Deloitte.

The robots are coming

A Deloitte Insight report

Definitions

For the purpose of this report robotic process automation is defined as the software (commonly known as a 'robot') used to capture and interpret existing applications for the purpose of transaction processing, data manipulation and communication across multiple IT systems. Cloud is defined as a standardised IT capability delivered in a pay-per-use and self-service way. Analytics is defined as the process of finding actionable insights from data.

Shared services is a model for the delivery of back-office processes and business support services. Typically, a shared services organisation supports a single function. For example finance shared services supports the finance function while HR shared services supports the HR function. Global Business Services (GBS) is the grouping of services into a single organisation to drive the best possible operational performance and impact for the business through collaboration. This is achieved by employing a common approach, the use of common infrastructure and governance to deliver business support services across geographies, business units, functions and business processes.

ERP is software or a suite of integrated applications that is used to collect, store, manage and interpret data from business activities.

Methodology

In February 2015 Deloitte asked its clients to complete an online survey on the subject of Robotic Process Automation and the use of other disruptive technologies in GBS and shared services. This information was analysed in aggregate. It should be noted that additional information collected by Deloitte Touche Tohmatsu Limited ("DTTL") and originally published in '2015 Global Shared Services Survey' has been used as part of the analysis for Figures 1 and 4. In addition, data collected at the Deloitte Shared Services, GBS & BPO Conference 2014 via a mobile app has been used in aggregate form in Figure 2.

In this publication, references to Deloitte are references to Deloitte LLP, the UK member firm of DTTL.

Foreword

Welcome to this Deloitte Insight report examining robotic process automation and its role in shared services and Global Business Services.

There is suddenly more to shared services technology than ERP systems. The development of enabling technologies has accelerated in recent years with integrated invoicing and payment tools, more evolved workflow applications and robotic process automation now available to shared services and GBS leaders.

For many, robotics is an innovation that is poised to transform the landscape of transaction processing. For others, it is just another way of automating processes that long ago should have been eliminated or simplified. We believe robotics is a technology worth investigating because of its ability to improve efficiency and reliability.
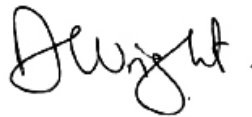
In an effort to understand the potential of robotics Deloitte carried out two surveys of shared services and GBS leaders from a wide range of industries in the UK and Europe. Survey responses suggest that future automation will no longer be delivered just through incremental improvements to ERP systems. Cloud computing and, yes, robotics will play a role in automating processes. However, this is still relatively new technology and shared services and GBS leaders can learn much from early adopters of the technology.

This Deloitte Insight report will help shared services and GBS leaders understand what a robot is and is not, what the benefits are that can be achieved and will provide examples of how robotics has been implemented.

We would like to thank the executives who participated in our surveys. We hope you find our insights thought-provoking and useful, and welcome your feedback.

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The robots are coming

Increasing automation is the **second most important strategic priority** for shared services and GBS leaders

In ten years' time it is still expected to be the **third most important strategic priority**

3

As such, automation is, and will continue to be, **top of mind**

Increasing automation is *no longer just about leveraging traditional methods*

36%

Plan to increase automation over the next 12 months through leveraging
Cloud Computing

