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RESEARCH

Accelerated Intelligent Automation (AIA) in Enterprises

Smart Ways to Adopt Intelligent Automation

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Executive summary

Enterprises' adoption of Intelligent Automation (IA) technologies has been increasing steadily over the past few years. In fact, Everest Group's Enterprise IA Adoption Maturity Pinnacle Model™ Analysis, published in December 2019, shows that not only are enterprises deploying more Robotic Process Automation (RPA), but more of them have adopted intelligent technologies in addition to automate document processing and customer interactions. Based on an assessment of 49 enterprises' IA maturity, the study found that 84% of participating enterprises had deployed some form of intelligent automation solution in addition to RPA in Q4 2019. That is five times the number of enterprises in the previous Pinnacle study in Q1 2018.

These are encouraging findings, but we believe that the adoption of IA technologies, and subsequently the benefits that enterprises could derive from them, should be easier and faster with context-, function- and industry-specific accelerators that result in Accelerated Intelligent Automation (AIA). Accelerators can take many forms, for example, templates or pre-training of intelligent software for specific business functions such as loan processing or Know Your Customer (KYC).

In this paper we examine:

- The concept of AIA
- Types of accelerators that can fast-track enterprises on their IA journeys
- Levers that enterprises can use for AIA
- A typical enterprise AIA journey
- A case study highlighting the automation journey of Standard Bank

The paper will benefit:

- Executives in charge of optimizing business processes
- Product leaders looking to speed up time to market
- Chief Customer Officers and other heads charged with improving customer experience
- HR executives and team leaders wanting to improve employee experience and retention
- Chief Financial Officers and others in charge of corporate efficiency

The enterprise automation journey to date

Most enterprises have many legacy systems that are not easy to integrate. This initially resulted in swivel-chair integration, wherein an employee logged into multiple systems each morning and entered or updated data in those systems manually through the day. However, the emergence of different types of robotic automation over the last five years provided enterprises a way to automate swivel-chair integration, thereby speeding up the integration of transactional processes and improving their data quality and accuracy.

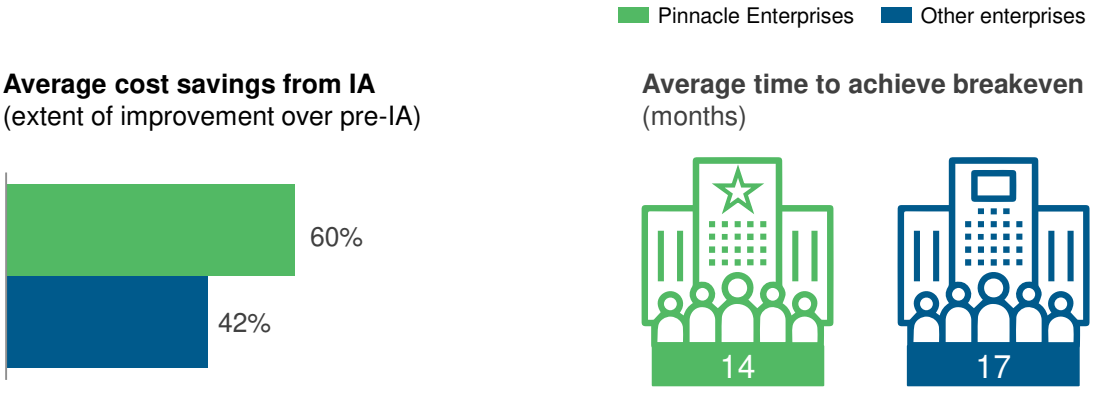
Having codified and automated some transactions, enterprises soon realized they could do more. Automation solutions with some degree of Artificial Intelligence (AI) could be used to digitalize more complex business processes – those that required decision-making and some level of judgment, such as processes that come under risk and regulatory compliance in financial services (KYC) – as well as simple rules-based transactions.

The results have been impressive. Everest Group's assessment of 49 enterprises for its 2019 IA Pinnacle study revealed that Pinnacle Enterprises™ (best-in-class enterprises), on an average, achieved 60% cost savings from intelligent automation and an almost 200% RoI. However, the time taken to achieve these results was relatively long, given the dynamic and ever-increasing pace of business and commerce today. Pinnacle Enterprises took on average 14 months to achieve breakeven while the others achieved it in 17 months.

