**Technology Enabled Process Automation (Robotic Process Automation, Machine Learning, Cognitive Learning) of Finance**

**Executive Summary**

**HP’ Finance and IT partnered with Multiple world class vendors to develop test and implement Robotic Process Automation and other digital technologies to help change their old ineffective models and become more agile and adaptable.**

**A core team made of visionary biz executives and IT Leadership was put in place in roughly two years ago to identify key technologies and process that could unlock value in the finance Backoffice space. The core strategy was to identify key Enterprise wide E2E process which were costly and error prone and then use appropriate tools to quickly automate an “optimized” process. To accelerate the journey, the team deliberately built a visible culture of innovation which was critical in allowing the achievement of its goals.**

**The program has gone through multiple adaptations along its transformation journey – from its earliest incubation period and deploying the first robot in reporting in mid-2016, to its current state of high density automation on world class infrastructure and processes supporting** **the same. The program has already generated more than $2.5 million in value, and saved 239,000 hours, while generating clear data indicating improving accuracy, timeliness, improved quality and reduction in risk**

**Approach – Background**

**With the parent company splitting in 2016 - - the finance and IT leadership in HP were determined to ensure that the company could be run more leaner and also generate more profits. One of the pillars identified was to exploit cutting edge enterprise ready technology to the hilt. Rapid automation of optimized process was identified as a key to achieve the twin goals. Right from the start some hard goals baked into the program in terms of reduction in cost of finance operations.**

**The goal was to deliver automation solutions with partnership of impacted business groups. Right from the inception we decided to use the following guard rails.**

1. **Clear ROI**
2. **Business driven funnel building and process optimization**
3. **Rapid delivery of innovation**
4. **Enterprise enabled**
5. **Thoughtful Change Management**

**And, adopted the following framework**

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| **Discovery/Define** | **Solution** | **Development & Testing** | **Rollout & Monitoring** |
|  **Culture of Innovation****Crowd Source Ideas****Selection of Ideas****Recognize Innovation** | **Solution Design Documentation****Exclude Exception****Use Quality Techniques and RPA tools****Collaborate across Functions** | **Develop maintainable code****UAT for each Robot****Extensive step level testing** | **Issue Log & Redressal plan****Data driven Monitoring****Daily Dashboarding****Extensive and thoughtful training** |

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| **Embed Design Thinking** | **DMAIC processes** | **Formal Tollgate review** | **Formal Change Management** |

**To assist in the journey, we started with a focus up with the culture of innovation. Digital fluency initiatives include advanced trainings such as robotics certification, analytics certification, business crowdsourcing through the Sandbox playground, and FIRE Lab immersion sessions, where we drive ideation and innovation.**

**To build the capabilities, we had to identify the right skillsets and talents, develop in-house expertise, and in some cases, bring in new people with a separate set of skills. This combination required a cultural shift from the organization to make it happen.**

**In terms of leadership support - The team received the support of various key leadership such as the VP of Controllership being directly involved in the success of the program; Cathie Lesjak (CFO at that time) also invested time and resources to leverage the capabilities of Automation, and finally, Rob Ficalora (VP & Head of Corporate Functions IT) also ensured key IT support for the success of the program. There were many other senior leaders at the exec level who co-partnered to guarantee further deployments of RPA within HP.**

**The program also demanded a well-defined and robust governance framework – an ecosystem to manage the environment. This was pivotal for project prioritization, development, testing, deployment and support. To provide the governance around value capture, funnel management, and project management, we implemented a tool called Shibumi that enables the E2E value of a given automation to be captured using specific business case templates, workplans, sign-off methodology, ROI analytics and robot inventory management. This tool has helped to encapsulate all governance and value capture across the automation program, whilst helping to provide transparency to all stakeholders.**

**Collaboration with other business units was also key in enabling us to make bold moves. Setup in the Pan-HP Robotics Council, where best practices and learnings are shared across Supply Chain, Sales Operation, HR, Customer Support, R&D Labs and IT.**

**Tools, techniques and technologies involved and their utilization**

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| **Analytics*** **E2E machine learning solution to present a holistic view of HP’s financial health and, to provide insights proactively driving intelligent decisions and providing intelligence for the Balance Sheet review process.**
* **Advanced data integration solution using Microsoft SSIS, integrating real time data across diverse data sources include SAP BW, EDW, IDC, individual reports from external sources, data housed in AWS Cloud.**
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| **Automation platform:**  **UiPath Studio platform and LEO used to develop Robots.** |
| **Chat bot:** **We have** **used the Microsoft Azure platform to develop chatbot capability in the Payroll Operations space, where employees are able to have a digital interaction with a chatbot called PAYBOT to address queries with their pay slip or other payroll related.****items.** |
| **Machine learning/deep learning**:* R **software: Used for the Special Pricing Deal creation automation.**
* **Advanced machine learning solution with forecasting and statistical control limit components on key financial parameters built using R software.**
* **Advanced forecasting techniques for predicting key parameters like Days Payable Outstanding, Days Sales Outstanding etc. using multiple machine learning techniques to build multiple forecasts. Best forecast selected to drive high forecast accuracy leveraging historical forecast accuracy log.**
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| **Smart text capture/OCR**: **PoC completed for AP Invoicing – planned deployment in FY19** |

**Impact and Results of the Project**

**To date, HP’s RPA has deployed 275 robots impacting every part of the finance organization while improving accuracy, timeliness, overall quality and reducing risk. We have built a culture of innovation, continue to define skills of the future, and we are developing a digital fluency that provides a robust digital transformation foundation.**

**With success more, parts of the company are now coming forward with request for Automation – we currently have more than 200+ projects in the funnel with varying ROIs. This success has led to a companywide Automation audit to determine its impact and management.**

**Finance IT and Finance Controllership have been recognized for its world-class efforts by industry leaders, including Hackett, COSO. Multiple large-scale HP customer also reached out to the team for us to share the best practices in automation. KPMG as part of the 2018 Maturity assessment deep dive found HP IT/RPA to be “Advanced” in all three core IT areas: technologies delivered from an infrastructure standpoint, advanced automations technologies usage and extensive security management incorporation in Intelligent Automation.**

**Internally the program has been acknowledged and praised at the highest level of the BU**

*“This automation brings us a job enrichment opportunity within Contract account team as it allows them to create a new bandwidth to move from repetitive works to more value added, analytical and impactful works. To me, this change is very important aspect of the automation.” - Leader in HP*