



Augmentation through automation

The future of automation in the UK Business Services sector

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Foreword

The industry has been through a period of strong growth. The UK is a global leader in the provision of business services and is in fact a net exporter of these services. However, many business services operators are struggling to maintain profitable growth, despite considerable demand for their services, particularly from the public sector.

We believe that the Business Services Industry is approaching a tipping point where the falling cost of technology and the rising cost of labour are rewriting the business case for investment in automation.

In this report we explore how trends in automation are likely to impact the business services sector. We also look at how business services operators have an opportunity to embrace automation to augment their workforce and transform service delivery.

The context for this is the ongoing process of digital disruption and the impact this is having on the workforce. While robots will not replace the need for human labour, many, particularly administrative jobs are likely to be lost through the adoption of new technologies like robotic process automation and intelligent automation. Other jobs will of course be created through its adoption, as our analysis shows, in the long term technology has proved to be a net creator of jobs.

Those who harness automation are the most likely to succeed in the future Business Services Industry due to their agility and flexibility to serve their customers better, more productively and at a lower cost. As an exporter of services we believe that there may also be an opportunity for the UK Business Services Industry to enhance its global position and increase competitiveness.

We hope that you find this paper useful and we look forward to hearing your feedback.



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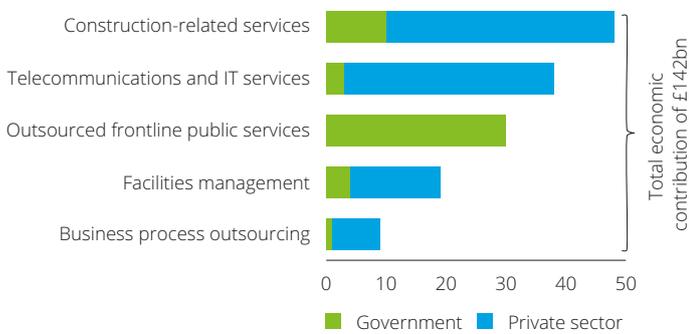
A growing case for automation

The falling cost of technology and the rising cost of labour have combined to make automation a more attractive proposition for many business services operators. Following a period of dramatic growth, this comes at a time when a number of business services operators are struggling to maintain or grow profits even though demand for their services continues to rise.

The business services sector

The UK is a global leader in the provision of business services and also a net exporter.¹ The Business Services Industry employs around 3.3 million people, representing over ten per cent of the total UK workforce, and accounts for 9.3 per cent of all UK economic output (£142bn).² Construction related services form the largest sub-sector, accounting for 33 per cent of the total economic contribution, followed by telecommunications and IT services (28 per cent) and outsourced public frontline services (21 per cent).

Figure 1. Economic contribution of the Business Services sector, by sub-sector and buyer (government or private sector)



Source: Oxford Economics

After a slow start to the year, total spending on business services climbed by 55 per cent in the second half of 2015. Two-thirds of spending on UK outsourcing contracts in 2015 came from the public sector, which continues to drive growth in private sector outsourcing.³ Growth in public sector spending on outsourcing has in part been driven by the need for government to do more with less following years of austerity.

Rising costs puts pressure on margins

While demand remains strong, operators' margins remain under pressure. There is limited potential for profitable growth due to a number of factors including rising labour costs and price competition. This has been partially offset by the low price of oil, a key cost for many business services operators.

However, labour costs will continue to rise for the next five years, in part due to the recent introduction of the National Living Wage, which will see the wages of low income workers rise annually through the course of the current parliament.⁴ Rising costs, price competition and their impact on margins have led to a renewed focus on productivity in the sector.

Need to increase efficiency and productivity

Productivity is more than just a workforce issue. Many business processes cut across multiple IT systems that do not always talk to each other. This creates inefficiency and may, for example, require a person to extract data from one system only to input it into another. The complexity of many administrative tasks and business processes is also having a direct impact on productivity.

The business case for technology investment is changing: as the price of employing people rises, the cost of technology declines. Moreover, the pace of technological development continues to lower the cost of the key components of automation – data storage and processing power – while it also continues to expand their capabilities.

Therefore, is now the right time for businesses to review their requirements and technology investment strategies? And if so, how can business services operators incorporate automation technologies to increase efficiency and productivity, and relieve pressure on margins?

