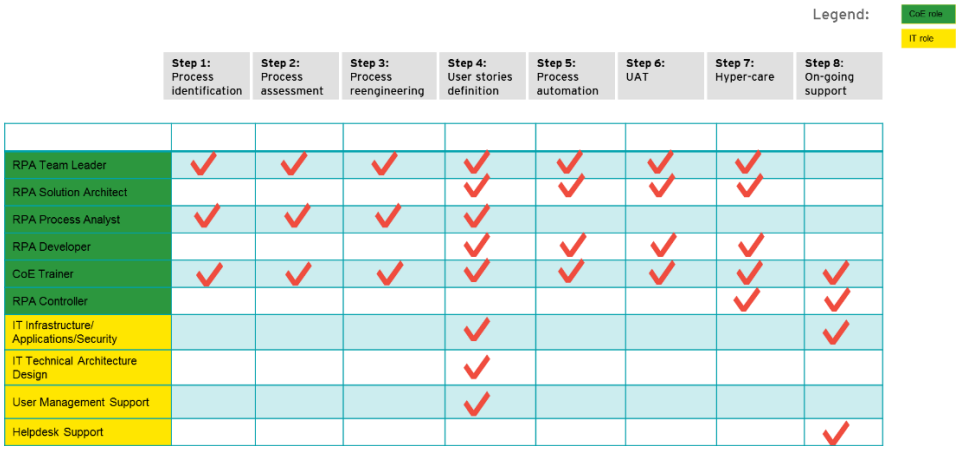

Figure 2. Involvement of each role in the COE

Global organizations (including Global Shared Service Centers) have the option to go with three organizational models, based on their needs:

(i) Decentralized CoE – with the main characteristics described below:

- Deploy RPA developers across global functions and/or geographies;
- Standards and policies are managed centrally and distributed across various initiatives;

- Constant interaction with all the businesses in order to understand their culture and needs;
- Standardization as an exception.

(ii) Centralized CoE – all actions from process identification to development and deployment are in a single place:

- Centralize the RPA team in one location and deploy efforts remotely. This can work also in a Managed Services framework;
- Standardization as a rule (including Development standards);
- The knowledge is shared internally on a regular basis from past projects. In this case, it can be done by the Knowledge Manager – that person who keeps tracks of every single project.

2. Organizational structure – once the decision has been made to do the CoE internally, the organizational structure can be defined. Keeping in mind that a RPA trainer can be recruited externally from accredited companies the organizational chart can look like in Figure 3.

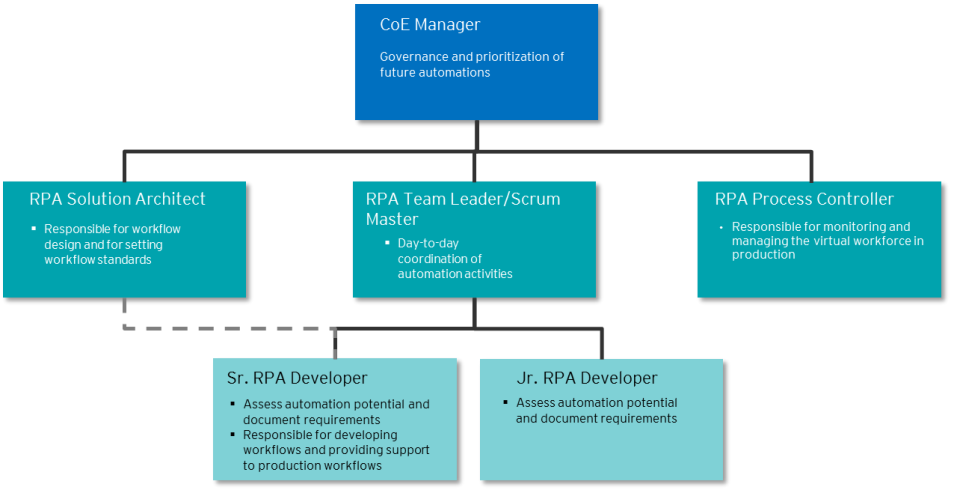

Figure 3. CoE organizational structure

3. Governance – a designated team, usually called the Governance board, oversees the activities of the CoE in order to ensure efficient management of resources (*i.e. system, people, budget*), prioritizes automation opportunities and serves as an approval and escalation forum. The governance provides the nonlinear integrators for using efficiently the organizational intellectual capital (Bratianu, 2013). The board meets usually monthly or ad-hoc, when needed. The Governance Board should have the following roles: CoE Manager, Chief Information Office, and Business Vice-President.