13%

Plan to increase automation over the next 12 months by investing in
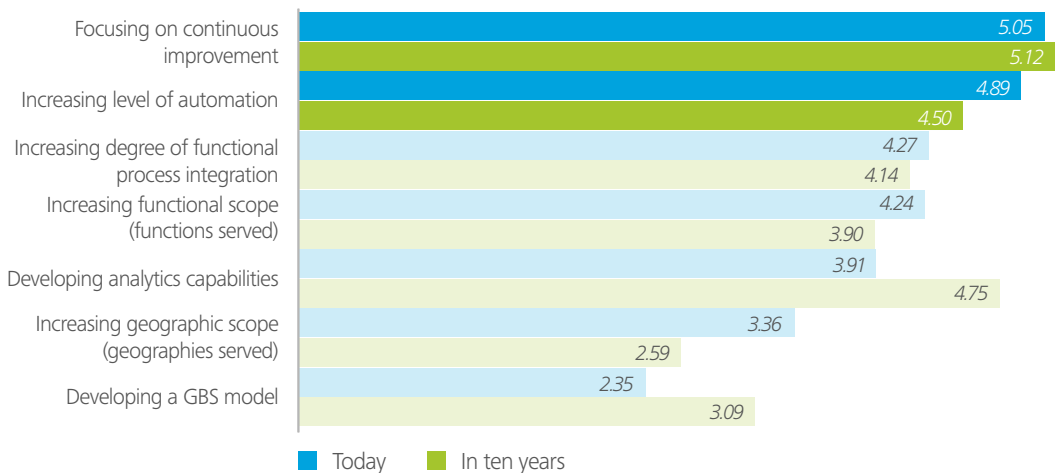**Robotic Process Automation**

Robotic Process Automation: hype or reality?

- Lots of hype but few shared services organisations have implemented robotics.

- Transactional processes are expected to be the initial focus.

- The proven benefits of offshoring are the biggest barrier to robotics adoption.

Automation high on the strategic agenda

Automation is a strategic priority for shared services and Global Business Services (GBS) leaders and will remain a priority over the next ten years. Executives indicate that their top priority now and in 2025 is continuous process improvement. There is an established relationship between continuous improvement and automation with both featuring prominently in most shared services transformations. This is set to continue although the methods employed to achieve these transformations have already begun to evolve.

Figure 1. Strategic priorities for shared services and GBS leaders, on a 7-point scale where 1 implies least important priority and 7 implies most important priority

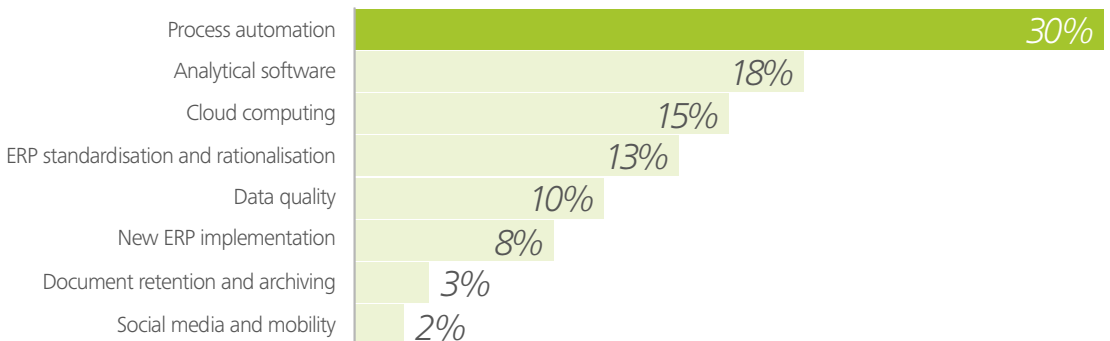| Priority	Today	In ten years
Focusing on continuous improvement	5.05	5.12
Increasing level of automation	4.89	4.50
Increasing degree of functional process integration	4.27	4.14
Increasing functional scope (functions served)	4.24	3.90
Developing analytics capabilities	3.91	4.75
Increasing geographic scope (geographies served)	3.36	2.59
Developing a GBS model	2.35	3.09

■ Today ■ In ten years

Source: Deloitte Global Shared Services Survey, 2015 n = 183

When asked specifically about their technology priorities shared services and GBS leaders indicated that process automation is more important than implementing analytical software and Cloud computing.