Transforming service delivery through automation

To understand the potential application of automation technology in the business services sector, we first need to take a look at the technologies themselves. In this report we will focus on two main groups of automation technology which, according to a recent Deloitte report have the potential to transform service delivery:

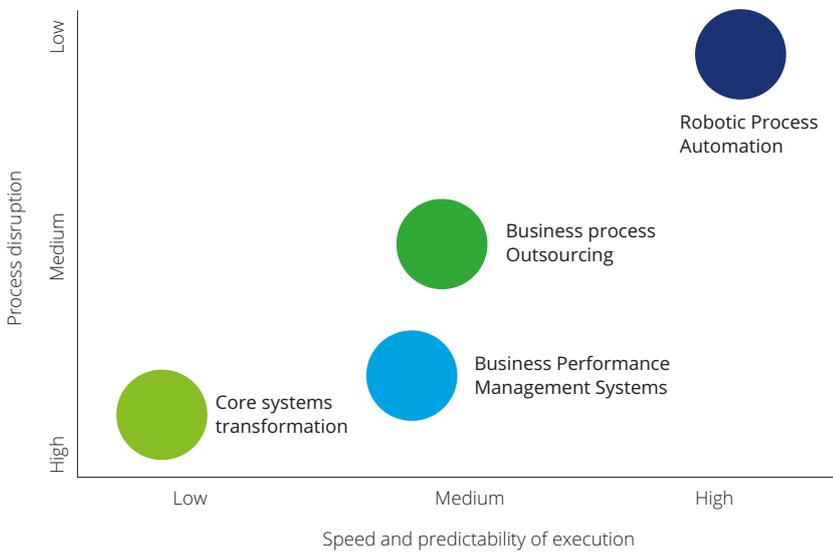
1. Robotic process automation (RPA)
2. Intelligent automation (IA)

RPA can be implemented quickly and at a low cost across multiple business functions. It can be used to automate repeatable tasks such as system monitoring, the distribution of software, basic technical support, the provisioning of IT equipment and workload scheduling. IA tools enabled by cognitive technologies such as machine learning, natural language processing have more transformative potential.⁵ IA, for example, can allow the immediate answering of client/customer queries and can also improve compliance with complex legislation by automatically reviewing documentation.

Why automate?

A licence for a software robot is likely to cost less than an onshore or even offshore staff member. There are non-financial benefits, too, such as more predictable and consistent performance, with robots less prone to errors. A robot workforce can also be deployed more quickly and RPA solutions often have a lower implementation cost, meaning they can often carry a lower level of risk than large IT transformations, or even more traditional outsourcing programmes (See Figure 2).

Figure 2. Process transformation approaches



Source: Deloitte analysis

In addition to saving money, automation technologies can be used to create new and innovative services and revenue streams. Automation can be used to provide better service at a lower cost, enabling service providers and their clients to share the additional margin. For example, software robots can work faster and for twenty four hours a day and for seven days a week. While helping protect margins and increase profitability, the adoption of automation technologies can also help grow revenues. Yet, critics of automation technologies argue that automation, particularly RPA, competes with Business Process Outsourcing (BPO), a core offering of many business services companies, and that therefore the impact of automation will be primarily negative for the Business Services Industry. However, we believe that there is an opportunity for operators to incorporate RPA into their BPO offering to reflect their clients' changing needs.



The potential impact of automation on the workforce

Deloitte analysis shows that while a quarter of all jobs in the services sector are at high risk of automation, 45 per cent are at low risk.

Automation has the potential to transform the way that business services companies operate. RPA, machine learning, cognitive computing and natural language processing are likely to become key components of a number of applications and processes within the sector, transforming the way that businesses operate.

Technology and jobs

According to the Deloitte report “Technology and people: The great job-creating machine”, advances in machine learning combined with increases in data storage capacity and processing power are enabling machines to tackle complex tasks involving thought and judgement.⁶ These jobs were once thought to be the preserve of humans.