4. Processes and KPIs - should answer to key questions, such as:

- What is the framework used for the identification and prioritization of processes for automation?

- What is are the general agreed development standards and how we keep them up to date?
- What are the necessary steps for deploying a process into production without causing a temporary pause in the day-to-day business activities?
- What are the steps for changing process which is already automated?

In terms of what kind of KPIs can work in a CoE, below in *Table 1* can be seen summarized:

Table 1. CoE category KPIs

KPI category	Description
Automation KPIs	Keeps track of the efficiency of the automated processes
Virtual workforce KPIs	Monitors the overall usage and optimization potential of the running robots
Financial KPIs	Monitors monthly the financial benefits resulted from using robots
Employee KPIs	Monitors the overall CoE team performance: their development, their training needs etc.

B. The CoE team

Once the CoE Target Operating model has been established, the next stages should be covered: (1) Indicative CoE Team, (2) CoE Team skills and (3) Roles and Responsibilities.

1. Indicative CoE Team – depending on the number of processes automated and the program maturity level, as shown in Figure 4 (the roles with the same color coding can be aggregated under one headcount).

	Up to 15 automated processes	15-50 automated processes	50-100 automated processes
CoE Manager	0.3 FTE	0.6 FTE	1 FTE
RPA Team Leader	0.5 FTE	1 FTE	2 FTE
RPA Solution Architect	0.5 FTE	1 FTE	2 FTE
CoE Trainer	0.2 FTE	0.3 FTE	0.2 FTE
RPA Developer	2 x 1 FTE	4 x 1 FTE	8 x 1 FTE
RPA Process Analyst	2 x 0.4 FTE	4 x 0.4 FTE	8 x 0.4 FTE
RPA Process Controller	0.3 FTE	1 FTE	1 FTE
TOTAL FTEs	4.6 FTEs	8.5 FTEs	17.2 FTEs

Figure 4. Indicative size of a CoE team

2. CoE Team Skills – these can vary from role to role. For example, a CoE Manager must have between 7 and 10 years of experience, while a RPA Developer can have as little as no experience but .NET skills developed in university or taking specific certification(s). The COE Team is made of: (a) CoE Manager, (b) RPA Team Lead, (c) Solution Architect, (d) RPA Developer, (e) RPA Process Analyst, (f) RPA Process

Controller and (g) CoE Trainer. In the second part of this paper we will go through each role high-lightening all the requirements, responsibilities and role descriptions for each position.

3. Roles and Responsibilities – each position will have cover the experience required, the minimum skills and knowledge to do the job, the role description and its responsibilities. Further we analyze one by one each team position aforementioned.

a) CoE Manager
Experience:
- Senior/executive level with 5-10 years' experience in a management position leading Business/ IT transformation for a large organization;
- GBS/ SSC experience preferred.

Skills and knowledge:
Leadership
- Demonstrated thought leadership and strategic thinking;
- Capable of managing multi-functional operational teams;
- Strong communication and stakeholder management skills up to board level;
- Confident and assured communicator with the ability to manage and overcome resistance; experience in conflict management;
- An excellent facilitator with a track record of delivering target business outcomes.

Business
- Solid knowledge of process improvement and operational excellence.

Technical
- Knowledge of RPA technologies and/or willingness to quickly learn new technologies.

Role description:
- "Face and voice" of robotic process automation within the organization;
- Operate at and with all levels and departments within the organization to optimize the efficiency and benefits for RPA;
- Manage the process for governance and planning of future RPA process automation;
- Involved in commercial negotiations with vendors;
- Own the operating model for the delivery of high quality and consistent automated processes.