EXHIBIT 1

Performance of Pinnacle Enterprises relative to others in IA

Source: Everest Group's Enterprise Intelligent Automation Pinnacle Model® Assessment 2019



AIA defined

AIA solutions provide capabilities and features that help accelerate automation deployment and control and manage automation within the enterprise. Exhibit 2 lists several features that act as accelerators in the deployment of automations by enterprises.

EXHIBIT 2

Accelerators to deploy automation within an enterprise

Source: Everest Group (2020)

Features & capabilities	Description	Current level of maturity in market	Benefits to enterprise buyers
Low-code solutions	Low-code automation development minimizes the need for programming, allowing citizen developers to code to automate their own activities.	Medium	Quicken RoI and facilitate easier scaling up of automation within the enterprise
Code quality guides	These guide the user through coding steps to improve quality of automation output.	Low	Ensure quality and success of automation outcomes, and minimize cyberthreats and other risks from poorly constructed codes
Reusable parts	Robot parts or automation modules can perform the same kinds of tasks in different process automation requirements, for example, check dates or currencies for correct formats and validity, typically provided in software libraries or automation marketplaces.	High	Speed up deployment to obtain results faster, reduce project overrun and overhead costs
Role-based digital workers	These are robots that are coded or trained to do specific tasks, such as carry out KYC to validate a mortgage customer's address and check his/her photo ID against reference databases such as Politically Exposed Persons (PEP).	Low	Speed up deployment to get results faster, reduce project overrun and overhead costs
Best-in-class process workflows or templates	Best practices and best-in-class industry- or function-specific process workflows and templates allow enterprises to not only digitalize and automate their processes, but also optimize them to align with their best-in-class peers.	Low	Ensure quality of automation outcomes, improve and optimize processes, and embed best-in-class process flows in the organization
Pre-trained intelligent solutions	These offer function-specific automation (e.g., bank loan application processing) or task-based automation (e.g., passport or ID card checks). These are pre-trained by the vendor to identify key pieces of information in passports from different countries (e.g., to find the photo of the passport holder to validate it).	Low	Speed up deployment to obtain results faster and reduce project overrun and overhead costs
Integrated solutions	Integrated solutions allow enterprises to automate processes that handle both structured and unstructured data, e.g., they help identify and extract claims information from documents using Intelligent Document Processing (IDP) and then leverage RPA to enter the information as structured data into a database for further processing.	High	Expand the scope of automation to automate more tasks and parts, including complex processes that require some forms of decision-making, e.g. decisions about customer ID confirmation for KYC
Automating automations	This can be achieved by either recording process steps and allowing the recording to be edited and process logic added, or by extracting the workflow using process discover and entering it into the automation development studio. As a next step, the coding of the workflow can be automated as well .	High for recordings, low for process discovery	Speed up deployment to obtain results faster and reduce project overrun and overhead costs

A range of features and capabilities can also act as accelerators to control and manage automations, as described in Exhibit 3.

EXHIBIT 3

Accelerators to control and manage automation within an enterprise

Source: Everest Group (2020)

Features & capabilities	Description	Current level of maturity in market	Benefits to enterprise buyers
Operational analytics & process intelligence	This type of analytics could offer multiple benefits: • Operational intelligence to prevent robots' breakdown by taking preventive steps or alerting humans to act • Integration with ITSM databases to identify weak links in IT infrastructure that could lead to robots/ automations breakdown due to heavy computing workloads that leave no capacity for automation, for example • Insights that allow processes to be optimized and enhanced	1. Low 2. Very low 3. Low	• Make it easier for organizations to maintain and improve their robots and other automations to realize intended outcomes • Optimize the runtime environments of live automations • Understand when and where problems occur when automations are running and manage and mitigate risks/ failures
Machine learning	ML allows automations to learn from user actions to reduce the number of exceptions that must be referred to people.	Medium in solutions with built-in intelligence, such as IDP solutions	Continuously improve automation decision-making and resulting outcomes
Intelligent workload balancing	Intelligent capabilities balance the automation runtime workload to prioritize robots where there is the biggest demand or a backlog or pre-set priorities to meet SLAs.	Medium in RPA solutions, low in intelligent solutions	Optimize automation schedules in real-time to get through bigger workloads and to manage demand fluctuations
Complementary technologies	These are robots that are coded or trained to do specific tasks, such as carry out KYC to validate a mortgage customer's address and check his/her photo ID against reference databases such as Politically Exposed Persons (PEP).	Low	Expand the scale and scope of automation

