The Public Sector Can Teach Us a Lot About Digitizing Customer Service

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BY ALIREZA NILI, ALISTAIR BARROS, AND MARY TATE

Digital customer service agents — also known as virtual assistants, chatbots, or softbots — are poised to transform customer service over the next decade. Essentially software algorithms capable of interacting with humans, these agents use big data analytics and technologies like natural language processing and machine learning to develop accurate profiles of users and interact with them.1 According to a report by Grand View Research, about 45% of consumers worldwide, across all industries, now prefer digital agents as the primary point of communication with organizations. This translates into an estimated global market worth $1.25 billion by 2025.2

At most companies, the general strategy is to use digital agents to sift through incoming customer requests (via call centers, websites, and smartphone apps) and then process the most straightforward issues, such as requests for basic information like an account balance — the bulk of customer inquiries at many organizations. More complex issues get passed along to human agents. In that way, digital agents reduce the humans’ workload and associated costs (despite implementation costs, which can be high).3

There is a perception at many companies that these tools can handle only basic inquiries, and that anything else must be handled by human reps. But that is not true.
We have studied both public and private sector applications of digital agents in our home market, Australia, over the past four years. Through that research, we have found that public sector agencies are already using these technologies to handle complex inquiries from citizens regarding services.

The public sector implementation itself runs counter to the conventional wisdom. In most countries, government entities are slower than businesses to adopt new technologies. They don’t have the budget to make such investments, they struggle with institutional inertia, and they tend to be risk averse, in part due to reputational risk if they get something wrong. Yet since 2015, some public service organizations in Australia, particularly providers of public welfare services, have invested heavily in digital agents. These entities deal with extremely high volumes of interactions and need to increase productivity by facilitating self-service among citizens. In 2017 in Australia, 700 million online social welfare claims were processed, 52 million calls were made to call centers, and service centers received 19 million visits from customers. In addition, most social welfare programs require documented evidence of details such as applicants’ partners, dependents, work income, assets, and medical problems, and benefits decisions are made through complex business rules for calculating eligibility, payment levels, and other factors. Digital agents are helping with all those efforts.

In some cases where public entities have pioneered the use of digital agents, companies have later followed their example. For instance, the Australian Taxation Office (ATO) successfully incorporated an advanced digital agent called Alex into its service processes. Alex was developed by an American company called Nuance and has been in use since 2016 at ATO, where it can resolve 80% of customer issues during the initial contact. The technology is now being used by private organizations such as Jetstar Airways, which operates in Australia, New Zealand, and some Asian countries.

Our analysis suggests companies worldwide stand to learn valuable lessons from Australian public service agencies that have improved customer service through digital agents. Broadly, those lessons fall into the categories of applications, challenges, and key recommendations.

**Applications for Digital Agents**

Digital agents can provide three types of customer assistance, along a spectrum of sophistication.

**Basic triage.** The first application involves identifying appropriate services for customers. In this situation, a customer contacts a service center with a straightforward inquiry. She already knows what she wants, because she has a specific issue that can be addressed with a new service or a change to an existing service. To provide this type of assistance, public organizations in Australia have implemented digital agents that use natural-language processing (either for speech over the phone or text through a customer chat session) and machine learning capabilities to identify the right services for people, by incorporating past customer service data as well as real-time information from the current inquiry. More important, the agents continually learn from customer interactions, so they become more accurate over time.

Roxy, for example, is a digital agent that uses these back-end technologies to help citizens make sense of Australia’s complex social welfare programs and to recommend services that are most relevant to them. A similar digital agent, Amelia, is a more conversationally adept agent in use by the New South Wales government for both internal and citizen-facing inquiries. Amelia can even change her tone depending on the service interaction.

**Targeted assistance.** The second application is more targeted assistance, such as prefilling forms for customers or helping them solve problems in a personalized way. For example, to apply for unemployment benefits in Australia, an applicant needs to respond to about 150 questions. Oliver, a digital agent at a public welfare organization, can auto-fill many of the answers based on customer profiles, reducing the number of responses that need human input to just 10 to 15.