Responsibilities:
- Ensure the maintenance and update of the methodology used to build the automation pipeline;
- Evaluate and validate candidate processes against the business strategy and suitability for automation;
- Accountable for the delivery of automated processes according to agreed timescales;
- Manage resistance, including both business and technical challenges;
- Ensure the optimal usage of the virtual workforce in the operational environment;
- Monitor CoE team performance;
- Engagement with business and IT change management teams to proactively manage operational and system changes to maintain service delivery;

- Internal and external escalation point for operations, IT and third parties;
- Manage CoE core team day to day, including resourcing, recruitment, training;
- Develop the strategy acquisition of automation technologies, participate in the selection process, manage the relationship with the suppliers of automation solutions.

b) RPA Team Lead
Skills and Knowledge:
Leadership
- A track record in coordinating and mentoring individuals on development and delivery disciplines;
- Good oral presentation skills with the ability to present technical details to a non-technical audience;
- Good written skills with the ability to produce clear and concise documentation
Business;
- Knowledge of Business/System Analysis in a structured environment;
- Ability to both understand a business process from a workflow diagram and to conceptualize it as an automated solution.

Technical
- Experience in developing and testing software on a Windows platform and adhering to a structured and documented methodology; Agile methodology experience;
- Experience with developing and implementing automated RPA processes as a certified developer.

Experience:
- At least 1 year of experience as a software developer in an object-oriented programming language and at least 6 months of RPA workflow developing experience as a certified developer or at least 4 years of Business/System developer (or equivalent) experience and at least 6 months of developing and implementing RPA process automations as a certified developer;
- At least 3 years in a team coordination role;
- Agile development or project management experience is a must.

Role description:
- Responsibility for day-to-day coordination of the automation activities, supporting the creation and evolution of the delivery framework and mentoring other RPA Developers and RPA Process Analysts.

Responsibilities:
- Manage the planning of future process on-boarding, ensure timely delivery of automations;
- Create and deliver Sprint plans and project reporting to communicate project status to stakeholders;
- Perform opportunity assessment activities, evaluate and validates business cases;
- Monitor automation prerequisites setup (hardware and software infrastructure, user access, etc.);
- Maintain the product backlog and plan Sprint execution;
- Manage daily scrum meetings, Sprint planning, Sprint review meetings;
- Coordinate user stories and testing plan definition;

- Monitor test scenarios outcomes and ensure the timely resolution of errors throughout development, testing and post-implementation;
- Mentor colleagues on best practice for RPA process assessment and development techniques;
- Manage the relationship with RPA vendor in case of RPA platform malfunctioning.

c) Solution Architect
Skills and knowledge:
Leadership
- Ability to communicate abstract concepts with business stakeholders;
- Ability to coordinate with all levels of the organization to design and deliver technical solutions to business problems.

Business
- Ability to both understand a business process from a workflow diagram and to conceptualize it as an automated solution.

Technical
- Background in IT architecture and software developing;
- Awareness of RPA design patterns and practices;
- Experience with developing and implementing automated RPA processes as a certified developer;
- Experience with RPA design patterns and practices including queue management;
- Understands the use of design principles and when RPA software is suitable;
- Good knowledge of quality standards and best practice.

Experience:
- 6 years of development and solution architecture experience;
- At least 6 months of experience as a developer with RPA software;
- Agile development experience and SCRUM certification is a must;
- At least 1 year in a team coordination role.

Role description:
- Responsible for overall RPA workflow solution design;
- Provide support to the creation/update of the RPA solution architecture design document.

Responsibilities:
- Assists the team in defining the business and functional requirements based on which designs the RPA workflows architecture, which to ensure an efficient and optimum development and functionality of the robots;
- Provides support to IT roles within the organization for RPA prerequisites implementation, IT environments setup, installing software, testing and production cut-over;
- Explain to RPA Developers the proposed architecture and oversees the development progress;
- Control RPA automation solution designs and robotics artifacts structure;
- to ensure consistency and continuity across delivery teams;
- Monitor progress and ensure quality of the RPA development phase;
- Develop and maintain workflow standards;
- Review developed workflows before production deployment to ensure development standards are properly met;

- Create and maintain a library of all developed workflows for all processes;
- Single-point of contact for RPA vendors for technical issues.

d) RPA Developer
Skills and knowledge:
Leadership
- Possesses good communication skills with the ability to present technical details to a non-technical audience;
- A good team player collaborates well in cross-functional teams.

Business
- Ability to both understand a business process from a workflow diagram and to conceptualize it as an automated solution;
- Basic to an average understanding of business processes;

Technical
- Experience in developing and testing software on a Windows platform and adhering to a structured and documented methodology;
- Experience with developing and implementing automated RPA processes as a certified developer, or openness towards learning new technologies.