In the past few years, intelligent automation technology vendors have invested in such product features, such as more low-code development environments and shared libraries of automations that can perform the same types of tasks for different enterprises, to enable enterprises to achieve RoI. We have also seen vendors combine different types of technologies to offer real IA, that is, not just robotic automation but also platforms that are integrated with intelligent document processing capabilities, enabling enterprises to process both structured and unstructured data using one integrated solution.

This is the direction that we expect the industry to take as the focus of automation initiatives shifts from learning how best to automate processes to maximizing benefits and deriving the best outcomes in the most efficient way. Enterprises that aim to achieve a quicker and more efficient automation journey, better quality of automation output, expansion of the automation scope, smoother maintenance, and continuous improvement in automation outcomes should adopt solutions characterized by these accelerator capabilities. Early adoption of such accelerator capabilities can also help enterprises gain a competitive advantage in their automation journeys by freeing up staff to innovate to bring products and services faster to market.

Enterprise levers for AIA

While technology vendors can build such accelerators into their software to accelerate adoption and ensure success of automation projects for enterprises, enterprises can also create accelerators for their own needs when vendor accelerators are not available. Some of the best accelerators are re-useable robot parts and resources. In fact, the Everest Group IA Pinnacle study found that 87% of Pinnacle Enterprises had developed automation libraries that allowed them to share modules across business units and geographies. Reusability was high among other enterprises too, with 51% having done the same.

Sharing applies to not only re-usable parts and resources, but also skills. Pooling of skills and resources in an automation Center of Excellence (CoE) can significantly improve the RoI of automation projects and expedite them. Our Pinnacle study revealed that 87% of Pinnacle Enterprises had set up CoEs using the hub-and-spoke model, which centralized automation standards and policies, as well as provided core automation expertise. The hub worked in close partnership with the spokes to help them drive local business initiatives.

Another way to accelerate automation initiatives is to ensure that the enterprise develops and retains automation knowledge and skills. Enterprises need to have the right mix of business analysts, developers, and expert business users to design, test, implement, and maintain automations, in accordance with the CoE’s principles and governance policies. Our study found that Pinnacle Enterprises had invested in broad employee engagement, education, and skills development programs for automation that involved development of skills internally and sharing of automation knowledge across business units. Enterprises also need to ensure that the automation knowledge is retained within the organization by sharing it across multiple people and building a repository of deployed automations.

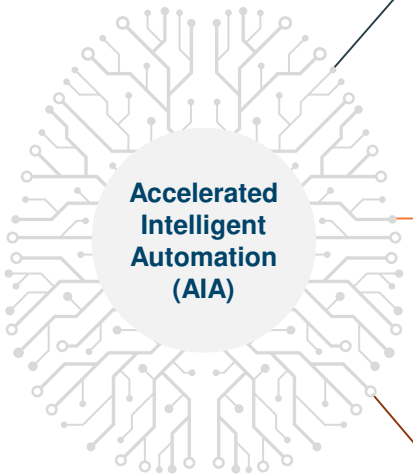
Having the right change management approach is essential to accelerate automation initiatives. Enterprises should ensure leadership alignment and buy-in from the start for smooth adoption of intelligent automation. Creating change leaders in business teams to champion automation initiatives and own automation adoption within the unit can also accelerate the journey. It is also critical for enterprises to upskill or reskill their workforce for more productive activities (including transition to automation roles) when the more mundane activities are automated.

In exhibits 4 and 5, we capture the different AIA levers and an enterprise's typical automation journey that makes use of these accelerators.

