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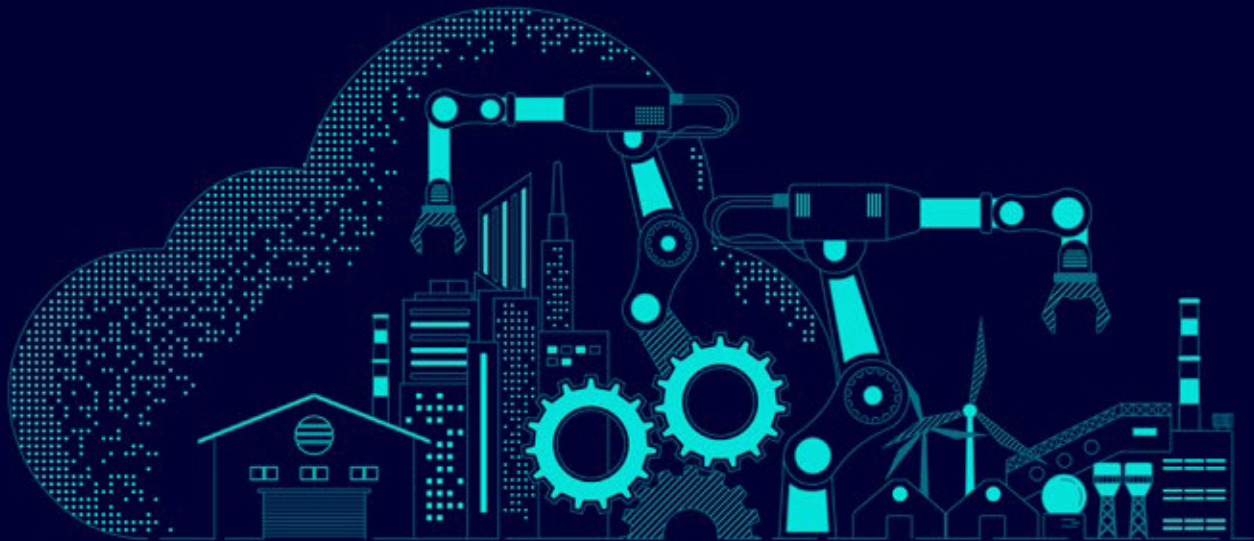
Establishing Automation Delivery Engine in Build, Operate and Transfer (BOT) Model

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Automation is a new normal to follow in any process/service/operations these days and it should be the motto of every organization to automate every possible activity performed by its employees to gain edge over the competition. Hence, adopting a right strategy/roadmap to implement automation is very important for achieving the automation goals that the organization wants to achieve.

According to an Automation Survey conducted by McKinSey, **"only 55 percent of institutions believe their automation program has been successful to date. Moreover, a little over half of respondents also say that the program has been much harder to implement than they expected".** So, this clearly calls out for a better approach to drive automation in an organization.

Automation initiative taken up in silos within the individual functions/departments without any common strategy/standards/processes, will not be scalable, sustainable, and hence, not likely to yield desired results. Be it an IT Services company trying to drive automation in their service delivery to their clients or an organization trying to drive automation within their in-house operations, it is important to build a central automation delivery engine.. Building a central automation engine is a fundamental requirement to give meaning to the BOT model.

A central automation team should own the responsibility of building and operating the central automation delivery engine for a considerable period (say minimum of 15-18 months) and transfer the operation to the individual functions/departments thereafter. At this point, the well-oiled automation engine will get embedded into the individual functions/departments to enable them to pursue their automation journey independently and in a standardized manner, without reinventing the wheel, with the continuous support and guidance from the central automation team.

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The central automation team to be set up as a CoE focusing on research, industry trends, client needs, services delivered by the organization, automation tools/technologies, building platforms/ point solutions/ IPs/ process frameworks/ standards/ checklists, competency building, emerging trends like analytics, AI/ML, NLP, deep learning, etc. to facilitate the development and deployment of end-to-end automation.

Some of the key benefits of adopting BOT model are, it helps in

Defining the scope of automation, building a business case and obtaining the required buy in from the stakeholders.

Defining/creating the automation processes to be followed across the organization, onboarding the automation team with the required skill set, implementing right mix of agile development best practices for a seamless delivery.

Developing and deploying automation for the individual functions /departments under scope.

Building the support structures like Central governance team, factory team, central automation portal, reusable repository, automation marketplace, audit and compliance cell, etc., which are required for a scalable and sustainable model.

Critical success factors for building an automation engine in BOT [Build – Operate – Transfer] model is detailed below.

Build

In a 'Build' phase, all the below listed preparatory activities required to set up the automation engine are carried out by the COE team.

1. Define the scope of automation

As a first step, it is important to define the scope of automation based on the type of projects, namely, support/maintenance projects, testing projects, development projects, ERP projects, etc. It is better to take a pragmatic approach to choose 2 or 3 areas which are most suitable for automation to start with, say application support, infrastructure support and testing projects. Based on the success of the implementation we can keep expanding the scope gradually.

