

Robotic Process Automation, an Enabler for Shared Services Transformation

M.V.N. Naga Lakshmi, T. Vijayakumar, Y.V.N. Sai Sricharan

Abstract: *Technology has disrupted Shared Services like no other, creating a fundamental shift in the way Shared Services Centres operate. While cost and volume have always been at the core of Shared Services model, the value-adds of accuracy, analysis, consistency, speed, security and transparency brought in by technology, more specifically, automation have catapulted the positioning of Shared Services from that of a transactional unit to a strategic partner for organizations worldwide. The relatively lower cost of rapid deployment and higher potential for visible ROI make RPA an ideal technology choice and partner for organizations considering digital transformation. What is the research about? In the business context mentioned above, an empirical-analytical study was taken up to understand the role of automation in business transformation with a particular focus on Shared Services Organizations. How was the research conducted? Qualitative and quantitative research was conducted by administering a detailed questionnaire-based survey and interviews with survey respondents and experts in the Shared Services field. Based on the theoretical framework derived from related existing theories and content analysis of primary data derived from survey results and feedback from a broad range of C-suite leaders, group heads and managers across various Shared Service organizations of varying levels of maturity, the findings have been reported. Why is the research relevant? The originality of contribution of fact-based knowledge both to academia and industry in the field, imparts significance to the study. What are the key outcomes? The research results have reinforced the widely-held belief that technology is undoubtedly the greatest disruptor of Shared Services. Important findings include the identification of various options of technologies adopted by Shared Services Organizations to provide innovative solutions or meet their specific innovation needs on their path of/to transformation; key automation-specific benefits that organizations look for or already derived; top challenges encountered on the deployment of automation in organizations.*

Index Terms: Artificial Intelligence AI, Digital transformation, Intelligent Automation IA, Robotic Process Automation RPA

I. INTRODUCTION

Automation is increasingly being leveraged for enterprise-wide digital transformation. The elements of design, automation, analytics, and cognition in case of Intelligent Automation (IA) are brought together to bring out transformation in selective processes or business-wide, by means of automation. The key drivers for the adoption of automation by organizations are productivity enhancement and continuous process improvement [Fig. 1]. Over half of global SSOs are aiming for productivity improvement of over

7% by leveraging technology, according to SSON's 2019 industry survey. Also re-reported was that RPA continues to expand rapidly with an increase of adoption rate from 9% to 32% in just one year (2018-2019). IT, customer services, data management and finance are the functions where automation was adopted the most. The core elements of automation implementation are tools, processes and change management. The correct selection of processes for automation must be based on accurate data derived process insight and on the understanding of process maturity. Similarly, selection of appropriate automation tool should be based on the nature of complexity of processes, new tools compatibility with the legacy system. An effective change management plan to implement the above seamlessly decide the success of implementation.

Automation changes work in ways more than one. In addition to innovative tech-integrated solutions that bring about enhanced effectiveness, efficiency, quality and performance, benefits of automation include – attainment of greater market share quickly by the company, building Centres of Excellence (CoE) and reducing the scope to offshore work, freeing up knowledge resources for handling exceptions.

Alongside benefits, come challenges. On successful deployment of pilot, there is a big push towards scaling automation. However, the challenges faced during the expansion or scaling up of automation could be staggering. Leaders must take extreme care when considering or introducing automation as it is a change that affects people and their perception of their contributions being valued. The people related challenges can be reasonably met by employing the two-fold approach by the leadership: One, by alleviating doubts, fears, reservations and uncertainties of people in the new work environment and; communicating to them the imminent need to up-skill them-selves relevantly and driving the up-skilling or reskilling initiative by providing suitable means and resources for the same and also setting clear expectations in terms of future responsibilities. The adoption of new technology necessitates the understanding of key skillsets required to manage the implementation and developing internal competencies. Investing in the team - process and technical experts also goes a long way during the transformation.