EXHIBIT 4

The components of AIA

Source: Everest Group (2020)



Automation deployment Accelerators

- Low-code solutions
- Code quality guides
- Reusable parts
- Role-based digital workers
- Best-in-class workflows/templates
- Pre-trained intelligent solutions
- Automating automations

Automation control and management Accelerators

- Operational analytics and process intelligence
- Machine learning
- Intelligent workload balancing
- Complementary technologies

Enterprise levers

- Internal automation libraries
- CoEs
- Automation skill development and retention
- Organizational change management

EXHIBIT 5

An AIA journey

Source: Everest Group (2020)

Starting out

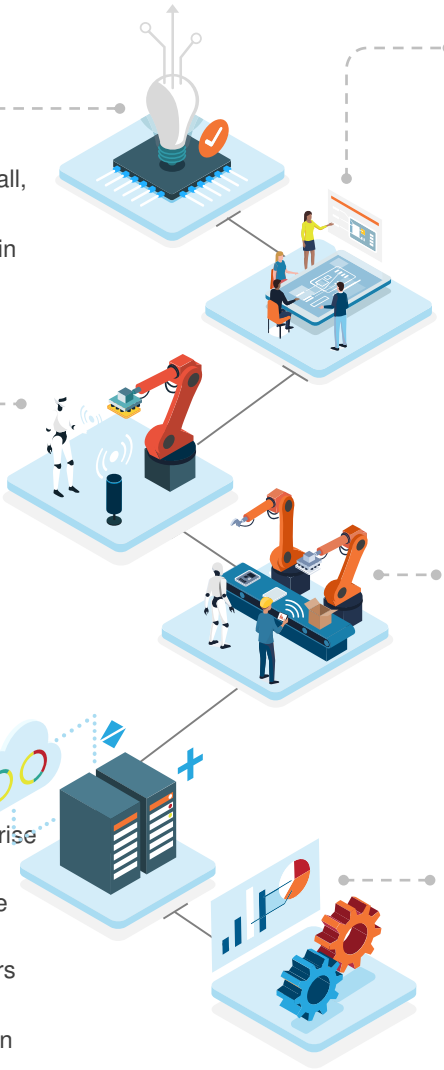
- The enterprise assesses and chooses automation tools that offer some, if not all, the accelerators illustrated in Exhibit 4
- The enterprise secures leadership buy-in and sets the right expectations

Automating

- The first set of automations is launched
- Capabilities of the purchased automation software, including its pre-built libraries and advanced control and management features, are leveraged
- New capabilities are developed as the libraries of reusable automations grow and staff skills improve

Scaling up

- As the level of automation in the enterprise increases, more complementary technologies are deployed to ensure the smooth running of automations, e.g., workflow management and orchestrators
- Process discovery tools are used to identify new opportunities for automation



Preparing

- Technologists and process experts in the staff are trained to use the chosen solution/s
- Experts hand-hold these employees to ensure that they can use the low-code environment to build robots for their own or department needs
- A CoE is set up to capture knowledge and document the lessons learned
- A library is created to collect reusable automation modules and assets such as training data for intelligent tools
- Governance policies are agreed and mandated, and a framework is implemented to ensure adherence

Reusing and expanding

- The CoE leverages the library to speed up the coding of robots
- Training and support is extended to more users/functions, incorporating the lessons learned, to help automate more mundane processes
- Existing automations are improved using the solutions' learning and analytics capabilities

Measuring outcomes

- The enterprise benchmarks automation results to work out the RoI and business/operational benefits
- The enterprise creates plans to address any issues, as well as boost capabilities to further scale up automations

Case study: implementing intelligent automation in the Africa-based Standard Bank Group

Standard Bank is the largest bank in Africa by assets, and it serves more than 10 million customers across 20 countries. In the recent past, the bank focused to resolve the following key challenges:

- **Customer experience:** Customers expected a round-the-clock, seamless digital experience and want the bank to get it right the first time, every time
- **Legacy systems:** The bank had to integrate and maintain many legacy systems built during its 150+ year history
- **Regulatory:** Standard Bank had to comply with high regulatory and compliance requirements, with cost pressures becoming "unbearable," unless addressed with modern technologies
- **Employee satisfaction and upskilling:** Numerous employees were involved in repetitive, mundane, non-value adding tasks throughout the organization

The bank embarked on its automation journey in 2016 with a view to address some of these challenges. After extensive research, the bank chose to work with a single intelligent automation supplier that provided an integrated platform and offered end-to-end process automation rather than multiple solutions. The bank looked at proven strengths in complex smart process automation, including strong ML capabilities, as well as Robotic Desktop Automation (RDA) supporting processes lower in complexity.