2. Build a business case and obtain budget approval from stakeholders

To build a business case to setup an automation engine, apart from defining the scope, we need to also capture,

- Level of automation done already to assess the coverage and maturity level of automation.
- Type of automation implemented (Run book/Workflow based/RPA/AI/ML based, etc.)
- Automation tools/techniques/platform used to do the automation and
- Automation skillset that exist

This information will help to size the labor cost (no. of resources with the required skill set) and non-labor (Infrastructure, license cost, etc.) investments required. The business case thus prepared should clearly call out the ROI (return on investment)

by plotting the investment vs returns, break-even and the payback period, to have the budget approved from the stakeholders of the functions/departments.

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3. Establishing the automation delivery processes/templates/checklists and tools legislation

To successfully deliver automation, it is important to have.

- A well-defined processes / templates / checklists / standards for
  - Gathering project/account specific data for assessment
  - Determining the automation potential in a project/account
  - Baselining the automation coverage and maturity of a project/account
  - Conducting detailed assessment to identify automation opportunities
  - Solutioning, planning/estimation, automation development life cycle, etc.

- A legislation of automation tools and technologies (scripting tools, workflow tools, RPA tools, integration tools, AI/ML tools/libraries, custom automation platforms, etc.)

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4. Onboarding the central automation delivery team

Once the budget approval is in hand, resources with the required automation skillsets (say script developers, workflow developers, integrators, RPA developers, AI/ML developers) are to be onboarded to form the automation delivery team and to be trained on custom tools and technologies where needed. The responsibilities of the automation delivery team are,

- To work with the SMEs to conduct automation potential assessment of the projects and identify the automation opportunities (use cases).
- Design, develop, test and deploy the use cases.
- To provide post implementation support.

5. Setting up of the automation Factory

Apart from the central automation delivery team, as a best practice, a separate team called 'automation factory' to be formed at the organization level. The objective of the automation factory is to identify the automation use cases that are common, reusable across multiple domains and covering end-to-end processes in nature, so that such use cases can be developed independent of the project/account environment. Any customizations to be done on the factory developed use cases to suit to the needs of the individual project/account to be carried out by the automation delivery team. The factory should operate as an extended arm for the automation delivery team.

6. Expectation setting with the stakeholders

The role of stakeholder's team/SMEs is very crucial throughout the life cycle of automation for various important tasks like, assessments, understanding the automation uses cases in detail, to sign off the design, performing UAT, onboarding automation delivery team with the appropriate access to applications/Infra to perform automation, deployment, etc. Setting the right expectation on these dependencies with the stakeholders is very important. True success of automation can be achieved when every stakeholder is made to understand their roles and responsibilities clearly.

7. Setting up of central automation governance team

To successfully deliver automation, it is important to have.

- Liaison With The Individual Functions/departments To Define The Scope Of Automation
- Build A Business Case And Getting Approval From The Stakeholders
- Onboard The Entire Organization On The Automation Objectives
- Setup Automation Targets, Institutionalizing The Processes/standards
- Facilitate Periodic Governance Calls With The Stakeholders
- Publish The Dashboard On The Progress Through A Central Automation Portal
- Implement The Change Management
- Publish The Significant Automation Case Studies, Etc.

The governance team is also responsible for providing the much-needed visibility on the progress/benefits of the automation initiative to the various stakeholders in the organization.

Operate

During the 'Operate' stage, the actual execution of the automation engine begins and covers the complete automation life cycle as listed below.

Assess: Conduct detailed assessment of the projects in scope for unearthing the automation opportunities.

Prioritize: Prioritization of the opportunities.

Solution: Recommend the type of automation and tools to be used.

Design: Documenting the AS-IS and TO-BE process flow.

Approval: Signing-off with the SMEs on the design, acceptance criteria.

Develop: Development of the use cases, testing and UAT.

Deploy: Release and production deployment activities.

1. Where to start with the automation?

There could be lot of automation opportunities in pipeline, but where to start? Our suggestion is to start with the "low hanging fruits". Processes which are standard, repeatable, stable and the manual effort spent currently are significant are the ones which can be given priority to begin with.

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2. Automation deployment lifecycle

Automation development needs a careful selection/application of a delivery model, which encompasses various agile development frameworks/best practices for a seamless and flawless delivery. A successful agile delivery model to have various stages like -

- Backlog creation and management
- Refinement and sprint planning ceremonies
- Sprint execution
- Use case delivery to production
- Retro ceremony

3. Governance

The central governance team during the 'Operate' stage, will carry out tasks like institutionalization of the automation processes/standards set, facilitate periodic governance calls with the stakeholders, providing the much needed visibility of the progress/benefits of the automation initiative across the stakeholders, floating satisfaction survey to the stakeholders to get their feedback for improvements, to publish significant automation case studies and to get client references/testimonials, etc.