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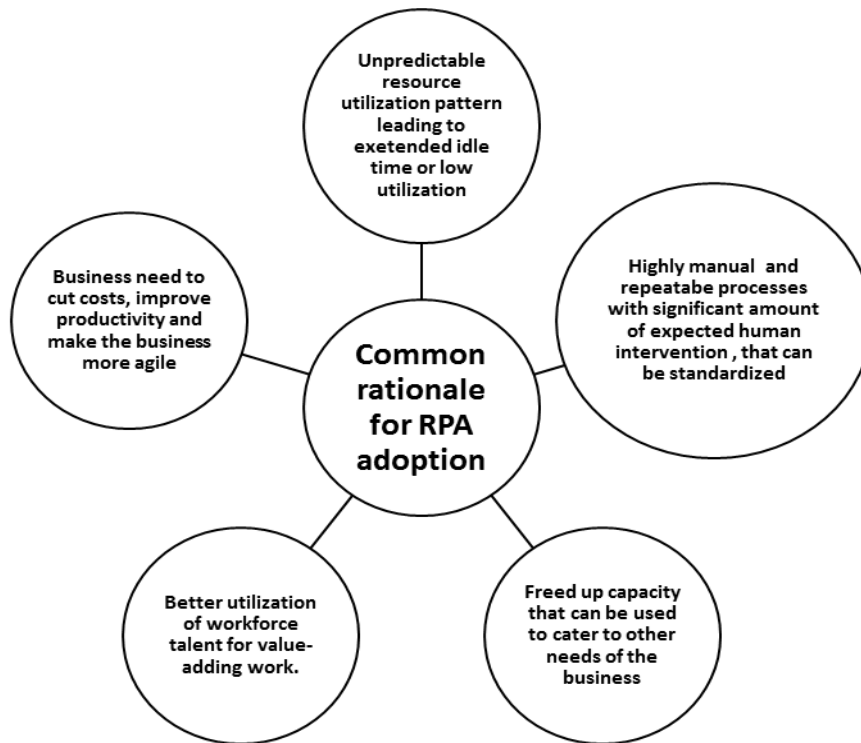


Fig. 1. Common rationale for RPA deployment

Stakeholder support and the identification of stall points much ahead of their incidence and taking preventing steps to avert them - are critical to the success of scaling robotic automation in an enterprise [1]. Another most common challenge in automation space is procuring the right tool from right vendor, given the rapidly changing technology necessitating more agile buying processes. With this background, the current study aspires to fill the research gap on the impact of technology on Shared Services transformation, with a specific focus on the transformation driven by automation. The following sections discuss the theoretical framework on which the study is based, research question, research objectives, research methods, findings of the research, discussion of the findings and finally, conclusion that also includes implications of the study.

II. THEORETICAL FRAMEWORK

Theoretical framework in a research ensures that the study has a firm grounding in the existing literature on the subject. This, to uncover the gaps in the earlier research and closing them with a strong evidence-based theory based on findings or the reverse i.e., closing the research gaps with new findings that can support earlier founded theories. Shared Services concept is a predominantly practice oriented phenomenon and is in a nascent stage as a subject of scientific study. Consequently, the review of existing literature on the Shared Services concept is limited to publications authored by seasoned consultants and experienced practitioners in the field. Given that the Shared Services model has been continuously evolving and is being adopted by organizations based on the business need and organizational context, no single specific theory explains the

Shared Services approach in its totality. Yet, an attempt has been made to interpret selected theoretical approaches in the context of Shared Services in the following sections. Shared Services as an approach to use shared resources or to manipulate internal capabilities and competencies to face the challenges posed by dynamic business environment have been discussed by Janssen and Joha [2]. In this context, Resource-Based View (RBV) and Dynamic Capabilities Approach (DCA) may be applied. Similarly, the concept of 'structuring for success' can also be applied in the context of Shared Services, where structural changes in the organization are brought about in order to improve business operations [3]. Adoption of Shared Services model in multinational organizations has showed higher levels of optimization, subsequent to the integration of systems, consolidation of operations and standardization of processes [4][5][6]. Literature review on how technology has been shaping business landscape and Shared Services transformation, in particular had some interesting findings. The key drivers of economic development in developed economies are identified to be original scientific knowledge, innovation and technological transformation [7]. Major realignments at the industry level have also been brought about by the business model disruption triggered by digital technologies, more often resulting in digital transformation and innovation. For disruptive innovation, the three factors of technology, business model innovation and better value network have been cited to be important in the disruptive innovation theory [8].

