Automating enquiry management at Department of Health and Social Care during the Covid-19 Pandemic

Introduction

When the Covid-19 Pandemic hit the UK, the Department of Health and Social Care (DHSC) saw a dramatic rise in enquiries and ministerial correspondence. The Correspondence Management team's manual processes were time consuming and prone to errors and inconsistencies. The sudden, threefold increase in volume meant responding to in excess of 100,000 annual enquiries within stringent timescales would be a challenge.

DHSC engaged current Correspondent Management System support provider Ceox to undertake a project to assess and deliver the potential of Robotic Process Automation (RPA) and Artificial Intelligence (AI) in automating the classifying, recording, and allocating of incoming electronic enquiries and correspondence. The Intelligent Automation solution that enabled the unattended processing of over 13,000 enquiries a month was delivered in rapid time. The project utilised Microsoft's Power Platform suite with Power Automate RPA and Power Apps AI Builder technology which supported rapid user-adoption due to its familiar Microsoft user interface. The automation quickly delivered benefits including; Automated capture and classification of 90% of electronic enquiries in the first week of deployment, reduced the delay in logging enquiries from 3.5 days to 1 day and demonstrated the potential to re-assign up to 8 staff to higher value tasks.

Watch our short video

The success of the solution was recognised by Computing who voted the solution Best RPA Project in their 2021 AI and Machine Learning Excellence Awards.

Background

The Department of Health and Social Care (DHSC) is responsible for looking after the nation's health and social care and enabling people to live more independent, healthier lives for longer. During Covid-19 the Department was at the forefront of UK's response to the pandemic.

DHSC's central Correspondence Management Team co-ordinates responses to Enquiries and Ministerial Correspondence including complaints, GDPR Subject Access Requests (SARs), FOI Requests and General Enquiries. During the first 12 months of the Covid-19 Pandemic, DHSC, already one of UK government's busiest departments, saw enquiries increase from 37,000 to 102,000 cases per year.

The department typically receives approximately 3,000 items of correspondence per month including paper, e-mails and GOV.UK web form submissions. These enquiries represent large volumes of incoming data in a free text format, most of which require a response within stringent timescales.

Each enquiry needs to be read, categorised, specific information extracted, and a case created in DHSC's Microsoft Dynamics 365 Correspondence Case Management System (SCRIBE) before allocation to an appropriate team for processing and response generation. For emails and web enquiries that arrive in the system, many individual pieces of information need to be extracted to create a case. These points may be subtly different for each type of enquiry, for example, the contact details of the customer, customer postal address validation, the details of the MP together with the constituent who raised the initial enquiry. This process is time consuming, and due to the manual nature, can be prone to inconsistencies or error.

This scenario is familiar to many public sector organisations, who receive enquiries and ministerial correspondence for many different reasons, which they then need to process and respond to.

Challenge

During the COVID-19 Pandemic DHSC experienced a dramatic increase in the number of web and e-mail enquiries. Enquiries rose from a pre COVID-19 monthly norm of 3,000 to 8,000 with over 13,000 monthly enquiries at the peak of the Pandemic.

The unprecedented impact of the Covid-19 Pandemic presented DHSC with major challenges:

- Dramatic increase in volume of annual enquiries which during the Pandemic rose from 37,645 to 102,695.

- Manual and inefficient nature of classifying, recording, and allocating each case combined with cases nearly tripling caused work overload.

- Access to knowledge was limited as experience staff were diverted to critical roles supporting UK's response to the Pandemic.

- Shift to digital interactions accelerated during the Pandemic with citizens increasingly using email and the web to register enquiries.

- Maintaining quality and consistency became difficult as experienced staff were assigned to Covid-19 response roles and new staff lacked experience to analyse the complex enquiries and identify and allocate the enquiry type.

- A backlog and subsequent delays built up with classification and allocation meaning there was limited visibility of the volume and enquiry type making achievement of departmental targets difficult.

