



# COULD A ROBOT RUN A COUNCIL?

ROUNDTABLE WRITE-UP

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## INTRODUCTION

**Technological revolutions have altered the structure of our economies and the nature of work since the industrial revolution. From the production of steel, through to the rise of information technology and telecommunications in the late 20<sup>th</sup> century, innovation continues to alter our professional practices today.**

We are now on the brink of the next technologically-led seismic shift in our economies. This shift comes from automation, or robotics. Robotic Process Automation (RPA) uses a set of rules created by humans to make decisions. More specifically, it is:

*‘the application of technology that allows employees in a company to configure computer software or a “robot” to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems.’<sup>1</sup>*

RPA is set apart from previous waves of automation, such as self-serve platforms, because it has the ability to learn from human users. While not yet systemic in local government, the use of this technology can already be seen in a few isolated examples. Recognising the potential impact of this issue on the sector, NLGN convened a

roundtable in November 2016 with fifteen local government officers, elected members, and thought leaders on the subject of RPA to facilitate an informed debate about the practical and political implications of the changes ahead. This write up reports the key themes arising from this discussion.

## HOW CAN RPA BE USED?

Participants quickly concluded that the answer to the question “could a robot run a council?” was no. However, there are important ways in which RPA can and in the future may increasingly change the way councils operate. This may be through:

- Back office processing and automation
- Dealing with public enquiries
- Complex diagnostics and data analytics in areas such as health care

Because RPA takes rule-based frameworks and applies them to routine tasks, it is applicable to service areas which are largely process-driven, based on volume transactions and largely quantitative. In practice it has already been used in revenues departments and benefits processing administration, as has been the case in Sefton. The council was one of the first local authorities in the UK to trial RPA in their back-office. The authority’s back-office services partner Arvato says that the software ‘mimics human interaction’ by following rule based processes to complete

<sup>1</sup> Institute for Robotic Process Automation, <http://www.irpanetwork.com/what-is-robotic-process-automation/>

transactional tasks and processes. These can be as complex as signing people up to direct debit payments for council tax and processing discount applications, to indexing documents and assigning them to specific projects.

This has resulted in Council Tax direct debit payment input times being reduced by 80%. For example, 800 direct debits received in a three-week period were completed in 19 hours compared to a 92 hour manual process. Cost per transaction has been cut from £1 to 20p, and single person discount handling times have been halved. Similarly, North Tyneside who are also using RPA claim to have shaved 6 days off of their benefits processing using the technology.

A second area that RPA could impact is the customer service interface. Enfield Council have purchased<sup>2</sup> 'Robot Amelia', a software package with a human face which will become the public face of the council, and feature on their website and call lines to support the public help residents find information online and fill in forms, guiding users through a chat feature on their computer screen. This technology will develop social skills through natural language processing, allowing her to improve the personalisation of the responses given.

<sup>2</sup> Jamieson, S. 16 June (2016) 'Robot called Amelia to do the job of human council workers for the first time' <http://www.telegraph.co.uk/news/2016/06/16/robot-called-amelia-to-do-the-job-of-human-workers-at-a-local-co/>

RPA developers are now considering how to apply the technology in more complex rule-based areas, such as planning and social assessments. Most significantly, the expansion of voice recognition technology within RPA could free up huge amounts of time in transcribing notes, allowing staff to focus on the face-to-face aspects of the job.

With these considerations in mind, the discussion considers issues surrounding efficiency and workforce, public expectations, and the future role of the council in adapting to and leading these transformations.

## EFFICIENCY AND WORKFORCE

*'Reduced employment in the public sector as a result of greater efficiency isn't a justification for avoiding technological change, it's an argument for creating a local economic strategy which works out how the people in that place can make a contribution to the world'*. Local Authority Officer, Roundtable Participant

RPA focusses on high volume transactions and spots non-conformity to the rule-based framework within which it operates, freeing up time of the human workforce and allowing them to focus on anomalies. This means that while there is potential for efficiency savings through RPA, there is also scope for more effective deployment of labour for face-to-face relational interaction.

If adopted to its full potential across the transactional processes councils are responsible for, RPA will inevitably reduce the number of staff currently required. Participants discussed the implications of this, which were not clear-cut. It is possible that staff could be redirected and reskilled to do “more genuinely empathetic work”. In teams already using RPA, the focus of work for staff becomes exceptions: cases which do not easily conform to the parameters of the legal or policy framework. In this sense, as one participant put it, “government employees could begin to deal with things that lie beyond the parameters of bureaucracy”, giving them more time and attention.

