How the DVLA deployed a chatbot and improved customer engagement

Summary

DVLA:

- ran the project to launch the chatbot from April 2018 to June 2019
- had a team which started with 2 chatbot administrator members and increased to 4
- had a separate team that managed Webchat Salesforce
- used the Salesforce Einstein Chatbot and Live Agent tools

Objectives

As this project was part of a pilot, the team shared their objectives with Salesforce. The team wanted to:

- identify whether chatbots would be an effective use of money and time in DVLA
- reduce the average handling time and increase webchat handling efficiency
- use natural language processing (NLP) chatbots to automate the response to customer enquiries that did not require driving record access
- provide a better service for users

The department

The DVLA is an executive agency, sponsored by the Department for Transport. The DVLA contact centre is the largest single site contact centre in government with over 1,200 staff.

The organisation holds 80 million driver and vehicle records. In a typical month they answer over:

- 1.1 million telephone calls
- 100,000 webchat enquiries
- 3,000 social media enquiries

The agency has won a Customer Service Excellence accreditation and the Contact Center Associationing (CCA) award for Best Use of Technology in 2017 and Team of the Year Public Sector in 2019. The agency recently retained CCA accreditation for the 12th consecutive year.

Using a single service platform

Since 2016, the Swansea-based contact centre has used Salesforce Live Agent as their single platform for customer interactions on telephone, email,

webchat and social media. This was part of a transformation project to create a unified platform for all contact services, increase IT capability to meet [DVLA's IT strategy](#) and support customer demand. The [service cloud platform](#) has helped teams manage different contact channels more easily as they do not have to switch between systems. The platform has also helped the DVLA to administer and configure their technology faster.

Using webchat

The contact centre used webchat on GOV.UK for their main contact services and wanted to explore automating frequent customer enquiries through a chatbot. Webchat was launched on one service which was supporting customers with transactional failures, but DVLA have now rolled it out across all services.

Integrating their webchat with their knowledge base and customer relationship management (CRM) tool has helped resolve customer enquiries faster as advisers can look up chat history and information from the platform. Other ways of working that helped DVLA manage their webchat service include:

- training advisers to handle 3 chats at the same time
- providing a telephone option for more complicated enquiries
- using a recruitment process specifically for webchat advisers
- asking customers to complete feedback surveys after using the chatbot tool

In 2018, Salesforce asked if the contact centre would take part in Salesforce's Einstein Chatbot pilot. The team built the chatbot into their existing Salesforce Live Agent (webchat) platform.

Starting the chatbot project

The team held planning sessions both internally and with the supplier. The pilot began in April 2018 and lasted a month. The teams initially identified 2 main use cases. They deployed a menu-based chatbot for 3 months that allowed users to select a predefined set of options through buttons. They then rolled out their NLP chatbot, which read and collected information from users.

The plan was to create a chatbot users would interact with to handle their enquiries or collect information. If the user needed an adviser the chatbot would transfer them to the webchat.

Due to the DVLA IT strategy, the agency was open to the operational area of the contact centre leading on a technical initiative. Two team members, who were previously webchat advisers, led the training and administration of the pilot chatbot. The operational team was best placed to configure the technology as they understood the platform and the common user enquiries. The software needed minimal development so the team could learn how to use the chatbot with webinars and reference manuals. They also had access to the Salesforce production team for any queries.

Before the team started they had to overcome some obstacles. For example,

there was some concern from contact centre staff about chatbots providing poor customer service, which would have reputational impact.

To mitigate issues or security concerns, the team:

- worked with legal and security experts to mitigate risks
- showed senior stakeholders demos of the tool early on in the project
- involved the commercial team for their expertise
- got clearance from their data security leads
- planned to roll out the new service slowly to monitor and mitigate sudden increases in call volumes

Building the chatbot

This was a low risk, simple delivery. The team had 30,000 free chatbot conversations per month supplied as part of the pilot. The team used the pilot to show that the tool met user needs before requesting any resources from DVLA.

Setting up the chatbot took one month and went live in June 2018. Over the next 3 months the team gradually rolled out menu-based bots to the service. Menu-based bots were useful in funnelling customers to the right channel. The team was able to add NLP bots to the service by August 2019. The NLP capability helped the chatbot recognise and understand more varied user requests.

Throughout the project the team:

- organised user insight sessions which led to chatbot style and content changes
- organised staff testing sessions which provided feedback on caller drop off from the chatbot to the webchat
- held weekly calls with the supplier product team
- used sprint planning so they could make almost immediate changes to the chatbot
- used speech analytics

The team found the chatbot tool easy to learn and use. There were no issues with integrating the chatbot as it was from the same suite of tools from the supplier. Another benefit for the team was having direct access to the supplier's product team and being able to influence changes to the tool to meet the service requirements.

The chatbot also had good testing environments that were quick to build. The team could use these environments to test and prepare each version of the service before making it public.

Initial research showed there were 150 different ways that users made requests. The team had to enter each request into the tool individually so the tool could respond with the right information. Testing in these environments showed that the team created responses that were between 95% and 98% accurate.

To make sure they got feedback from users, the team used the Salesforce native reports and dashboards through their management information (MI) suite to measure and monitor the impact on existing channels. The team received approximately 20,000 individual customer feedback forms each month.

Challenges and obstacles

The team discovered issues, mainly around NLP matching. Depending on how a question is phrased, the bot could route a user to 2 different sets of information. For example, if a user only types 'vehicle tax' for their question the chatbot has several options it could return as answers, including checking if a vehicle is taxed and renewing your vehicle tax. The team worked with the supplier's product team to solve these issues.

In one iteration, the team made one of the menu-based bots too complex by offering users too many options. The team learned to have an immediate rollback process in place for the times when the tool was not working for the users.

The team found that a chatbot was not the best option for very complex queries, but for the majority of customer queries it worked extremely well and did reduce demand on the telephone service and the webchat by automating answers for the simpler, regular queries.

Impact of the chatbot

The team was happy with the results as they did not expect the project to deliver so much so quickly.

Due to a combination of the chatbot and webchat, the contact centre has seen a significant drop in demand for contact through email and telephone.

Customers are benefitting from the chatbot project because it:

- reduces the average handling time from 8 minutes to 2 minutes 30 seconds
- answers 25% to 30% of customer queries without going to an adviser
- reduces webchat abandonment by 15%
- has 90% customer satisfaction rate based on the 40,000 people who completed the survey each month during the project

Wider organisational benefits of the project included:

- an increased focus on AI and automation
- growth of the operational team
- changing some strategies from building a tool to buying commercial tools and using tool configuration
- more opportunities for operational staff to get involved in significant continuous improvement work streams and make their roles more diverse

Lessons learned

The main lessons the team learned included:

- the importance of telling users at the start of the chat that they're using a bot
- keeping changes small and simple to avoid having to rollback to previous versions
- doing a phased and gradual rollout
- giving the users an option to speak to an adviser at any point in the chat
- discovering that you do not always need developers to deliver IT enhancement
- discovering that setting up chatbots takes more time than anticipated and the AI components can have limited functionality

DVLA has also hosted successful 'Hack to The Future' events to find new ways to use AI and chatbot technology in the public service.

Future plans

The team plans to:

- make gradual changes and improvements to encourage a slow and steady uptake by users and assess the results
- have multiple chatbots so they can transfer users from bot to bot
- explore robotic process automation (RPA) as an interim technology to automate simple tasks and move data from one system to another

After the success of the pilot, there is a greater openness to trying pilots. It has also led to the DVLA assigning more resources and seeing chatbots as a strategic tool.