Enquires Enter Dynamics 365 Queue

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Power Automate Picks Up Enquiry

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AI Builder Extracts Information

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AI Builder Categorises Enquiry

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Case Created In Dynamics and populated

Our Approach

With a need to keep citizens informed during the Pandemic, the department recognised the need to rapidly scale-up Correspondence Management capacity. DHSC allocated additional staff and explored Robotic Process Automation (RPA) and Artificial Intelligence (AI) technology potential. The resulting Intelligent Automation Project developed a solution that linked with the DHSC Correspondence Management System, enabled automated triage and case creation, supported staff in dealing with the threefold increase in enquiries and freed-up time for critical tasks needed to support UK's Covid-19 Pandemic response.

Ceox undertook an initial Discovery to confirm processes, analyse workflows, identify which technology options were available and recommend an Intelligent Automation solution to help support departmental staff deal with the threefold increase in enquiries.

Microsoft's Power Platform suite of tools including Power Apps, Power Automate and AI Builder was selected as the best-fit option due to minimal cost of entry. The department was able to build on its existing Microsoft relationship and licences. Developing on Microsoft's platform also helped minimise additional costs, maintain the existing IT environment and enable rapid user-adoption due to its familiar interface.

The Solution: Ceox Intelligent Automation for Correspondence

Ceox developed a solution using Microsoft's Power Platform, with Power Automate providing Robotic Process Automation (RPA) and Power Apps AI Builder providing Artificial Intelligence (AI) capability. This enabled a completely unattended way of processing enquiries.

The Ceox Intelligent Automation solution integrated with the existing Correspondence Management system and delivered the benefits DHSC were looking for. Power Automate was used as the orchestrator; triggered when an email or web enquiry is received. AI Builder, part of the Power Platform suite of tools, and a Ceox IA function accelerator were integrated into the process to triage the enquiry right through to case assignment. DHSC were targeting the automated logging of 90% of enquiries successfully, which given the unstructured nature of the enquiries was a challenging objective.
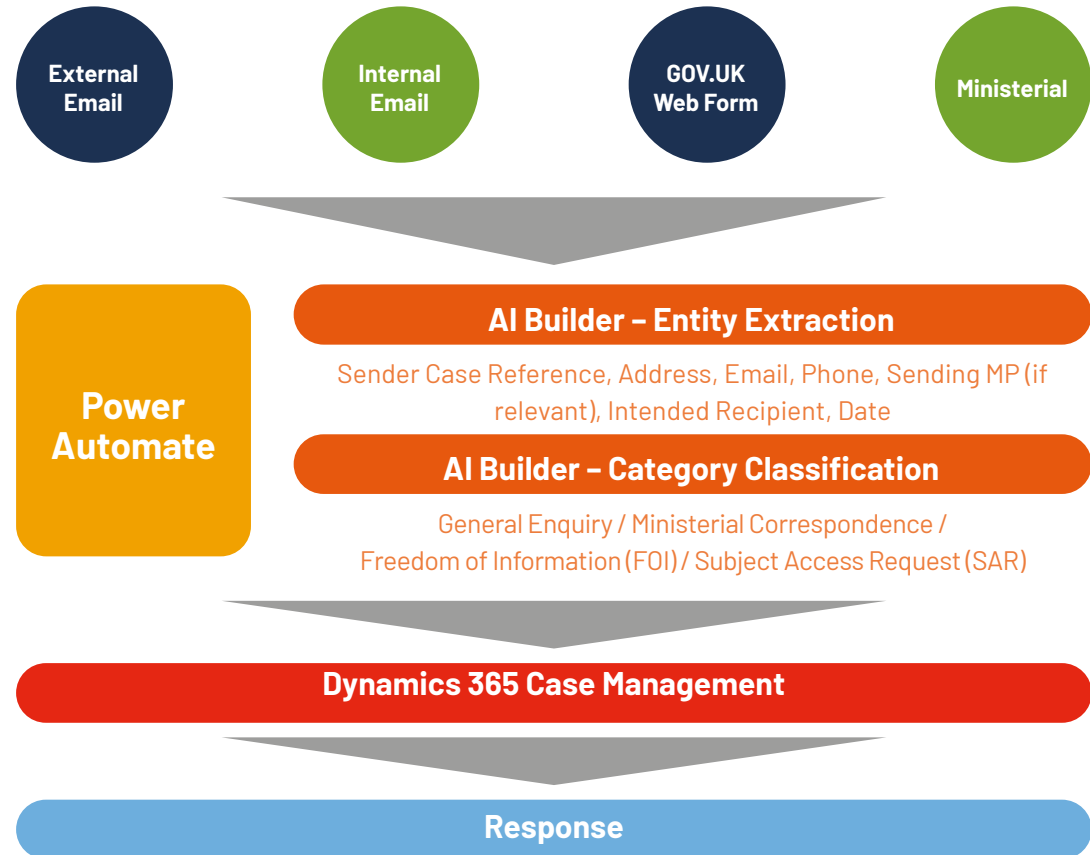
The solution included categorising information and processing the enquiry using Category Classification and Entity Extraction, two of the available AI Models within AI Builder:

Category Classification was used to understand the contents of the submission. This involved training the AI Model to understand the characteristics of each enquiry type by feeding it multiple examples. This enabled the enquiry to be categorised so that it could be processed by the relevant department. The model provides a suggested category as well as a confidence rating. If the confidence rating is low, the automation redirects it to a team member for manual categorisation.

Entity Extraction involved training the model to recognise specific data within a piece of text. In this instance, the model was trained to identify data capture points such as Recipient Name, Sender Name and Sender's Contact Details, amongst others.

- The new Intelligent Automation solution enabled automated:

- Extraction and classification of correspondence content to determine its case type.

- Recognition of case reference numbers included in customer emails which assisted processing and could be included in responses.

- Identification of the intended recipient for MP's correspondence e.g., specific Junior Minister.

- Extraction of key dates and other key data, critical to monitoring performance against correspondence KPIs.

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│          │  │ Sender Case Reference, Address, Email,  │
│  Power   │  │ Phone, Sending MP (if relevant),        │
│ Automate │  │ Intended Recipient, Date                │
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│          │  │   AI Builder – Category Classification   │
│          │  │ General Enquiry / Ministerial           │
│          │  │ Correspondence / Freedom of Information  │
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2021

Best RPA Project

The Benefits

The solution delivered the following benefits:

- **Delivered time savings** through unattended processing of over 90% of enquiries negating the time required to read and categorise correspondence. Assuming an average processing time of 10 minutes per submission, if an organisation deals with 80,000 electronic submissions a year, with a 90% success rate, implementing RPA can save 1,777 days of effort.

- **Improved service quality** with a single method for handling all incoming electronic enquiries response rates improved.

- **Real-time recording** of incoming enquiries gave teams visibility within 24 hours of correspondence workloads and trends. Following automation, the lag between receiving and logging correspondence was reduced from a pre automation average of 3.5 days (Nov- Jan 21) to minutes (Mar 21).

- **Increased accuracy** with automated extraction of information and classification of incoming queries. The reduction in manual processing errors reduced the risk of data breaches and helped DHSC progress towards achievement of its 90% accuracy target for automated processing.

- **Enabling focus on higher value tasks** such as supporting the department's response to the Pandemic. Time savings from the automated processing could enable the equivalent of 8 people's worth of effort per year to be re-directed onto higher value tasks.

- **Scalability** as the number of submissions increases the value of Intelligent Automation also increases as there is no extra cost for logging the incoming submissions. The incidence of logging correspondence within 24 hours improved from a pre-automation 54% and 64% (Dec 20 and Jan 21) to a post-automation figure of 82% (Mar 21).

- **Supporting the department's drive to comply** with departmental KPIs.

The extensive benefits were recognised recently when Computing voted the solution Best RPA project in their 2021 AI and Machine Learning Excellence Awards.

About Ceox

Ceox provides IT services to Government departments, agencies and public bodies and the Social Housing Sector. A Microsoft Partner since inception we are experts in helping organisations deliver services digitally utilising Dynamics 365, Power Platform and Microsoft Intelligent Automation solutions.

For more information about Ceox, its products, services and solutions, please visit **www.ceox.co.uk** or email **hello@ceox.co.uk**