This could mean that the real challenge for councils becomes managing the transition of their workforce, supporting people to be redirected and reskilled where needed. However, given the very immediate financial pressure councils face to make savings, and the ability of this technology to deliver huge efficiencies, the pace of change may outstrip the rate at which steps can be taken to redirect staff.

Participants agreed that RPA presented challenges for the workforce beyond that of local government— over time the very nature of work itself will likely shift. This means that local government will have to consider not just the implications for its own workforce, but also for wider residents as it plays an increasingly active role in shaping

local economic growth strategies. In a recent European Parliamentary report to the Commission on Civil Law Rules on Robotics,<sup>3</sup> a recommendation was made that ‘serious’ consideration should be given to universal basic income as a solution to this in the short term. Some councils in Scotland and across Europe are already experimenting with this approach.

## PUBLIC EXPECTATIONS

*“I’m old enough to remember a time when people thought it was impossible that people would consult machines in walls instead of people in banks to get their cash. In fact, people far prefer it.”* Local Authority Leader, Roundtable Participant

Public expectations of public services present opportunities and challenges for the use of RPA. A key theme arising in the discussion was what determines a positive reception by the public of particular technologies, and there was a sense that to engage the public in conversations about the use of robotics, ‘the right language’ needed to be found. For instance, as captured by the quote above some people prefer to deal with a machine when the transaction may be difficult or embarrassing and to identify which kinds of interactions/transactions could benefit from RPA and which ones might not.

<sup>3</sup> European Parliament (2014-2019) Committee on Legal Affairs 2015/2103(INL) DRAFT REPORT with recommendations to the Commission on Civil Law Rules on Robotics (31.5.2016)

Another issue raised surrounded the extent to which machines should be made to feel human at the point of interaction. One participant suggested making RPA interfaces seem human may tackle public perception that decisions taken by staff are biased or the result of flawed judgement. Our research suggests that there is a sense among officers in authorities already using these technologies that public confidence in the accuracy of decisions taken can actually be higher. Machines remove the subjectivity of personality. In the same way that people may prefer to be told that they have gone overdrawn by a screen in a wall, they may prefer to be told that they aren't eligible for housing assistance by a computer. The natural extension of this is a transition into a more self-service model.

This is becoming accepted in the private sector: shoppers now pay for their goods using a self-service check-out; travellers print out their own bus, train and airplane tickets; and hospital patients check-in at kiosks, improving service levels while helping to ensure that patients' data remains secure. Some feel that this can be empowering for service users, and as personalised budgets shape the adult social care landscape it is arguably a natural follow on that local authorities will use developments in recent hardware – such as the tablet computer and smartphone – to support marketplaces in other service areas.

## THE ROLE OF THE COUNCIL

*“The pace of change in technology requires councils to be absolutely in control of their digital journeys.”* Local Authority Officer, Roundtable Participant

Given the shifting nature of work and public expectations, it is important that the role of the council in navigating these changes is clear. Over the coming decade, councils will need to develop increasingly sophisticated capabilities in data capture and data analytics. Either working together or through new and sophisticated relationships with the market, councils will need to harness the potential of technology such as RPA to generate solutions which serve publically-defined ends in response to needs.

To be successful in harnessing the potential of RPA, councils will need to recognise the importance of making digital technologies underpin, rather than be a bolt on, to corporate strategy. At the roundtable this was reflected in a discussion about the importance of “owning the journey” and making strategic decisions about which products to buy and which to build. Roundtable discussants considered the importance of identifying which parts of the process are most important to the council. For instance, the interface with service users may be a priority for production in-house, as it is the main way the council interacts with the public. Similarly, some roundtable participants felt that

software which performs business intelligence functions should be built by and controlled within the council, as this is key to strategic decision making. Further, procurement can mean skills in building technological products do not develop in house.

Many authorities are considering how to use RPA alongside other new technology. For example in Stockport the authority is focussing on in-house development, and seeking to create a collaborative community across local government, open sourcing and making coding available where possible. They hope that by departing from the conventional approach of privacy encouraged by ‘intellectual property’ in the private sector, greater creativity and innovation will happen. This reflects a belief that the best technological innovation comes from methods of greater social innovation and collaboration.

Of course this has implications for the developing skillset of a local government workforce which is already stretched.<sup>4</sup> Therefore where innovation is happening, collaboration and knowledge sharing are a top priority. To try and cultivate a shared and open digital knowledge economy within the sector, some councils are using open standards and making the code for their tech-products available online, to be picked up and further developed by the public and other councils. LocalGov Digital<sup>5</sup> – a group

who share knowledge and progress the digital agenda in local government – are currently considering becoming a cooperative to better manage membership and encourage the production of innovative products for the sector, by the sector, reinvesting the knowledge accrued in further research and development.