Standardization and integration of data and processes is facilitated by disruptive technologies [9]. Organizational leaders' knowledge of 'the delivery model maturation path' defines the success of Shared Service transformation, as it includes the elements of personnel, pricing, processes and resources, among others [10]. The advent of Information Technology has brought with it several changes at structural and managerial level in enterprises, as observed by Mullins [11]. Similarly, Shared Services operations took a leap forward with the introduction of ERP [12]

Digital technology bring about several benefits such as improved interrelationships between stakeholders and healthier revenue models. The Core Competencies theory - CCT [13] [14] and the 'Digital Capability Framework' - DCF [15] offer theoretical support for the premise of this study i.e., technology as a disruptor in Shared Services. CCT proposes that the core competencies and capabilities are enhanced when employees and associates cooperate to work collectively [16] [17]. The DCF talks about leveraging business and technology innovations in building suitable transformation and innovation capabilities. Thus, summarizing the above discussion, technology can be viewed as a resource or capability or competence that can be harnessed to bring about effective Shared Services transformation.

III. RESEARCH GAP

Shared Services as an area of knowledge is highly under-represented in academic literature. Academic documentation based on empirical evidence is scant in the area of Shared Services. This is the primary research gap. The fast changing dynamics in the real world of Shared Services, the trends and practices are well chronicled and documented by the corporate world in the form of white papers, reports etc. However, the case is not the same in the academic space. Academically documented body of knowledge on the concept and practice of 'Shared Services' is in its nascent stage and any evidence-based documentation adds value to it. The empirical work that currently exists is limited to select focus areas of Shared Services. As such, absence of empirical research based on conceptual framework offered by prevailing theories is a clear research gap in the Shared Service area that needs to be addressed. Ensuing this, the current study attempts to close the gap to an extent by documenting the empirical findings in the highly under-represented topic of 'Shared Services' in academic literature. Further, while there are few studies that discuss the collective impact of digital transformation on businesses, there are fewer studies that analyze empirically the effects of technology intervention on Shared Services transformation. Thus, the study aims to uncover industry practices in leveraging technology for Shared Services transformation across organizations and across industries

IV. RESEARCH QUESTION

The research question that the study aims to answer is, 'How RPA can be leveraged for Shared Services

transformation?'

V. RESEARCH OBJECTIVES

1. To understand how technology accelerates Shared Services transformation;
2. To discover the tools and technologies that are being adopted and those that are making highest impact on the digital transformation of Shared Services;
3. To ascertain current challenges and the road ahead for organizations on their path of digital transformation journey.

VI. RESEARCH METHODOLOGY

This section attempts to briefly describe the ways and means of how the research was conducted i.e., techniques or methods employed to obtain the data or information required for the research, data analysis and the reasoning behind choosing the specific research methods or techniques. The research methodology model adopted in an attempt to answer the research question - 'How automation technology can be leveraged for Shared Services transformation?' - and to achieve the research objectives listed in the above section, was the 'Research Onion' model, one of the most popular methodology models in academic researches. The different layers of the model include research philosophy, research approach, research strategy (nature and source of data), time horizon and data collection. The various layers of the research methodology adopted for the current research are:

1. The research philosophy is positivist with a realist reflection.
2. Inductive and deductive approaches to research were employed together in order to gain a complete understanding of the research topic. Fresh questions that arose during the course of investigation were best answered on employing both approaches.
3. In order to meet the objectives of the study, both qualitative and quantitative data has been gathered by means of primary and secondary research methods of data collection. The secondary data was collected from the information available on public domains such as research work published by journals of international repute, reports, white papers, periodicals etc. published by corporates and research firms.
4. The primary consideration for the choice of questionnaire-based survey as the method for primary data collection is to capture the information on current and contemporary trends and practices in Shared Services industry from practice leaders themselves. Online survey was followed by semi-structured interviews with survey respondents and experts in the field of Shared Services to capture their insights in their entirety to make the findings and its analysis potentially useful both for future researchers and corporate practitioners in the area.

5. The sample of the research under discussion was arrived at by the method of purposive sampling, a non-probability sampling technique. Sample members are selected on the basis of their understanding, knowledge, expertise, and relevant work experience in the chosen research area. Inclusion criteria for survey respondents further narrowed the range of the sample.
6. The inclusion criteria for survey participants included Shared Services experience of respondents either in India or abroad. Another inclusion criteria for survey participation was the location of Shared Services centre (Indian and international organizations with centres in the South Indian cities of Bangalore, Chennai and Hyderabad). This is to avoid the potential disparities in results probably triggered by locational factors (for ex., availability of automation-talent base, business sops extended by the local government etc.) and to keep the study reasonably uniform. Over 100 responses from professionals representing the functions of F&A, HR, IT, Procurement, Data analytics, Front office support, Sales and marketing, among others were analyzed for this survey.
7. Data Analysis has been done by means of theoretical framework explained in Section II and content analysis. The qualitative data which was gathered from questionnaires and interviews was reduced, simplified and made comparable by structuring it basis themes and sub-themes. The results are then measured using quantitative techniques.