Economists and academics have attempted to quantify the number of jobs that could be at risk due to advances in technology and in particular automation. In another recent Deloitte report, Michael Osbourne and Carl Frey of Oxford University assessed that 35 per cent of jobs in the UK are high risk of automation in the next ten to twenty years.⁷

The impact of automation on jobs in the business services sector

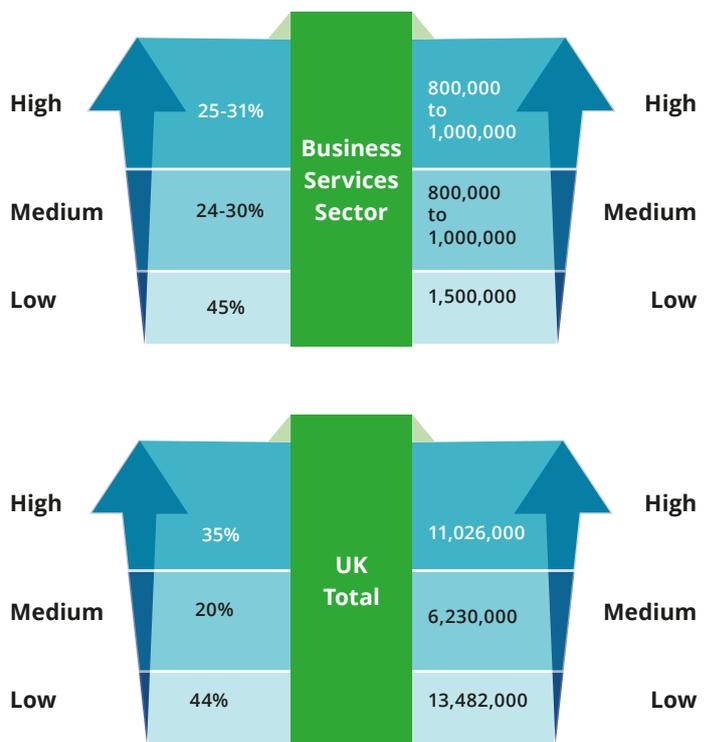
Building upon both the Osbourne & Frey study and the analysis of the Business Services sector conducted by Oxford Economics on behalf of the Business Services Association,⁸ Deloitte has analysed the proportion of jobs in the business service sector that are at risk of automation and classified them into three categories: those at high risk of automation, those at a medium risk and those at low risk. In doing so we have used Office for National Statistics Census data, mapping more than 50 Standard Industrial Classification (SIC) codes to the five major business services sectors:

- Outsourced frontline public services
- Construction-related services
- Facilities management
- Telecoms and IT
- Business Process Outsourcing.

Key findings

Between 25 and 31 per cent of the 3.3 million jobs in the Business Services sector are at high risk of automation in the next ten to twenty years. This equates to between 800,000 and one million jobs. However, this figure is lower than the national total, highlighting that the Business Services sector is less exposed than many other areas of the UK economy. Moreover, almost half (45 per cent) of jobs are at a low risk of automation with the remainder in the medium risk category.

Figure 3. Business services sector number of jobs at high, medium and low risk of automation