Experience:
- 1-3 years of software development experience in an object-oriented programming language;
- Experience or good understanding of business processes would be a plus.

Role description:
- 1-3 years of software development experience in an object-oriented programming language;
- Experience or good understanding of business processes would be a plus.

Responsibilities:
- Analyze new process automation candidates, quickly assessing the feasibility and accurately estimate development effort;
- Configure new processes and objects using core workflow principles that are efficient, well structured, maintainable and easy to understand;
- Apply RPA workflow design best practices when developing or maintaining workflows;
- Create and document test cases for negative scenarios, in order to document workflow behavior when certain systems malfunction, as well as performance scenarios, in order to stress test systems behavior;
- Review workflows developed by other RPA Developers to ensure compliance with internal control/security / audit requirements;
- Support the operational teams during the UAT and rollout phases;
- Provide maintenance to production workflows by ensuring second level support for workflow incidents; investigate reported errors, agree on error severity and propose resolution;
- For workflow support tasks, respect SLAs agreed with business for workflow downtime;
- Report issues to third level support (RPA vendor) if incidents cannot be solved by the internal team; ensure development fix, unit testing, and production deployment preparation;

- Configure enhancements /change requests to already automated processes.

e)RPA Process Analyst
Skills and knowledge:
Leadership
- Good oral presentation skills with the ability to present non-technical details to a technical audience;
- Good written skills with the ability to produce clear and concise documentation;
- Good inter-personal skills, communicating well with process SMEs, business process owners, and RPA development team;
- A self-starter who delivers high quality work and can adapt to challenges, either individually or as part of a team.

Business
- Requirements gathering skills, able to capture business processes using both existing process documentation and process walkthroughs with the staff performing the process;
- Knowledge of business process re-engineering.

Technical
- Knowledge of RPA technology is not a pre-requisite for this role as full training will be provided.

Experience:
- At least 2-3 years of experience in a Business Analyst / Process Analyst role;
- 2-3 years of experience in an SSC environment;
- 1 year of process-mapping and optimization experience preferred;
- Lean Six Sigma training and continuous improvement previous experience are a plus;
- Good understanding of any RPA Technology is a plus.

Role description:
- The RPA Process Analyst role provides the foundation required to deliver full and accurate automated solutions;
- This role supports Process Owners / Process Champions in identifying automation process candidates, performs vital requirements gathering function, and is an essential knowledge and communication asset to the RPA development team.

Tasks:
- Perform an assessment to identify and prioritize business processes that are potential candidates for automation;
- Understand the risks, assumptions, and dependencies associated with the process;
- Document business processes to the granular level of detail (user story) and defines acceptance criteria required for an RPA automation program;
- Create, or help the process owner to create, user acceptance test (UAT) documents, identifying all the process scenarios and exceptions and their expected outcomes;
- Work closely with RPA Developers to understand and assist with the creation of their solution design, ensuring they deliver a solution that meets the business requirements;
- Participate with a consultative role in the phases of solution testing and implementation into production;

- Act as a central point of knowledge and control for business processes, communicating with the developers, Process Experts, and the Process Owners / Process Champions to answer any queries that arise during the development and testing of an automated solution.

f) RPA Process Controller
Skills and knowledge:
Leadership
- Good communication skills – able to explain technical issues;
- A good team player collaborates well in cross-functional teams.

Business
- A basic understanding of business processes.

Technical
- Experience in a production support capacity;
- Understanding of formal change control and defect management disciplines;
- Experience in monitoring, reporting, and auditing;
- Knowledge of RPA technology is not a pre-requisite for this role as full training will be provided.

Other
- Excellent organizational skills, able to schedule processes/tasks, monitor resources, and log issues;
- Able to work well under pressure and to multi-task.

Experience:
- 2-3 years of providing operational or production level support;
- Preferred 1+ year of experience running and monitoring automation software;
- Experience or good understanding of business processes would be a plus;
- Good understanding of any RPA Technology is a plus.

Responsibilities:
- The Process Controller is a key role that supports and administers the day to day running of RPA processes in the production environment;
- The Process Controller has to manage the virtual workforce in production and to ensure the stability of the Robotic environments.