Few of the questions that were asked as part of the survey to attain research objectives include:

1. Do you consider Intelligent Automation as an enabler for transformation from transactional model to that of knowledge-work in Shared Services?
2. Do automated processes result in improved operational efficiencies leading to cost savings?
3. Do you think RPA investment would impact investment in offshore Shared services?
4. Does investment in smart technologies such as AI, ML etc. reduce dependencies on mid/high skilled

labour? Does investment in process automations and robotics reduce dependencies on low skilled labour?

5. Does automation impact service quality?
6. Is your SSC or GBS organization considering or explored RPA activities?
7. Apart from cost savings, what are the top benefits that process automation can possibly offer?
8. What are the key challenges specific to RPA deployment?

The findings and result analysis are presented in depth in the following sections.

VII. TOP FINDINGS/RESULTS

The empirical study on the impact of technology on business transformation on about fifty organizations having Shared Service Centers (SSCs) either as captives or as outsourced centres or hybrid models, has brought out the below technologies as having the biggest impact in transforming how the Shared Services functions are performed:

- RPA which is evolving to IPA Intelligent Process Automation where cognitive tools are deployed in combination with robotics
- Artificial Intelligence AI/Machine Learning ML
- Blockchain – even though it is in a nascent stage, this technology holds the prospect of completely revolutionizing the way financial transactions are performed, shared and audited.

The discussion section below will focus on what each one of the above technologies is capable of and what difference does it bring to the traditional way of doing business. In addition to the above, the top findings are as follows:

1. 15% of the respondents have taken the lead in automation i.e., one or more processes were automated end-to-end in their business. 20% of them were doing the preliminary research of RPA to check its suitability in their business context, while 25% of the respondents have gone past through that stage and tested a pilot project. Overall, 60% were took to RPA positively. However, 40% of them have not explored the option yet. [Fig. 2]



Fig. 2. Percentage-wise breakdown of respondents as per RPA adoption stage

2. Of the above 60% who were at varying stages of RPA adoption, chose the following functions as prime candidates for introducing automation: Accounting – 90%, IT – 60%, HR – 60%, procurement – 45% were the top candidates for automation [Fig.3]. The traditional Shared Service approach focuses mainly on transactional processes such as the ones listed above where there is high potential and scope for standardization, strengthening the case for their probable automation.
3. About 40% of the respondents believe that automated processes result in improved operational efficiencies leading to 10-20% of cost savings. Similarly, about 35% of the respondents are of opinion that automation could decrease costs 20-40%, while just 15% felt that less than 10% cost efficiencies were derived [Fig. 4]
4. Another interesting view came when 35% of the respondents strongly felt that introducing smart technologies such as AI, ML etc. reduce dependencies on mid/high skilled labour. 43% of them said, it was highly probable while 20% of the respondents were of the opinion that it might not affect dependency at all [Fig. 5]
5. Similarly, 10% of the respondents felt process automations and robotics do not reduce dependencies on low skilled labour, while 49% felt it was highly probable. 45% were almost certain about the reduced dependencies [Fig. 5]
6. As depicted in Fig. 6, top four benefits that process automation can possibly offer were:
 - Optimized internal business operations - 49% of respondents
 - Freeing up employees for value-adding tasks -35%
 - Pursue expansion plans (market/product) - 25%
 - Reduced headcount - 22%
7. Key challenges specific to RPA deployment [Fig. 7]
 - Finding relevant talent and expertise and retention -75%,
 - Gaining consensus on the approach of RPA deployment - 65%,
 - Selection of appropriate technology tools -50%
 - Ensuring consistent investment and committed resources – 35%,
 - Selection of appropriate vendor -35%
 - RPA-legacy integration – 30%,
 - Others – 20%. These are the production support and technical issues with the process design or software.