Figure 2. Technology priorities for shared services and GBS leaders over the next 12 months, percentage of respondents

| Technology	Percentage
Process automation	30%
Analytical software	18%
Cloud computing	15%
ERP standardisation and rationalisation	13%
Data quality	10%
New ERP implementation	8%
Document retention and archiving	3%
Social media and mobility	2%

Source: Deloitte Shared Services, GBS & BPO Conference 2014 n = 60

Although executives have been focusing on automation for some time over 56 per cent of roles in a typical UK finance function could still be automated. These roles often sit within shared services and GBS organisations. The roles least likely to be automated are knowledge-based management positions, which usually sit outside of shared services.
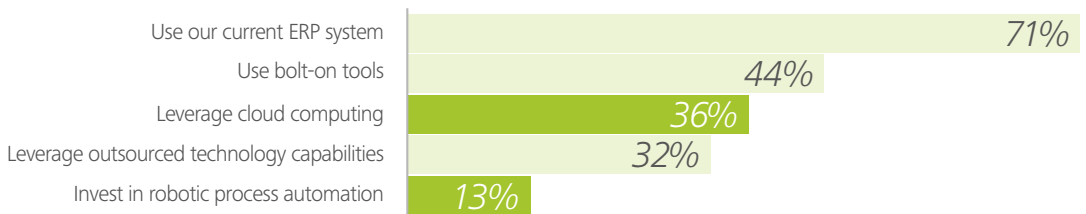
Figure 3. Probability of automation by Finance functional roles
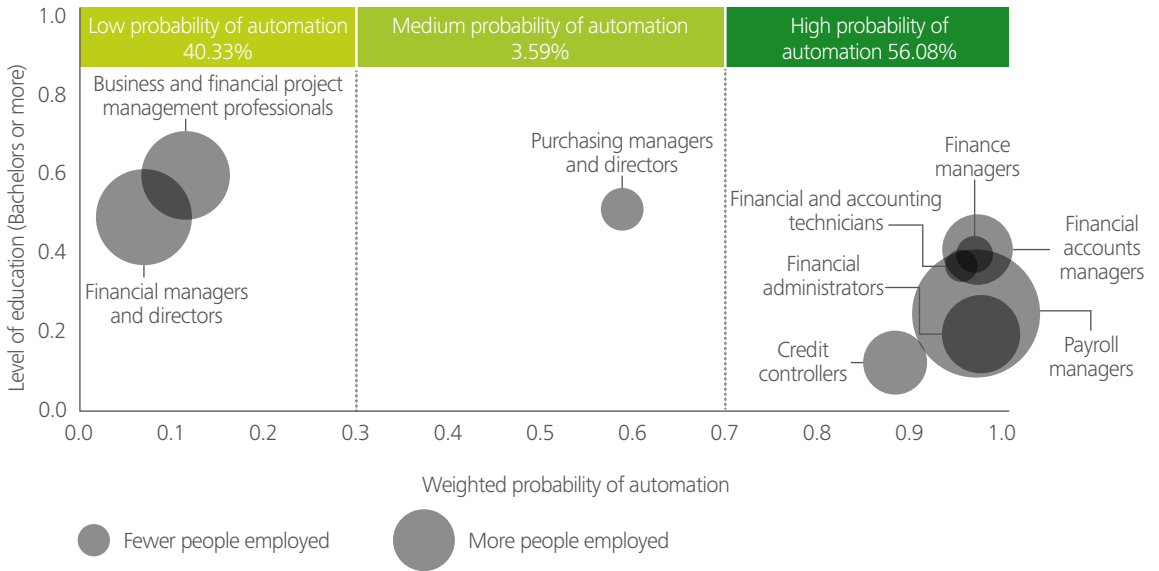
Source: Deloitte analysis based on Frey and Osborne, 2014

Future automation is no longer expected to be delivered simply through existing ERP systems and bolt-on tools. Instead shared services and GBS leaders plan to use emerging technologies such as Cloud computing and robotic process automation as well. Use of robotics is expected to increase as awareness increases.