Tasks:
- Administrate on a daily basis the RPA production environment;
- Schedule and run RPA processes, investigate any issues in the production processes, and raise change requests or support calls where required;
- Administer and allocate process workloads;
- Perform capacity analysis and inform CoE Leader in case capacity upgrade is required;
- Define process dashboard to be used by Process SME for robot process monitoring;
- Support Process SMEs when issues appear in production robots' operations;
- Administer and investigate exceptions (System Exceptions);
- Solve issues that arise in the day-to-day running of RPA implemented processes and assisting in the provision of timely responses and solutions as required;
- Serve as first level support for workflows and systems incidents; identify incidents, determine whether they are workflow related or systems related and raise for a resolution to RPA Developer or IT;

- Define dashboards that SMEs should use when monitoring process performance.

g) CoE Trainer
Skills and knowledge
Leadership
- Excellent oral and written presentation skills;
- Ability to present information accurately and effectively to diverse audiences.

Business
- Good understanding of business processes;
- Able to design and deliver a training course.

Technical
- Savvy of RPA process assessment methodology and RPA technology.

Experience:
- 1-2 years of experience as a software developer or business/process analyst;
- At least 6 months' experience with RPA technology as a workflow developer;
- 3-5-year experience in training, coaching or mentoring teams preferred.

Role description:
- Responsible for RPA knowledge transfer and for maintaining and updating the RPA training curriculum.

Responsibilities:
- Assess training needs through surveys, interviews with employees, focus groups, or consultation with managers;
- Design, plan, and organize orientation and specific training programs for employees to help employees maintain or improve job skills;
- Present information using a variety of instructional techniques or formats, such as role playing, simulations, team exercises, group discussions, videos, or lectures;
- Obtain, organize, or develop training procedure manuals, guides, or course materials, such as handouts or visual materials;
- Keep up-to-date with latest industry/technology advancements.

C. The lifecycle of a project

In order to minimize all the risks associated with controls and segregation of duties each organization should deploy some control mechanisms in place, such as:

1. Segregation of robot development, deployment and monitoring

This mechanism should be in place because:

- RPA Developer should not have access to production environment, only in development environment;
- The robots are deployed to a central platform, called also the production environment only by the RPA Team Leader, making sure than only one person is responsible for this operation;
- Once deployed on a central environment the robots are from now on monitored by the RPA Controller. This person doesn't have access to the RPA workflow, so any modification or observations should be sent to the development team according the development standards.

2. Any access to the virtual workforce should be done centralized

The access rights to different RPA platforms must be centralized because:

- Access to production platform is controlled by the CIO (i.e. the IT department) and firstly need the RPA COE Managers' approval;
- RPA Developers do not have access to the production environment;
- The production environment has the option to create profiles with different access rights (i.e. one can edit robots, one can just visualize the robots and so on).

3. The robots are deployed into Production only by following strict audit rules
In order to comply with the RPA international deployment standards and to internal audit standards, organizations must:
- Ensure that the automated processes are put in production after going through User Accepting Testing (also known as UAT) and upon receiving business acceptance. The acceptance is recommended to be on a document in writing or an IT platform (e.g. Microsoft Sharepoint);
- All the time the key participants in a process development are consulted before Go Live;
- The client should approve the Go Live.

4. Audit trail of the robots:
As mentioned in the paper *„Robotic Automation Process - The next major revolution in terms of back office operations improvement" (*Anagnoste, 2017), robots must leave audit trails:
- At any time, all robot actions must be traced. The development standards should have a dedicated chapter to logs;
- Logs generated automatically and archived accordingly so that the Solution Architect or the Audit Manager can track them easily. Internal procedures for handling and reviewing the logs must be in place;
- Not all logs should be the same. Depending on process complexity or importance logs can be customized.

5. RPA manuals for handling the automated process should be in place if it's a platform outage:
- Although that the processes will be run with robots, manual process controls should still be in place;
- Business continuity plan updated for the new process with robots. Humans must be prepared at any point to take over the processes if something happens with the RPA infrastructure;
- The RPA leader should be consulted from end-to-end when it comes to putting a robot in production.

6. Ensuring the robots are working properly no matter how many updates have the software platforms that they are using (e.g. Oracle, etc.):
- After each 3rd party software update (e.g. SAP) an impact analysis on production robots should be done;
- The RPA CoE team will perform regression tests on all production Robots before every update takes place.