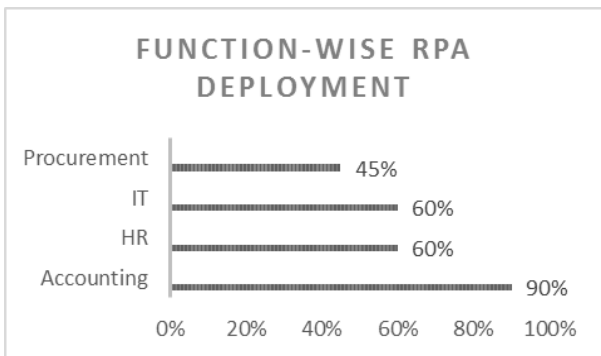


Fig. 3. Top candidates for RPA deployment



Fig.4. Chart to depict varying extent of RPA driven cost savings in surveyed organizations

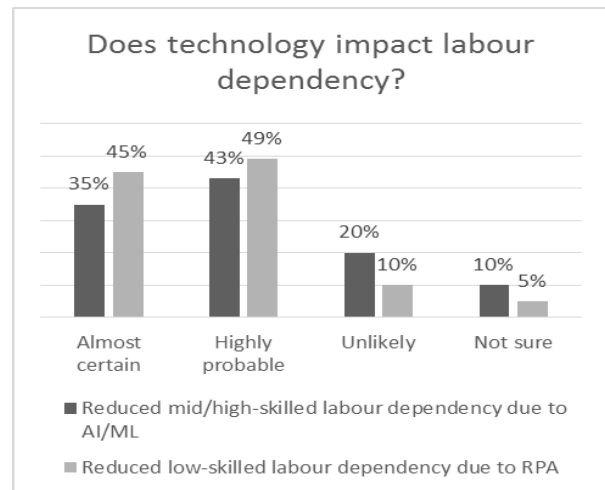


Fig.5. Technology impact on labour dependencies

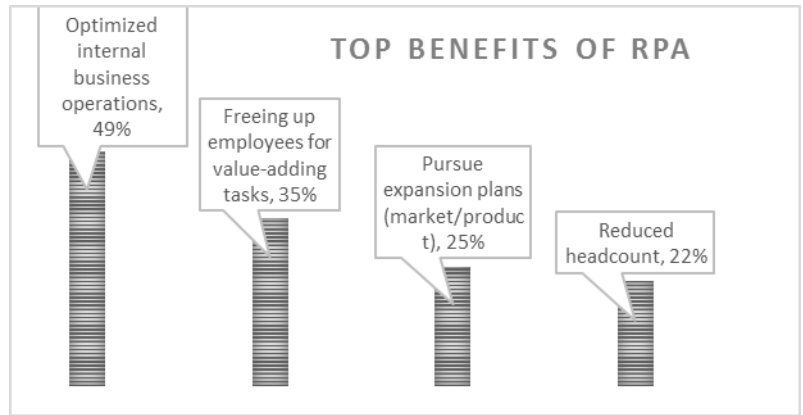


Fig.6. Top four benefits of RPA according to survey respondents

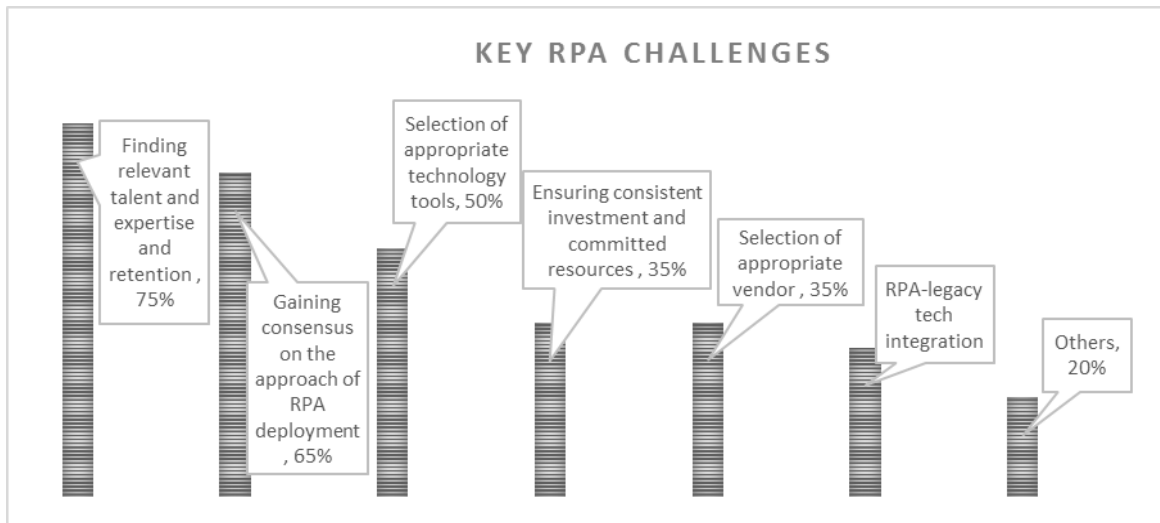


Fig.7. Key challenges in RPA deployment

VIII. DISCUSSION

The areas of organizational focus vary based on the stage the SSC is in, as depicted in Fig. 8. Each stage from inception has a different set of focus areas for the management and staff of the SSC. In the ground zero stage, the focus is on ironing out the process deficiencies and hyper focus on cost reduction. In the growth stage (which is typically 3 to 4 years after the start of the SSC), the focus slowly shifts away from cost reduction to value creation. This is where technology plays a major role. Companies start looking at technology as an enabler to value creation and achieving or creating synergies across functions. Digital Technology with its various tools and applications aim to fundamentally change the way transactions or processes are run. All these tools and applications have been discussed at length in the following sections.

The automation landscape presents a vast array of automation options such as RPA, Machine Learning (ML) Artificial Intelligence (AI), applying cognitive automation to RPA to create Intelligent Automation, virtual agents and conversational AI, to name a few. Few of these options are discussed in the following sections

A. RPA: It is the application of technology or technologies that enable a piece of software to perform structured processes in areas such as finance, procurement and HR, essentially by emulating human behaviour of performing a