Figure 4. Methods to increase automation over the next 12 months, percentage of respondents

Use our current ERP system	71%
Use bolt-on tools	44%
Leverage cloud computing	36%
Leverage outsourced technology capabilities	32%
Invest in robotic process automation	13%

Source: Deloitte Global Shared Services Survey, 2015   n = 180

Defining robotic process automation

Robotic process automation is a way to automate repetitive and often rules-based processes. These transactional processes are typically located within a shared services centre or another part of the back office.
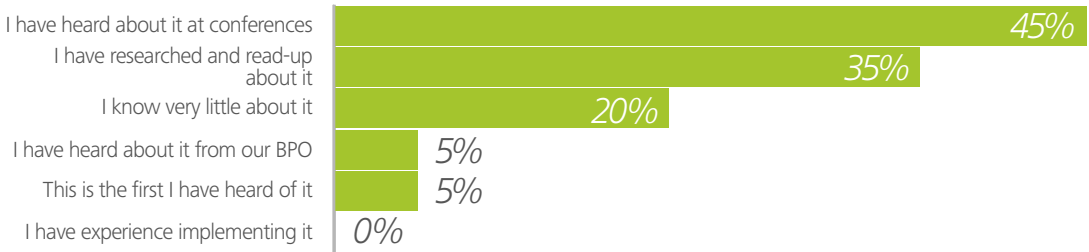
Software, commonly known as a 'robot', is used to capture and interpret existing IT applications to enable transaction processing, data manipulation and communication across multiple IT systems. Multiple robots can be seen as a virtual workforce – a back-office processing centre but without the human resources.

The robots undertake processes just like their human counterparts and can work on multiple processes just like a shared services staff member can learn to work on an accounts payable process and a travel and expenses process. The robots use a 'virtual-machine' and dedicated logins to interact with different applications and systems in the same way as human teams.

Robots are	Robots are not
Computer coded software.	Walking, talking auto-bots.
Programmes that replace humans performing repetitive rules-based tasks.	Physically existing machines processing paper.
Cross-functional and cross-application macros.	Artificial intelligence or voice recognition and reply software.

GBS and shared services leaders are clearly interested in learning about the potential of using robots. However, this is yet to translate into broad implementation of the software.

Figure 5. Awareness of robotic process automation, percentage of respondents

I have heard about it at conferences	45%
I have researched and read-up about it	35%
I know very little about it	20%
I have heard about it from our BPO	5%
This is the first I have heard of it	5%
I have experience implementing it	0%

Source: Deloitte research   n = 20

Rapidly automate manual ERP workarounds

GBS and shared services leaders have often found that there is a significant gap between the expected and realised benefits of ERP implementation. This can also be true for business process management tools. Using robots allows organisations to achieve significant benefits from process automation rapidly and without major investment before resorting to more 'invasive' and costly solutions such as replacing core systems.

Automation options for improving ERP workarounds

Macros
These basic automations can be rapidly developed for a low cost. However, they can be difficult to deploy to all process users and still require human intervention.

Robotic process automation
Robotics can be developed and deployed quickly across a whole process at a low cost. The use of virtual machines minimises the need for human intervention.

Enabling technology
Takes longer to implement than robotic process automation and is typically more costly but can provide specialist functionality for particular processes resulting in greater benefits.

ERP replacement
Typically takes longer and is more expensive to implement than enabling technology but can deliver automation at the database layer or through improved core functionality yielding significant benefits.

Automate rules based processes rather than offshore them

Offshoring is a proven cost reduction method and many GBS and shared services leaders have extensive experience in migrating processes and roles to lower cost locations. In many instances shared services leaders turn to offshoring before considering alternative tools or methods. The cost savings that can be achieved by implementing robotic process automation are far greater than those achieved by relocating processes to near shore or far shore locations.