D. Monitoring performance
When deciding to monitor performance one should take in consideration the following types of KPIs:
(1) Financial KPIs, (2) Virtual Workforce KPIs, (3) Employees KPIs and (4) Automated Processes KPIs.

So what selection process should companies use? In the consulting company that I am working for we are usually one of the most recognized evaluation scale: SMART SMART it's an acronym and comes from: Specific, Measurable, Achievable, Relevant, and Time.
- Specific: The KPI has to be well defined in order to make sure they are interpreted in the same way within the organization. Those who decided on accepting a KPI must check if that KPI is specific and not something vague.
- Measurable: Each KPI should be measurable (e.g. minutes, hours etc.). This includes having in place the necessary tools to perform this measurement in an objective way. The team monitoring this should make sure that all KPIs can be monitored objectively inside the organization and are easy to calculate
- Achievable: The KPI are accepted in the organization as goals that need and are worth to be achieved. The organizations must agree with the roles representatives in the organization the applicability of the selected KPIs
- Relevant: The KPI must give insight in the performance of the organization in obtaining its strategy. Usually, a strategy is set for three years.
- Time: The KPI needs to have a time value attached to it. Each KPI has a meaning if one knows the time dimension in which it is realized.

Because a governance structure should be defined around those KPIs this paper aims to focus only on the most relevant KPIs. The maximum number of KPIs per each dimension should not be more than eight:
1. Automated Processes KPIs – mainly looking at two main areas: (a) Efficiency increase and (b) Lead reduction time. Indicative examples of KPIs:
- Robot errors per workflow – Measures the number of processing errors made by the robot as a percentage out of all processed transactions;
- Average time to resolve incidents - the time required on average to fix an error per each workflow once is mentioned;
- Human effort reduction per workflow - Measures the number of minutes/hours saved as a consequence of process automations;
- Reopening issues on each workflow - Measures the number of incidents not resolved that are re-opened.

2. Virtual Workforce KPIs – among the most important are the following KPIs are the following:
- Licenses - Monitors total number of acquired robot licenses;
- Robot utilization vs. capacity - Monitors the percentage of acquired robot licenses that are utilized in production.

Conclusions and implications

The current paper has important implications in the business world of intelligent software automation. The trend has been from Proof of Concept to Pilot and now to Center of Excellence. In the rush for getting the best talent available (internally or externally) to create these knowledge hubs organizations realize that knowledge is either limited or expensive, or both. That is why this paper will have profound way on the organizations going further. By having set the general guidelines, and sometimes even the most specific ones, organizations can start developing internally their CoE. The research highlighted the main parts of this process:

CoE Target Operating Model (TOT) – is the framework under which the main decision will take place. Organization will go through each of the CoE TOT model dimensions (*i.e. maturity, scope and delivery model*) will put in balance each pro and con for each option. In this part the most crucial decisions will be taken, for example: centralized or decentralized CoE; internal, external or mixt development teams; apply all KPIs known or just some and so on.

CoE Team – the whole organization structure was described: roles and responsibilities, skills and experience required etc. By doing that a clear path has been draw for the management board because now they can see and assess very easily what can be reconverted internally to fill in those positions and what must me recruited externally. Moreover, another valuable input was the indicative size of the CoE, depending on the number of processes automated.

Lifecycle of a project – each new structure has to operate in certain boundaries respecting some predefined rules. The board of directors will always ask the middle management what are the implications if something does not go according to the plan. That is why procedures, development standards and back-up plans are in place no matter what happens.

Monitoring performance – it's silly not to mention that organization are here to make a profit in a sustainable way. So, at the end of the day the investment made in this kind of solutions need to prove their results. That is why having the right mixt of KPIs correlated with a clear and straightforward way to calculate these KPIs should help organizations obtain the desired return on investment. This research proposed some KPIs, such as: *Robot errors per workflow, Average time to resolve incidents, Average time to resolve incidents, Human effort reduction per workflow* and so on.

With continuous pressure from investors to reduce costs and from employees (especially from the Y and X Generations) to provide meaningful jobs organizations will have no other choice but to follow the so called 'dummy automation' path. Eventually, this kind of software automation will lay ground to what will come: intelligent automation and people working side by side with intelligent robots.

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