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TRANSFORMATION OF INVOICE PROCESSING THROUGH ROBOTIC PROCESS AUTOMATION (RPA)

MANCHESTER UNIVERSITY NHS FOUNDATION TRUST

NORTH WEST, ACUTE



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INNOVATION PROGRAMME
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THE INNOVATORS

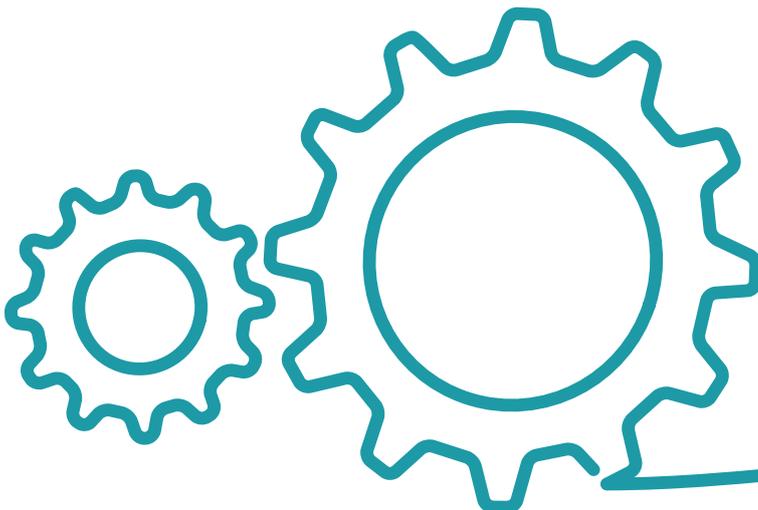
The accounts payable (AP) team is a critical service for the essential functioning of the trust's finance and procurement department. Lisa Nightingale is the deputy director of purchase to pay (P2P) and has championed the introduction of robotic process automation (RPA). Carmen Fryer is a senior AP manager overseeing the implementation with support from Dave Wright and Beth Dowdeswell, performance and development managers in AP.

THE PROBLEM

The AP team needs to process huge volumes of supplier invoices every day to ensure they pay its suppliers in a timely way, otherwise they would not only miss mandatory standards to pay suppliers but also damage its relationship with companies whose goods and services are essential for running the hospital and delivering patient care.

THE CHALLENGE

How might we improve and automate the turnaround of processing invoices so that suppliers are paid promptly and our staff are freed up from some of the very transactional work that is currently required?



THE INNOVATION

We became aware of RPA as a tool in 2020. At that point we did not initially identify invoice processing as being the best candidate, but help from an external supplier to access some of our key processes shone a light on where the significant opportunities existed to automate the process. We undertook a proof of concept, creating a minimum build of how we envisaged automation through RPA could help. This assured us of the value of and the need to build a full end-to-end RPA automation.

The project was significant and involved a great deal of input from our AP team to design, build and test the solution. While we receive 250,000 invoices, 170,000 were identified as appropriate for RPA. A human worker would be expected to process around 10,000 invoices a year. We designed a process with minimal human intervention. An AP staff member triages the AP inbox and moves all pdf invoices to a designated network folder. From there a small army of bots pick up the invoices, read them using Intelligent Document Management (IDM) software to extract the key information (PO number, supplier details, invoice line details and VAT) and then open the finance ledger to register the invoices on the system for payment. The bots work from 3am to 11pm (and can do so seven days a week) significantly increasing processing throughput. The bots need some initial training for each supplier. While we have 6,000 unique suppliers, the vast majority of invoices come via a couple of hundred suppliers.

The AP team has evolved to include a new skill set of staff training the software to ensure the bots treat suppliers consistently. We now have around 150 suppliers fully trained for the bots which account for up to 60% of our suitable invoices (8000 per month). The project has not been without challenges, including swapping out the IDM software in January 2022 to ensure the highest level of throughput, while also reducing costs. We have spoken with large multinational organisations to learn from them their approach and improve our RPA processes to a point we are now overtaking them in terms of end-to-end processing.