Standard Bank has since then extensively matured its automation capabilities, delivering multiple desktop automations within its operational environment, as well as large integrated automations across multiple processes over various business units and product lines. The bank invests heavily in automation technologies such as RPA, IDP, and chatbots to drive process efficiencies.

Standard Bank's approach to automation

In this section, we take a closer look at the key elements of Standard Bank's automation approach across different phases in the bank's automation journey.

Design

Standard Bank addressed several critical considerations in the design phase before implementing any automation initiative:

- Sponsorship and leadership alignment – The bank obtained buy-in from the leadership to leverage next-generation technologies to ensure the right level of commitment of resources to deliver successfully
- Automation strategy – The bank aligned its automation strategy with other digital transformation initiatives within the organization. It looked at automation from a tactical and strategic perspective to design future-ready solutions. For some areas, such as RPA, it looked at short-term solutions, while for other areas, it looked at long-term strategic solutions in line with other long-term modernization programs

- Solution design and value assessment – The bank developed a clearly articulated design, which brought together process, technology, and value to deliver the required outcome for the customer. To achieve this objective, it ensured collaboration between business, IT, as well as risk and compliance and other stakeholders

Implementation

Standard Bank employed different methods to implement automation initiatives depending on the complexity of the use case and expected benefits. The bank employed a combination of citizen developers to drive smaller, less complex automations, and formal multidisciplinary program teams to deliver complex multifaceted automations, with support from its intelligent automation CoE team. Here is how the different members and teams worked in tandem:

- Citizen developer / small automation teams – A citizen developer program was created to upskill non-technical staff to develop simpler automations through desktop automation. Non-technical business users could easily automate processes with the training programs developed and delivered by the bank's intelligent automation CoE team. To date, this program has certified over 100 staff members and achieved an RoI in excess of 300%
- Formal program teams – For more complex automations, the bank formed multi-disciplinary teams to implement automations using agile methodology, which brought together technical and business expertise through a business lead (SME), a scrum master, process engineers, and business analysts, as well as developers, to solve bigger problems. Technical capability also included ML specialists and an API team to support internal and external integration
- Centers of Excellence – A CoE was created around automation practices to ensure the development of standards and methods to support consistent and standardized delivery quality across initiatives and ensure that security, governance, risk, and control frameworks were in place and adhered to. Additionally, the CoE ensured collaboration and sharing of best practices and learnings across the automation fraternity in the organization. As automation was a fairly new technology at that time, skills were not easy to come by and scaling the practice was slower than desired. The CoE embarked on creating and delivering various skills development programs and masterclasses to help the upskilling and reskilling of staff
- Centers of Practice – Centers of Practice were created to focus on specific technologies such as Optical Character Recognition (OCR), chatbots, and data practices, to achieve excellence across the ecosystem. Each practice was headed by a practice lead responsible for staying abreast with the market updates, which helped the enterprise identify new opportunities for implementing automation technologies within the enterprise

Steady state

As major process automations reached a state of completion, the teams' focus moved to maintenance of existing automations, with new automations reducing as a percentage of the overall work. New roles, such as those below, also emerged following the automation of processes and increased bots in production.