Following are the few essential best practices/systems to be established to make the BOT model more productive in a long run.

1. Building a reusable repository of use cases and an automation marketplace

As more and more automation use cases are developed (by the automation delivery team/factory team/account teams), effort should be taken to design and develop the use cases in such a way that the use cases are made reusable where applicable, so that the effort spent in reinventing the wheel can be avoided. Setting up an automation marketplace is essential to publish such reusable use cases, so that the project teams/employees can search the marketplace for the availability of the reusable use cases of interest. Such reusable use cases will help to fast track the automation implementation and to reap the benefits much faster than expected.

2. Centralized automation portal

Tracking all automations, its progress and benefits by manual or excel based approach will be practically difficult and time consuming. A centralized automation

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portal is needed to capture the details of automations done, its progress and the benefits on a regular basis. This portal to become the go-to place for any automation related statistics for the entire organization and management.

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3. Audit and compliance cell

When automation is being carried out at a large scale in an organization, it becomes very important to setup an audit and compliance cell, which will own the responsibility of validating how the automation is developed, validating the benefits reaped and whether the automations are running in target environment. It also acts as an approving authority to approve the efforts saved due to automation by validating the use cases reported in the central automation portal against certain audit and compliance checklists/standards.

The activities/validation will include but not limited to the following.

- To define what is and what is not an automation scenario
- Whether the automation development has happened as per the set development standards/guidelines or not
- To qualify the automation solution deployed as a reusable one based on defined criteria
- Validate the proofs submitted to claim the automation benefits

Transfer

The 'Transfer' stage marks the beginning of a stable operation of the automation engine, where the individual functions/departments can run with the engine in a uniform and standardized way to drive automation.

1. Transfer the automation delivery team to the stakeholders (individual functions/departments)

Typically, it takes minimum of 15-18 months to build and operate the automation engine before transferring the responsibility of running the operation to the stakeholders with the help of the resources trained as part of the central delivery team. Once transferred, automation engine gets embedded within the stakeholder's function/department. Automation life cycle can now be taken care by the embedded automation delivery team within every function/department independently. The engines will continue to run on its own and work very closely with the project teams/end users to bring more benefits to the stakeholders.

2. Implementation support

Automation is not a onetime effort; it needs continuous focus even after deployment. Hence, during 'Operate' and 'Transfer' stages, it is important to have a support team which will focus on addressing the bug fixes, any changes to the automation solutions due to changes in the target environment/processes, addressing the user queries/requests, etc.

3. Sustenance, scaling and continuous improvement

Once the engine is embedded into the individual function/department unit, it is the responsibility of the unit to carry forward the momentum with the automation delivery activities, improve the processes/standards/checklists followed, give feedbacks/inputs to the central delivery/CoE/factory team to develop more reusable and AIOPS use cases, keep training more and more people within the unit on different types of automation skills as the automation need increases, liaison with the client stakeholders to build pipeline of automation opportunities, take efforts to continuously improve the coverage and maturity of automation, embrace new tools/technologies seamlessly, etc.

Conclusion

To conclude, if automation is driven in silos in an organization, without a common strategy/approach, it will not be scalable and sustainable. Without adopting the BOT model for automation implementation, it is very difficult for any organization to achieve their automation goals.

Establishing the automation engine in BOT model will be the step in the right direction to drive the automation initiative top down to start with. But surely, during the 'Transfer' stage, a natural tendency to drive the automation goals bottom up will flourish as the individual functions/departments are benchmarked by then in terms of their maturity and coverage and enabled to compete each other to outperform their target. In our experience, we have no doubt in our mind that the adoption of BOT model to drive automation, will give a competitive edge to an organization in terms of realizing the automation goals set, to inculcate the automation culture across the organization, getting better client/stakeholder satisfaction and to differentiate itself in the market to deliver automation solutions successfully.

Authors Profile

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Vetrivel Is heading the AEG automation team (Custom Applications Operations & Testing) and Audit and Compliance team within NAUT. He has an overall experience of 30 years in the areas of delivery, product development, process framework creation/institutionalization, operations management, leading organization-wide initiatives, automation governance, automation delivery and automation audit & compliance related processes. He has been associated with the automation initiative and its implementation for the past 6 years in LTIMindtree. He has played a key role in setting up the automation delivery engine in BOT model for some of the delivery verticals within LTIMindtree.

Karthikeyan Gangatharan
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Karthikeyan is leading Custom Applications Operations [CAO] Automation Team. He has more than 15 years of experience in the field of IT services with specialization in IT Process Automation (ITPA) and Automation CoE activities for the past 6 years. He was instrumental in creating the automation assessment framework and other processes/standards that are needed for successful automation delivery. He works with various delivery units/accounts within LTIMindtree to assess their automation potential and qualify the automation opportunities/use cases for further solutioning and implementation. He has successfully setup Automation Delivery engine in multiple delivery units of LTIMindtree using BOT Model. He also focuses on developing reusable and end to end AIOPS use cases.