Figure 6. Expected cost savings and other benefits from robotic process automation, illustrative
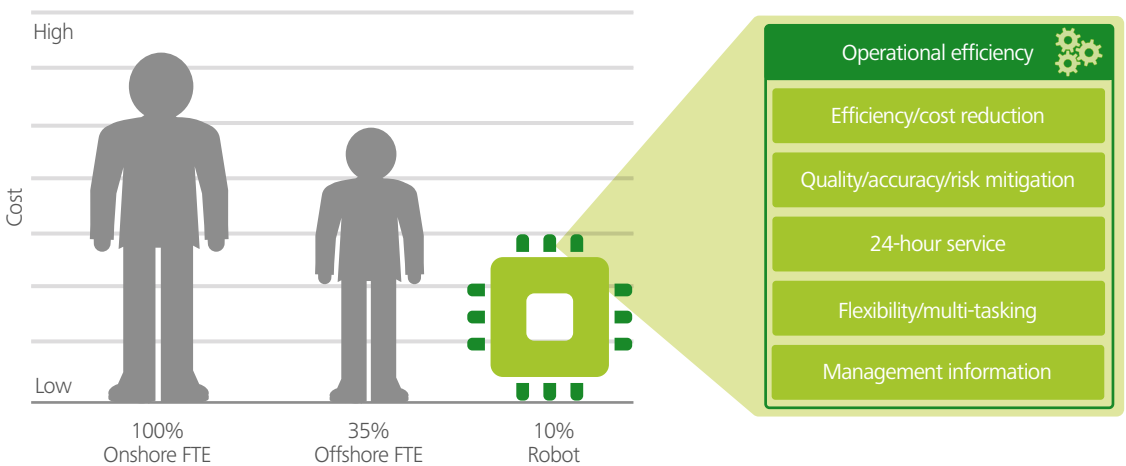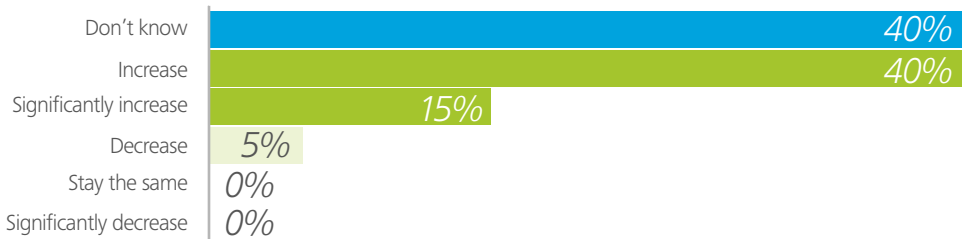

Source: Deloitte analysis

Use robotics to reduce cost and remove errors

The golden rules of successful shared services are to eliminate, simplify, standardise and automate. Implementing robotics provides an opportunity to improve a process. However, processes can also be automated in their current state with further enhancements possible once the robots have been tested and run for some time.

Robots are scalable. They are easy to switch on and off. They can work through the night, weekends and holidays, offering maximum flexibility to cover peak periods such as month-end. Robots are typically a ninth of the cost of a full-time employee (FTE) in an onshore location such as the UK. Overhead and fixed costs associated with housing and employing an FTE are reduced when replaced by robots. Productivity is higher while error rates are minimal, which reduces risk and increases customer satisfaction.

By 2017 over half of surveyed shared services leaders anticipate an increased use of robotic process automation. However, 40 per cent of those surveyed simply 'don't know' whether there will be a place for robots within their organisations.

Figure 7. Anticipated change in use of Robotic Process Automation, 2015-17, percentage of respondents

Don't know	40%
Increase	40%
Significantly increase	15%
Decrease	5%
Stay the same	0%
Significantly decrease	0%