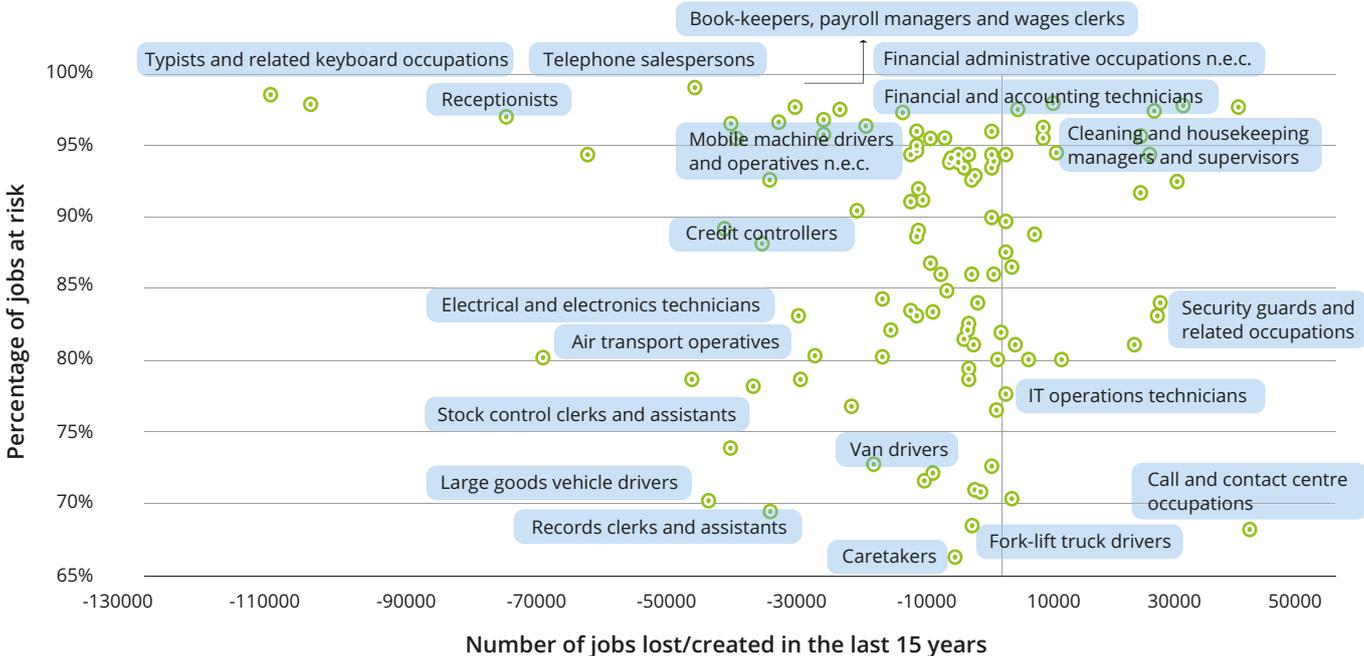
Source: Osbourne & Frey, ONS, Deloitte Analysis

Our analysis suggests that the Business Services sector will experience some fundamental changes to its workforce in the next ten to twenty years. The need for some job roles will reduce, while new roles will be created.

Tasks that are repetitive, highly structured and can be expressed in logical rules and workflows will be automated. Typically the staff that carried out the tasks prior to automation will be redeployed and focus on other areas. This may require retraining to allow them to carry out new tasks and fulfil new responsibilities.

The following chart shows the roles within the Business Services sector that are at the highest risk of automation. Only roles with more than a 66 per cent risk of automation have been included. We have plotted the risk of automation against our analysis of job creation or destruction over the last 15 years to distinguish between the roles that may be in long-term decline and those that despite rapid growth in the recent past are likely to see a decline in the future.

Figure 4. Types of roles that are most at risk of automation



Source: Deloitte analysis

How are operators incorporating automation technologies?

Jobs that have traditionally been outsourced are among those most likely to be automated. The response from some business services operators has been to develop their own RPA solution, often in conjunction with a third party.⁹ However, over time it is expected that automation software will become more cognitive and less robotic. This means that it could be used across a broader range of tasks and likely impact many more jobs.

Case study: Deloitte Automation in Shared Services Centre

Deloitte UK recently implemented an RPA tool to automate a key financial process: WIP (work in progress) analysis at its shared services centre (SSC). The RPA tool was deployed in less than six weeks, including time for defining the process, building the automation and testing it. Initially we were able to process 80% of cases without human intervention. Over a 3 week period we reviewed exceptions, updated our rules and iterated the automatic process. The result is that it now processes 97% of cases without the need for human intervention. The manual process that has been replaced involved ten people. The manual process took around 10-15mins for a human to complete. The automated process takes around five minutes. It can also work overnight, increasing efficiency, with outputs available for customers when they arrive in the morning. Another benefit of the automated system is that the demand for the process is seasonal, with a high volume of requests at the end of the month. The RPA tool is easy to scale up or scale down to cope with these fluctuations. Deloitte believes that up to 40% of all transactional activity in their SSC has the potential to be automated.

Case study: IPsoft Amelia – digital employees enter the workforce

Amelia is the name for IPsoft's intelligent digital customer service assistant or so-called "cognitive agent". Amelia can perform a number of customer service roles communicating with customers using natural language. Amelia can work in conjunction with a company's existing workforce, handling repetitive, often tedious tasks, allowing its human colleagues to focus on other activities that drive higher levels of productivity and service.

A European bank adopted Amelia for its IT service desk to improve the quality of service for users and speed up a consistent response for common employee requests. Amelia also gave the existing IT service desk staff more time to dedicate to complex requests. After rapid implementation, the project hit its targets two weeks ahead of schedule.