series of coordinated steps or actions to compete a transaction or series of transactions. This piece of

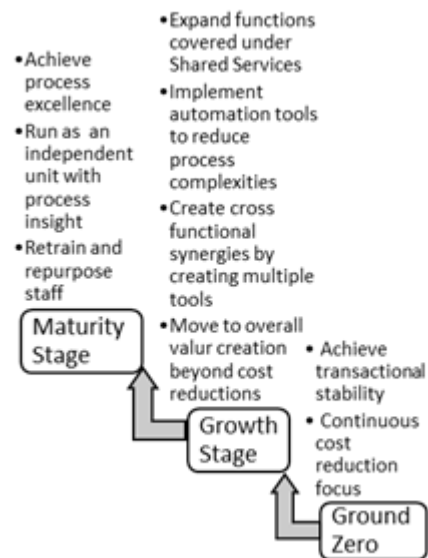


Fig. 8. Stages in SSC maturity



software is also called a ‘Bot’. RPA is a set of configurations that automate repetitive manual tasks. It can also be a set of algorithms that run and complete specific processes which includes follow ups too. RPA can complement the human workforce by taking over the mundane repetitive processes which can be completed based on a set of predefined rules and those that do not require any human cognitive decision making (those requiring validation of good or bad, or right or wrong). However, if the same decision can be taken on the basis of logic, it can be automated by using certain RPA tools. Thus, RPA enables the organization to direct the use of the workforce to areas which require cognitive reasoning (for example, to handle exceptions versus repetitive, routine tasks) thereby better utilizing their capabilities and keeping them motivated. Adoption of technology, more particularly RPA tools have begun to give the organizations increased efficiency at a lower cost; certain estimates point to the cost of the BOTs being one third of that of a FTE. People-related benefits are reduced training costs and reduced people induced errors. RPA ensures that the customer journey is standardized. This because, a Bot is trained to perform in a standardized way across all use cases as opposed to a human applying the rules where an element of bias or misjudgment

could probably creep into the decision making process. RPA also has begun to deliver business efficiency with resources being freed up and utilized for more business value returning processes rather than working on mundane repetitive processes. AI or ML integrated RPA tools fortified with cognitive abilities are being employed to analyze and solve new business challenges.