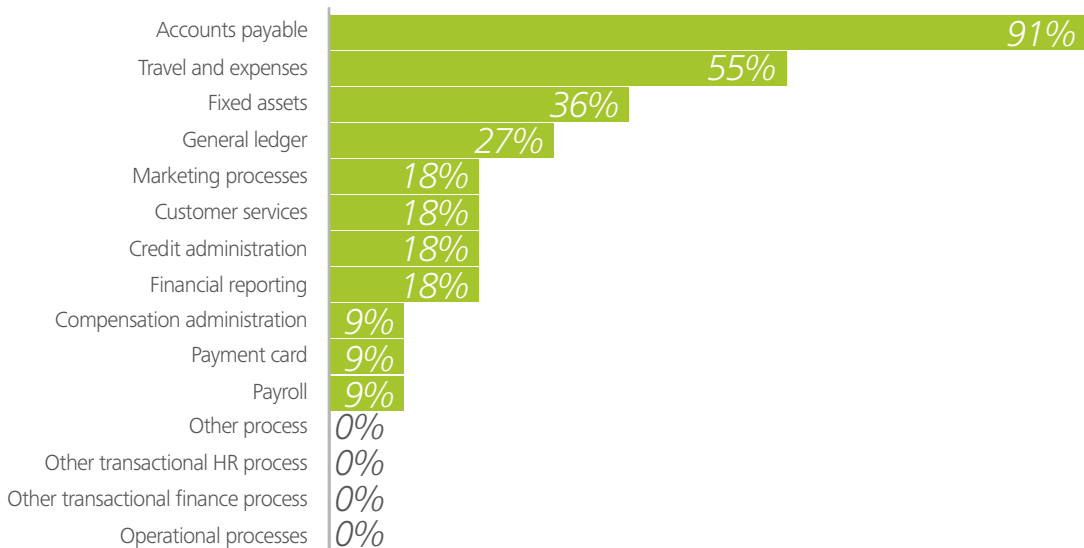Source: Deloitte research   n = 20

Those executives that anticipate implementing robotic process automation expect to do so in transactional processes such as accounts payable and travel and expense processing. This is to be expected considering the ability of robots to drive down costs and to drive up the quality of repetitive rules-based processes.

Figure 8. Anticipated areas of implementation, 2015-17, percentage of respondents

Accounts payable	91%
Travel and expenses	55%
Fixed assets	36%
General ledger	27%
Marketing processes	18%
Customer services	18%
Credit administration	18%
Financial reporting	18%
Compensation administration	9%
Payment card	9%
Payroll	9%
Other process	0%
Other transactional HR process	0%
Other transactional finance process	0%
Operational processes	0%

Source: Deloitte research   n = 11
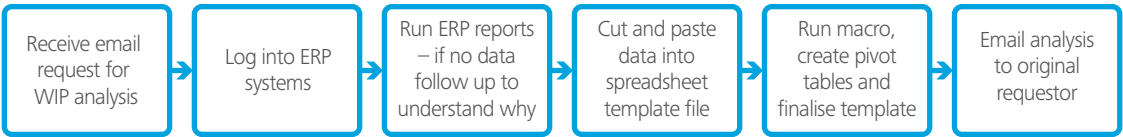
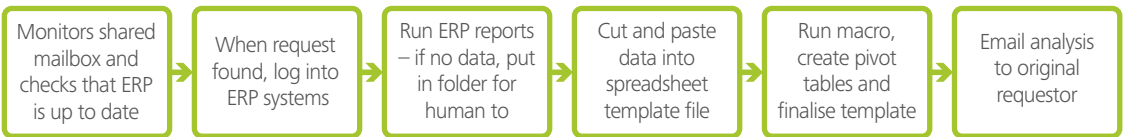### Robotics in action: record-to-report work in progress analysis

At a Deloitte client, ten employees currently undertake work in progress (WIP) analysis as part of the record-to-report processes. They use spreadsheets, email and their ERP to perform 2,000 cases on average per month. It takes one employee approximately 10 to 15 minutes to process each case. The shared services organisation currently perform WIP analysis for only one business unit but want to extend the offering to multiple business units. However, if volumes increase and the service level agreement that is in place remains unchanged, significant additional FTE resources will be required. The WIP analysis process was chosen as a 'proof of value' project for robotics implementation.

Figure 9. WIP analysis overview

Manual process

| Receive email request for WIP analysis | Log into ERP systems | Run ERP reports – if no data follow up to understand why | Cut and paste data into spreadsheet template file | Run macro, create pivot tables and finalise template | Email analysis to original requestor |

Robotic process

| Monitors shared mailbox and checks that ERP is up to date | When request found, log into ERP systems | Run ERP reports – if no data, put in folder for human to | Cut and paste data into spreadsheet template file | Run macro, create pivot tables and finalise template | Email analysis to original requestor |

Source: Deloitte research

Once IT, security and risk were satisfied with the IT architecture the process was documented in detail. A virtual machine and management platform were installed and access was granted. It took about four weeks to implement and test the process, and present a working demonstration.