**Proactive assistance.** The third application — and the most sophisticated — is proactive assistance to customers. Public welfare departments can use digital agents empowered by predictive analytics to send personalized recommendations to customers about matters that the customers may not even be aware of, such as an upcoming event or future steps that are required to apply for a specific service. Examples include...
recommendations related to life events, such as getting married, having a first child, moving, or transitioning into retirement. Digital agents can then build decision trees to help people connect with and navigate relevant services across agencies.

A digital agent might, for example, read the profile of a customer — say, a mining engineer in Australia — and determine through his age and other demographic information that he is reaching a milestone year in his current position and could soon transition to a less-intense job in a related industry. The agent could then identify alternative, high-demand sectors and provide information about and links to specific positions. The agent might also bundle services such as training, connections to job agencies that support those industries, and analysis of any potential financial impact due to salary differences.

Challenges in Implementing Digital Agents

In our analysis of public sector entities, we have observed that organizations wishing to implement digital agents face a few key challenges.

Cost. The initial cost of implementing digital agents can be high, especially when they involve sophisticated back-end technologies that are not plug and play. Companies that have already invested significant sums in their current customer service initiatives might not be inclined to spend more. Over time, however, investing in digital agents will generally pay off, because direct customer interactions with front-office staff cost more.11

Data management. Empowering digital agents via big data requires the ability to store data while also making it accessible in real time.12 Both public and private sector organizations wrestle with huge amounts of customer data — often scattered across different channels and systems — which complicates the challenge of developing a single, integrated view of a given customer. An efficient data management strategy is essential, particularly for satisfactory targeted assistance and proactive assistance, where digital agents need access to current and past customer service interaction data.

A related challenge is ensuring compliance with privacy regulations, particularly if an organization wants to collect highly personal data from multiple sales channels or companies in a service ecosystem (for example, suppliers, distributors, or corporate partners).

Service management. Even the digital agents that feature the most advanced back-end technologies need a significant amount of training to incorporate customer-specific terminology and service processes and to learn the most appropriate responses. Machine learning algorithms are extremely powerful, enabling digital agents to review millions of service interactions and then tailor appropriate responses, but digital agents cannot train themselves.13 They need to learn through real customer interactions in a dynamic process, which means they must be carefully incorporated into an organization’s operating model. Unless companies conduct robust testing using realistic scenarios before going live with services, potential early stumbles with user experience or the handling of data could hurt their reputation or brand.

Key Recommendations

Despite these challenges, digital agents are going to become more common over time; they are not a passing fad that companies can simply wait out. In fact, organizations need to start engaging with them sooner rather than later so that their own capabilities will evolve in tandem with the rapid advances in technology. We recommend the following steps:

Machine learning algorithms are extremely powerful, enabling digital agents to review millions of service interactions and then tailor appropriate responses. But digital agents cannot train themselves. They need to learn through real customer interactions.
Start small and safe. Digital agents need to be road-tested — exposed to a wide range of potential scenarios — so that their recommendations can be validated by experienced staff before going out to customers. Once they are reasonably accurate, agents can start handling extremely simple customer-facing processes — for example, pointing customers to self-help resources like how-to manuals and video instructions. Some companies roll out early-stage bots internally (in areas such as HR services) to build up capabilities in a way that doesn’t put customer relationships at risk.14

Integrate data and service management. Next, companies need to address the data aspects of their service strategy. Data is like oxygen to digital agents. Organizations must capture historical data from all service touch points (such as websites, mobile apps, call centers, and social media pages) along with information from users’ connected devices (everything from web browsers on mobile phones to virtual assistants like Alexa and Siri). And they need to manage data streaming in real time during service interactions, to create a unified view of the customer.

Concentrate on the customer experience, not the technology. Some organizations make the mistake of thinking digital agents are, by themselves, enough to transform their customer service. Agents are only part of the solution, and there is a real risk of trying to digitize flawed processes. To capitalize on the technology, organizations need to redesign service interactions and processes around the customer experience, regardless of whether that customer gets support from a digital agent or a human service agent. And good design requires human insight. No matter how sophisticated digital agents become, technology alone can never deliver excellent service for all types of interactions.

That is why organizations should believe neither the hype nor the naysayers when it comes to using digital agents. They are powerful tools, but in the end they are just that — tools.

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