There are various RPA tools available in the market- Automation Anywhere, UI Path, and Blueprism, to name a few. Various industries have deployed these to automate cross functional activities such as Order to Cash (OTC), Procure to Pay (P2P) in the finance function; in resolving errors in the operation function; and in the speed up of the HR on-boarding process. RPA is also being used to read, correct and apply contract forms across various industries 9 Financial Services, Telecom, Communication, Information, Entertainment, Manufacturing, Oil and Gas etc. [Fig 9]; validate and correct transactions; send automatic status communication to the various stakeholders; validate the data being entered across multiple applications with a single data source. Implementation of RPA is known to have reduced Quarterly closing wait period by close to 5 days

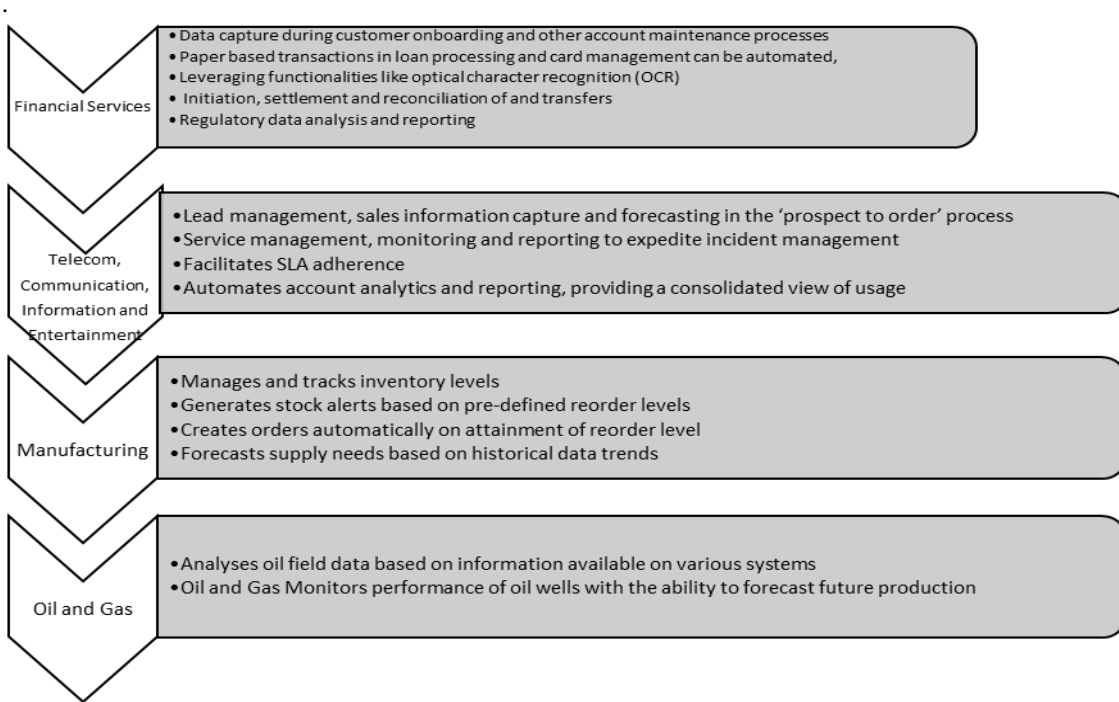


Fig. 9. RPA applications in various industries.

Source: www.pwc.com/ng

B. Machine Learning ML: One of the most important applications of ML technology is extracting critical information hidden in the data centric processes, be it structured, semi-structured or unstructured/dark data. The wealth of transaction data and customer information that Shared Services are privy to could be the starting point to understand history and underlying patterns in customer behaviour, for instance. These insights could help in predictions such as likely delay in payments or assessing customer risk.

C. Blockchain: As in the case of adoption of Shared Services model, financial services was the first adopter of the

Blockchain technology. This revolutionary technology, though currently nascent and immature, has been evolving at such a fast rate both in terms of performance and speed that it is supporting more business models and industries such as banking, gaming, healthcare, logistics, travel etc. However, like any other technology, blockchain adoption must be preceded by an assessment of goodness of fit.