Developing algorithms in-house and using open standards could be important. As Dave Coplin from Microsoft<sup>6</sup> acknowledged in a recent investigation into robotics by the House of Commons, “every time an algorithm is written, embedded within it will be all the biases that exist in the humans who created it”. Roundtable participants also highlighted a concern about the role of the council in ensuring transparency. As one roundtable participant explained, in RPA the way decisions are made hides within a ‘black box’. While the initial parameters are developed on the basis of legislative rules, there is often a normative component to decision making which is then ‘programmed in’ while the machine learns from humans.

As we move to more sophisticated forms of machine learning, which go beyond programmed parameters to demonstrate more genuinely artificial intelligence, concerns around accountability could require further attention. Experiments in the gaming world have demonstrated that machine

<sup>4</sup> Terry, L. Mansfield, C. (2016) Outside the Box. NLGN

<sup>5</sup> <http://localgovdigital.info/>

<sup>6</sup> House of Commons, Science and Technology Committee. Robotics and artificial intelligence Fifth Report of Session 2016–17

learning can quickly find ways to defeat human opponents, in ways which cannot be explained by the makers of the system.<sup>7</sup> While this is fine in gaming, it presents challenges for managing accountability and transparency in government uses. As machine learning and probabilistic reasoning will lead to algorithms that replace human decision-makers in many highly professionalised areas – from financial decision-making to the development of more effective medical diagnostics – these concerns require serious reflection.

In 2018 the European Union’s new General Data Protection Regulation is due to come into effect.<sup>8</sup> This will safeguard against some of the causes of human bias within algorithms and create a “right to explanation” whereby a user can ask for an automated algorithmic decision that was made about them to be fully explained. Such legal measures are worthy of consideration, despite Brexit.

## NLGN PERSPECTIVE

Could a robot run a council? Our answer, at present, is no. But, robotic process automation does present opportunities for local government. It can deliver efficient public services. It has the potential to transform councils from feeling rule bound machines

into targeted, empathetic systems, capable of solving some of the most entrenched problems facing communities.

However, these opportunities can only be harnessed if the approach taken is proactive rather than reactive, and based on a solid appreciation of the risks. For RPA to be used in ways which uphold the tenets of public interest, accountability and transparency, some regulation may need to be considered. While the replacement of human with machine labour can create space for more meaningful work, arrangements which allow for reskilling of the workforce need to be considered, now. A wider conversation needs to be had about how this will impact on different economies across the country, with focused strategies for those which rely on public sector employment. New forms of mechanised labour are changing the shape of the private sector too, and where they aren’t replacing the workforce they are altering its precariousness.

For this next technological revolution to have positive outcomes for society, a public dialogue is needed to explore, quite fundamentally, what the unique value of a human being is for the next era of work.

<sup>7</sup> <https://www.wired.com/2016/03/two-moves-alphago-lee-sedol-redefined-future/>

<sup>8</sup> House of Commons, Science and Technology Committee. The big data dilemma. Fourth Report of Session 2015–16

## VIEW FROM ARVATO

**Arvato was delighted to support this NLGN roundtable on Robotics Process Automation (RPA) – an area where we have taken a lead in local government and which could have a potentially seismic impact on how we administer local services.**

Local government is under greater pressure than ever to do more with less. Local authority leaders are looking at a continued budget squeeze and left with increasingly difficult decisions about how to deliver the services people need. It is in this context that RPA has the potential to find lasting efficiencies that can channel local budgets into the face-to-face activity most demanded by residents.

Put simply, RPA uses computer software technology to automate high-volume, repetitive tasks that previously required a human to perform. It has reached a level of maturity where it has become mainstream in the private sector and we are starting to see it deployed in the public sector. For instance, our work with Sefton Metropolitan Borough Council's revenues department saw RPA applied across a number of processes, including inputting Council Tax direct debits and processing discount applications.

The results are significant – the efficiencies delivered in our own work saw inputting times reduced by 80%, costs per transaction cut

from £1 to 20p and single person discount handling times halved. Equally important is that it has taken employees away from repetitive, mundane back-office tasks and enabled them to focus on more strategic work or citizen facing activities.

This change comes with challenges also, particularly in terms of the impact on the workforce as the technology is applied more widely in the economy. This is a societal challenge which can only be addressed by all stakeholders working together to find solutions, which is why events such as this NLGN roundtable that bring together officers, elected members and interested parties are so important.

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