From robots to the creation of a digital workforce

While the business case for automation continues to develop, initial trials are already delivering impressive results (see Deloitte case study). Studies conducted by the Outsourcing Unit of the London School of Economics have shown rapid and high yield return on investment.¹⁰ For example, a telecommunications company that automated 160 different processes, achieved a return on investment that ranged between 650 and 800 per cent.¹¹ Another example comes from a software company that is investing heavily in creating a digital workforce. IPsoft's virtual engineers can handle nearly 60 per cent of all incidents without the need for human intervention. The remainder are escalated to a human specialist. This compares with IPsoft's estimate that frontline support staff escalate 80-90 per cent of the problems they encounter (See IPsoft case study).¹²

Harnessing automation for growth

While automation will impact the business services sector, robots will not replace the need for human labour, nor will automation mark the end of outsourcing.

Deloitte research has shown that technology has created nearly four times the number of jobs that have been lost and has brought considerable additional value to the UK economy. Some roles will inevitably be lost to automation but the introduction of the technology will also create new jobs and can play an important role in helping to fill the skills gap. While repetitive manual and cognitive tasks continue to be automated, it is important to remember that technology needs to be smarter, faster and cheaper than the human endeavour it replaces. It also needs to be socially acceptable if it is to be widely adopted.

In this section we consider the second of the two questions we asked at the start: How can business services operators incorporate automation technologies to increase efficiency and productivity, and relieve pressure on margins?

1. Use automation to augment the existing workforce model

Automation will play a key role in augmenting the existing workforce. Deloitte research shows that where RPA and IA have been widely implemented there has not been a significant reduction in headcount.¹³ Rather, it has been used to increase the efficiency and productivity of workers and to deliver cost and customer service benefits to the client.

2. Upskill existing workforce to realise the benefits of automation fully

The relationship between automation and the workforce is complex. While some roles currently performed by humans will inevitably disappear, almost all automation systems and solutions require some degree of human involvement, for example to configure the system, oversee the process or provide essential maintenance. Automation will also create new jobs including specialists in voice enabled software design and digital compliance officers. Moreover, the ability to redeploy workers, relieving them of routine and repetitive tasks and refocusing them on areas where they can add more value, will lead to better employee retention rates, higher morale and ultimately a happier and more productive workforce.

3. Use automation to develop new services to meet needs of the customer

While automation will play an increasingly important role in the development of new services, it is already beginning to influence procurement decisions. One recent study showed that 47 per cent of BPO buyers already view automation as a critical component of their BPO provider's capabilities.¹⁴ Many industry commentators have asked the question: "Will cognitive computing mean the end of outsourcing?"¹⁵ Business services companies have a key role to play in supporting their clients' own digital transformations.

A very different industry – business services 2.0

In the short term RPA offers a significant opportunity for business services operators to improve efficiency, productivity and ultimately profitability. The impact on the workforce in the sector is likely to be less than in many other areas of the UK economy. In the medium term, business services operators will need to consider the full potential of intelligent automation both as a way of improving operational efficiency and quality standards, and innovating to remain competitive. However, they will also need to consider the potential implications of prioritising technology investment and the impact on the workforce to make sure they have the right skills and knowledge to deliver a return on their investments.

Is automation an export opportunity?

The UK is a net exporter of services. Embracing automation would enable the UK Business Services sector to maintain and potentially increase global competitiveness. It could significantly reduce the impact of wage arbitrage and could lead to some services being delivered from the UK that otherwise would have been offshored.

The future of automation in the UK Business Services Industry

The Business Services Industry faces significant challenges as it includes many occupations involving routine tasks that can easily be automated. Moreover, there are currently only a limited number of tasks that require the kind of skills technology finds it hard to replicate. This will challenge providers of BPO, Business Process Re-Engineering (BPRE) and frontline service activities. We believe that now is the time for operators to consider how they can transform their services using technology to significantly increase productivity, reduce costs and enhance the skills and engagement of their workforce.

Will there be outsourcing as we know it today?
When a machine does a company's work regardless of who owns the machine – is it being outsourced, automated or augmented?
Perhaps business process outsourcing will become "cognitive process oversight?"

Tom Davenport, Senior Advisor to Deloitte US

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