THE LESSONS LEARNT

- We would not use the initial IDM software again because it proved to be less effective and more expensive than the option we are now using. Equally we would not have spent as long trying to make the previous IDM software work had we known how much better the alternative would be. But these are difficult lessons to avoid when working with reasonably new technology solutions and certainly the first software choice was fine until we went to scale it up, so was not apparent at the pilot stage.
- We learnt the significant positive appetite that existed to change an existing process. We learnt this by engaging staff directly involved in the process to be improved and enabling them to shape the solution we created.

THE OUTPUTS

- 60% of suitable invoices now being registered for payment without human intervention.
- Improved processing time for invoices.
- Achievement of the prompt payment policy target which was previously challenging.

THE OUTCOMES

- The development of new evolved skill sets in the AP team, improving job satisfaction.
- The removal of significant elements of transactional work and presentation in a platform which the AP team can further transform.
- Demonstration of the value of RPA so that it has been taken up in other areas outside of finance, including HR and community services.

THE QUICK WINS

- RPA requires investment but it can be done small scale and leverage improvements in governance, assurance, data quality and reduce transactional work very quickly. For example, using the same RPA software we have had students in the team build quick RPA solutions to improve reporting and data quality.

THE REVIEWERS SAID

“THIS IS A FANTASTIC INNOVATION THAT COULD HAVE A HUGE IMPACT ON OTHER TRUSTS.”

“THE APPROACH IS INNOVATIVE AND SHOWS GREAT SPIRIT IN DETERMINATION.”

“SOME GOOD UPFRONT ANALYSIS ON HOW TO MEASURE THE NEED AND POTENTIAL IMPACT OF INTRODUCING RPA. RESILIENT AND TENACIOUS IN IMPLEMENTATION - SHOWING HUMILITY TO CHANGE AND EXPLORE NEW OPTIONS TO SUCCEED IMPROVED DATA QUALITY .”



WHAT YOU CAN DO NOW

SUBMIT INNOVATION

If you recognise the problem stated and have implemented your own innovation to overcome it please submit this innovation to the programme and give others more examples to learn from.

REGISTER INTEREST

If you recognise the problem stated and would like to know more details about this innovation in particular, we will be hosting showcase and workshop sessions throughout the year, so all interested staff can gain ideas and inspiration from innovators in a manageable one-to-many format.

SUBMIT PROBLEM

If you have a problem but don't currently know of a solution to it, then please submit it here and in 2022 the Forum intends to crowdsource solutions to problems that don't currently have known innovations.

LEARN MORE

If you would like to learn more about about the innovation programme please click for more details.

ENDORSEMENT DISCLAIMER

The Finance Innovation Forum's Innovation Programme asks NHS Finance peer reviewers whether the "Innovation overcomes, successfully addresses, or solves the problem identified". The programme does not endorse, recommend or provide any assurance of software used or mentioned in any of the published innovations. If you think a published innovation is being used to falsely validate a commercial product or company please contact finance.innovation@nhs.net



WHAT ARE WE DOING

- A national Innovation Programme for NHS Finance staff to submit their innovations for peer review. Successful innovations will be published and accessible to all on the One NHS Finance website
- Software Skills is a network of likeminded NHS Finance staff which exists to help its members see what's possible when using accessible software to its full potential.
- An 'Art of the Possible' briefing which explains two new technologies AI & Blockchain and discusses the opportunity for NHS Finance
- We helped develop a Provider Finance Return (PFR) Automation Project tool, to save NHS Finance teams excessive manual time in their monthly returns.

WHAT YOU CAN DO NOW

- Submit your innovations for peer review
- Sign up to be an innovation peer reviewer
- Share you problems and ideas with us
- Join the Software Skills network
- Register your interest in R&D and automation

**Innovation
Programme**

**Software
Skills**

**Automation
sign up**

**Be a peer
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**Art of the
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FURTHER INFORMATION

Website: FinanceInnovation.nhs.uk

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LinkedIn: [One NHS Finance](#)

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One NHS Finance brings together the Future-Focused Finance, National Finance Academy, and the Finance Innovation Forum programmes and networks to make sure that everyone working in NHS Finance has access to skills, knowledge, methods, and opportunities to influence and enhance patient services.



An NHS Finance platform for the discovery and development of problems, ideas and innovations.