The robot is able to replicate the process steps with more accuracy and at a quicker speed than the human team, on average four minutes a case. The robots currently have a defect volume of 0.2 per cent. This is typically the result of missing information from the original WIP analysis request. If data is missing the robot will part perform the request and place it in a folder for the human team to review and complete.
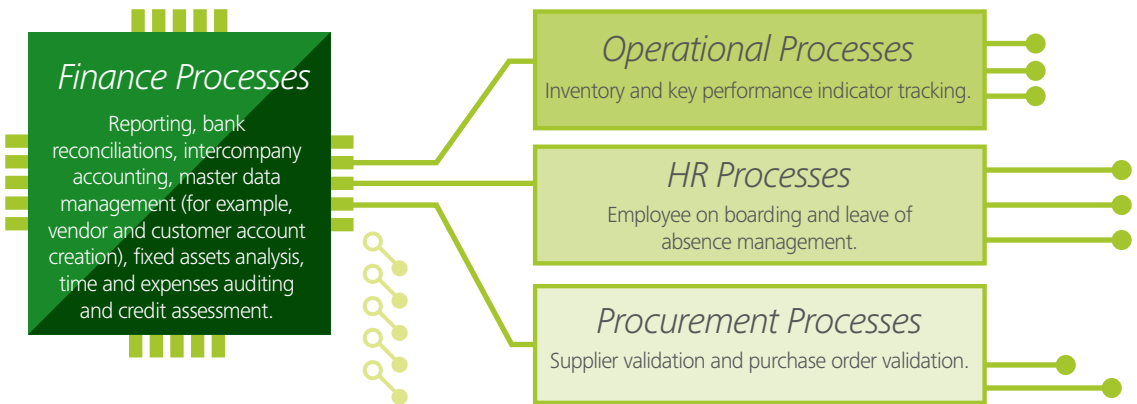
The robotic 'proof of value' was judged a success as the robots were able to process the routine cases rapidly, manage peaks at month-end, enable the processing of a greater volume at a low cost as well as enable the human team to focus on more challenging and interesting work. The robots are online and available to process cases 24 hours a day, seven days of the week subject to ERP uptime and the timing of batch processing. The organisation is now automating the next process in their priority list.

Process checklist for implementing robotics

Robotic process automation can provide significant benefit if a process is:

• rules based and repetitive

• prone to human error

• mid to high volume

• seasonal or with unpredictable peaks and troughs

• requiring out of office hours support

• lacking the business case for wider ERP system change

• not a priority for the IT department.

Figure 10. Sample processes suitable for robotic process automation

Finance Processes
Reporting, bank reconciliations, intercompany accounting, master data management (for example, vendor and customer account creation), fixed assets analysis, time and expenses auditing and credit assessment.

Operational Processes
Inventory and key performance indicator tracking.

HR Processes
Employee on boarding and leave of absence management.

Procurement Processes
Supplier validation and purchase order validation.

Deloitte point of view

There is clearly some marketing hype in the message but due to its low cost and rapid deployment model we expect robotic process automation to increase exponentially the level of automation across the back office. It is quick to implement. Once the infrastructure is in place it takes between two and four weeks to automate a process. This offers short payback periods in comparison with other technology implementations. It can improve staff engagement (by removing routine, boring work) and, perhaps more crucially, it is a tool that GBS can implement and expand rather than having to rely on the IT function. GBS leaders should consider robotic process automation where there is an insufficient business case for material ERP change.

Adoption of robotics is currently low among GBS and shared service organisations. This is to be expected at this early stage. Some leaders and organisations are suffering from ERP fatigue, which is preventing them from embracing new technologies. Others are tied to tried and tested staffing models and the benefits they have achieved through wage arbitrage. However, the majority of GBS and shared service leaders are informing themselves about the benefits of robotics. As more examples come to light and the business case pros-and-cons of robotic process automation become clearer Deloitte expects many more organisations to use these tools to automate rules based processes. The result of this level of automation may see the reduction in offshore shared services headcount, which would change profoundly the economics of shared services and GBS.

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