- Bot lifecycle management – This essentially involves understanding the efficiency of bots, planning changes to underlying systems, workload balancing, reusing bots, and subsequently developing APIs around bots that are reused extensively
- Workforce retraining – It was important to encourage the transition of the workforce to more productive roles, included automation and customer-facing roles. This involved imparting training on automation technologies, as these skills had to be developed as automation became more prevalent

Challenges

At the same time, Standard Bank's automation journey was not easy and was filled with numerous challenges, including:

- Automation skill development and retention –. Standard Bank partnered with various vendors during PoCs and used this opportunity to skill its own staff. Often, these trained resources left soon after to pursue other opportunities, making re-skilling and retention of talent an ongoing challenge. To overcome this problem, Standard Bank ensured continuity of skills in technology and domain with a minimum of two resources always supporting each automation. In addition, a repository of all automations was maintained centrally, with various governance, risk, and IT security checks in place
- Organizational change management – The bank faced challenges with securing the support of the middle management, even when it had senior management buy-in, for automation initiatives. The middle management was concerned about existing roles and skeptical about the changes brought in by automation. To obtain middle management support, the bank deputed some managers as change leaders, making them responsible for leading change awareness and adopting automation initiatives within the business
- Use case identification and expectation management – Another key challenge that the bank faced at the outset of its journey was to decide which use cases to automate to achieve the highest returns. Lack of knowledge about end-to-end processes, siloed teams working on different pieces of automation, and a lack of clarity on value that could be delivered often resulted in outcomes that did not match expectations

Best practices

Standard Bank attributes the success of its intelligent automation journey to some best practices that it uncovered during the process:

- Creating standards and governance around its coding practices and ensuring reusability of code through code sharing helped save time and effort in delivering new automations
- Extensive knowledge-sharing through experts, forums for sharing lessons learnt, and numerous training programs accelerated automation adoption. The bank ran bot days, on which teams showcased and spoke about their automations, with focus on value delivery and themes such as payments, reconciliations, or onboarding. These sessions also served as platforms to brainstorm on ideas about further automation opportunities

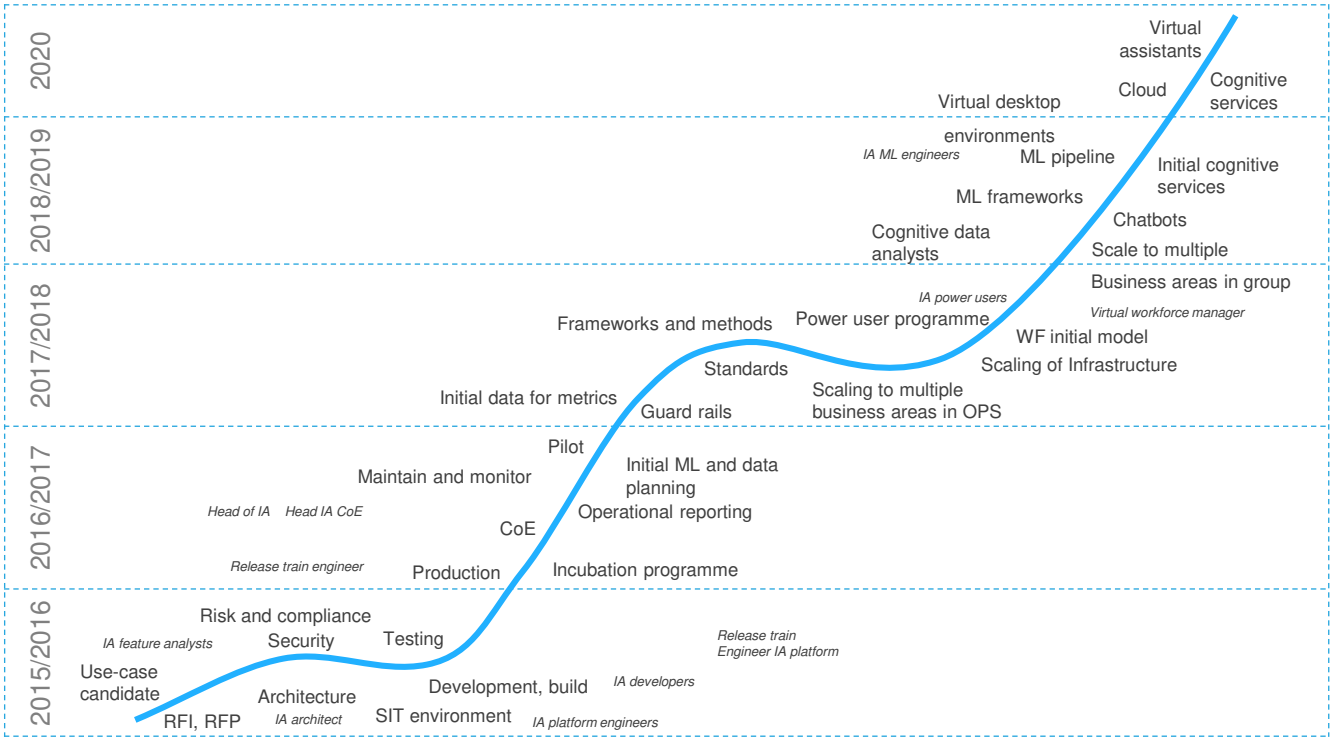
- The bank adopted the "fail fast, succeed quicker" approach with pilots and PoCs to learn from its successes and failures