Robotic Process Automation, an Enabler for Shared Services Transformation

While multiple use-cases have proved that operating costs can well be brought down by blockchain technology, the scalability, the transformative potential and the return on investment are hard to guess, given the early stage of maturity the technology is currently in. Benefits can be derived from Blockchain technology only on aligning it to solve specific business problem. The fundamental premise of Blockchain technology is building a trusted network of stakeholders to enable decentralized record sharing amongst them. The biggest advantages are security and information access, making it a very viable option for functions such as cross-border remittances, supply chain and vendor invoice processing. During the discussions that followed the survey with Shared Service leaders and group heads, RPA featured among the top challenges that needed attention within immediate to long-term time horizon; the other challenges being talent retention, quality control and SLA adherence. Data analytics happens to be the topmost trend that they might respond by investing alongside RPA. Digital/social platforms, transfer pricing, Virtual Shared Services are the other equally important trends in the Business services space. The most common back office automation tools that are in vogue are Optical Character recognition OCR, Automatic data loading system, Mobile Apps, BPMS and other B2B tools in addition to robotics. With respect to external users, web portals and mobile apps for suppliers and customers are the most common automation tools.

IX. CONCLUSION

To sum up, the survey results have reaffirmed the theoretical premise that technology can be viewed as a resource or capability or competence that can be harnessed to bring about effective Shared Services transformation. As evident from the survey results, top priority now for the Shared Services executives and Global Business Services leaders is technology-enabled/ technology-integrated continuous process improvement. Digitization, Digital Process Automation (DPA), RPA, AI, ML, IA - are a few options of technology adopted by Shared Services Organizations either individually or in varying combinations in order to arrive at innovative solutions or meet specific innovation needs on their path of/to transformation. The adoption has been sequential in some cases and in others simultaneous. RPA itself is maturing with the integration of other tools such as AI, ML in order to take on the new business challenges proactively. The organizations that have already deployed RPA are noticeably reaping manifold benefits, both direct and indirect. Similarly, the understanding and use of Blockchain technology is increasing, especially in finance shared services function. Even though the technology is in a nascent stage, companies are willing to bet on its future, inspired and motivated by the transformation this would bring to the way the finance and accounting function would evolve and be simplified.

Automation is now a strategic priority for the Shared Services and Global Business Services (GBS) leaders all over the world. For Shared Services, RPA is also an enabler for other technology led initiatives. SSON reported in their 2014

State of Shared Services Industry report that even though enterprise platforms make it simpler for Shared Services to operate, the real quantum leaps are brought in by the emergence of enabling technologies and cloud-based solutions. There is an established relationship between continuous improvement and automation, with both featuring prominently in most Shared Services transformations. The shift of conversations from the quintessential, 'what (all) technology can do?' to the current 'What solutions can technology provide?' perhaps is a reflection of how business-critical and enterprise-critical, 'digital' and 'automation' have fast become. 160K+ digital workers already deployed in India is just one of the facts that India is the emerging leader in digital workforce creation with best -in-class GICs leading the way with AI/automation deployment for driving strategic value. India is well on its path to evolve into 'Global Automation hub', according to a leading player in business technology, Automation Anywhere. This goes on to reinforce SSON's tech top trend 2019 [18] that Shared Services own automation (50% automation strategies sit within SS; 25% by IT). The introduction of GST in 2018 by Government of India is a perfect example where an executive mandate forces the organization to respond. The rollout of GST brought with it many forms to be filled which required up-to-the minute tallying of various forms across multiple divisions or in some cases even multiple organizations. If these were to be done manually, submission of invoices would have taken longer time translating into longer wait times for refunds to flow through the system. As part of digitization effort, the Government also promoted the use of the GST portal, providing an incentive for the organizations to look for smarter alternatives to perform the same work. In the case of a large Indian business conglomerate with strong presence in the infrastructure and power sectors in addition to other verticals, the Shared Services division took the RPA route to undertake filling the forms. An end to end Bot platform which was in place within 10 days of the launch of the GST was able to successfully upload invoices with 90% + accuracy. Reduced manual intervention in processes reduced the need for manually tallying, leading to reduced turnaround time. The methods employed to achieve transformations continue to evolve. RPA is maturing with the integration of other tools such as AI or ML in order to take on the new business challenges proactively. Use of robotics is expected to increase as awareness and stories of successful deployment get increasingly told in board-rooms and corporate exchanges. Introduction of new rules and regulation by government have also necessitated to look at RPA implementation to speed up the process and attain accuracy. RPA cannot replace workforce completely and cannot take over cognitive decision making. Here's where Intelligent Automation takes over, albeit partially. RPA is not just another cost reduction measure or an option.



The number of advantages that a RPA solution provides go beyond the reduction of workforce: it affects the number of hours a particular process is run; it is mostly error free; and, has several in-built reporting tools that reduce the overall cost to run the process even after accounting for the cost of the RPA solution.

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