In Exhibit 6, we showcase Standard Bank's automation journey over the past five years.

EXHIBIT 6

Standard Bank's automation journey

Source: Everest Group (2020)



Future focus

The bank started its automation journey with RPA combined with IDP and has since matured to include other technologies such as flow and chatbots. The bank is also exploring opportunities to implement new tools such as process mining and blockchain in the operations environment, with pilot programs in progress. The bank does not want to limit automation opportunities to the back office; it is developing end-to-end automations of customer interactions by adopting customer-facing chatbots.

Over the years, Standard Bank has learnt to take advantage of several accelerators in its automation journey, leading to smoother adoption of automation. Exhibit 7 highlights Standard Bank's adoption of various accelerators in its automation journey.

EXHIBIT 7

Accelerators leveraged by Standard Bank

Source: Everest Group (2020)

Category	Accelerator	Standard Bank adoption
Automation deployment accelerators	Low-code solutions	The bank deployed several low-code solutions, allowing citizen developers to create their own automations.
	Code quality guides	Standards and governance were created for coding practices.
	Integrated solutions	The bank deployed an integrated solution providing both RPA and IDP capabilities.
Automation control & management accelerators	Operational analytics and process intelligence	It defined and tracked a standard set of metrics that formed a baseline for all automation reports.
	ML	It uses internally developed ML frameworks, along with third-party ML tools.
	Complimentary technologies	It runs pilots to leverage process mining to expand the scope of automation.
Enterprise levers	CoEs	The bank has created CoEs to develop standards and methods for consistent delivery quality across automation initiatives.
	Automation skill development and retention	The bank runs extensive training programs, knowledge-sharing sessions, and forums for sharing lessons learnt within the organization.
	Internal automation libraries	It reuses automation codes and bots internally across teams.
	Organizational change management	It has a strong organizational change management program, including change leaders within the business to champion automation initiatives.

Conclusion

Intelligent automation technologies are being adopted across enterprises at an increasing pace, bringing in significant cost savings and efficiency improvements for enterprises. However, enterprises continue to take significant time to deploy these automations to realize their promised benefits. Fortunately, several approaches and capabilities can be adopted today to accelerate this process and enable enterprises to achieve breakeven on their investments much faster. We call this fast-track approach to automation that leverages automation accelerators Accelerated Intelligent Automation (AIA). AIA solutions can help accelerate both the deployment of new automations, and the control and management of existing automations within an enterprise.

Enterprises should look for these accelerator capabilities when choosing their automation tools and leverage these to an optimal extent in their automation journeys. Enterprises can also build some of these accelerators, such as reusable robot parts and resources, for their own automation needs. At an organizational level, enterprises can utilize internal levers such as CoEs, automation skill development and retention initiatives, and robust governance and change management activities to ensure a smooth rollout and enterprise-wide adoption of intelligent automation capabilities.

About Everest Group

Everest Group is a consulting and research firm focused on strategic IT, business services, engineering services, and sourcing. Our clients include leading global enterprises, service providers, and investors. Through our research-informed insights and deep experience, we guide clients in their journeys to achieve heightened operational and financial performance, accelerated value delivery, and high-impact business outcomes. Details and in-depth content are available at www.everestgrp.com.

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