



A virtual assistant transforms digital employment services

Harnessing AI, a nonprofit boosts its capacity to help jobseekers and newcomers to Canada find work

by Tom Farre

7-minute read

ACCES Employment is a nonprofit agency that connects jobseekers from diverse backgrounds with leading employers. Serving the Greater Toronto area from seven locations and all of Canada online, ACCES works with over 2,800 employers and 40,000 jobseekers annually, with a special focus on internationally trained professionals and newcomers to Canada. ACCES also provides pre-arrival services to people around the world who are approved for immigration to Canada.

Like many other organizations in the nonprofit and employment services sectors, ACCES has set digital transformation as a strategic priority.



Complementing in-person interactions with online tools has allowed the organization to reach clients through their preferred channels. Also, digital services are essential to supporting and preparing immigrants before arrival. Digital services can boost the agency's capacity without increasing or straining staff resources.

"Adopting digital technology was an important strategic priority at ACCES before the pandemic, and now it's even more important and urgent," says Allison Pond, President and CEO at ACCES.

The transformation journey began in earnest in 2016 thanks to a major technology grant from Accenture that helped ACCES modernize its digital services. Developing a new online learning hub and various virtual services along with enhancing Salesforce CRM produced excellent results. Over two

Powered by IBM Watson, the VERA virtual assistant conducts more than

1,800

conversations each month

Of all the people interacting with VERA in its first year

1/4

became ACCES clients

VERA's intelligence, efficiency and availability saved more than

500

staff hours in the first year

years, ACCES more than doubled the number of clients served, from 16,000 in 2016 to 36,000 in 2018.

This dramatic increase led ACCES to the next stage of development—how to efficiently handle growing client volume by leveraging technology to enhance the client service journey. “We wanted to, again, continue to leverage technology to streamline our processes and ensure we could respond to everyone who sought our services,” says Manjeet Dhiman, Senior Vice President, Services and Strategic Initiatives. “That’s when we first thought about the value AI could bring to our organization.”

The specific concern was handling the surge of routine and repetitive jobseeker inquiries that tied up personnel. Where are you located?

Can I see a counselor? Do I need an appointment? What are the eligibility criteria for this program? Can you help me find a job and register for an event? Such information was on the website, but people often prefer an interactive experience to searching. The challenge, then, was to deliver the information interactively while conserving staff resources.

ACCES envisioned an AI powered virtual agent, or conversational assistant, as the first point of contact for digital inquiries. Thus in 2019, ACCES submitted a proposal to Accenture for a second grant for a technology development project that was successfully approved. Through this project, ACCES issued an RFP for a vendor to develop a virtual assistant that could engage visitors directly from the website.

It would need to answer FAQs 24x7 to head off routine queries; allow users to register for events; generate jobseeker leads for staff to pursue; and offset hundreds of staff hours performing such tasks.

After a vendor evaluation, the ACCES team chose IBM Business Partner Newcomp Analytics, an expert in data science, machine learning and AI. What gave Newcomp the edge? “There were things about the IBM enterprise AI solutions that we really liked, and Newcomp stood out for their expertise in implementing these tools for other clients,” says Dhiman. Newcomp also impressed the ACCES team with its understanding of the project, its expertise in proven implementation accelerators, and its ability to coach ACCES staffers in AI to support future initiatives.

AI development in a pandemic year

ACCES engaged Newcomp for development assistance and AI support. With the requirements in hand, the ACCES and Newcomp team used an agile, iterative process to develop the virtual agent—ACCES staff contributed business knowledge and Newcomp provided technology expertise. Iterative development served the project well when the pandemic hit, since it necessitated considerable changes to workflows and AI dialogues to account for fully remote operations. “During the pandemic, we had to suspend in-person service delivery,” explains Dhiman. “As a result, we also had to



make many adjustments to the AI development process.”

The solution is powered by [IBM watsonx[®] Assistant](#) software, which provides the AI-powered conversational interface, and the [IBM Watson Discovery](#) solution, an intelligent search and text analytics engine that retrieves unstructured content in response to user queries. Both AI services run on [IBM Cloud[®]](#), which gives the development team a consolidated view of the services that power the agent—the current state of services along with a retrospective view of service utilization. This fosters discussions on how to improve and optimize the solution through AI innovation.

The developers also integrated the assistant with Salesforce. The integration automatically onboards

user profiles into the CRM tool as leads for follow-up by ACCES’s staff.

After development was complete, ACCES named the agent VERA, an acronym for Virtual Employment and Resource Attendant. It is one of the first AI assistants to be deployed in the Canadian nonprofit employment services sector.

VERA addresses multiple areas of service, 24 hours a day, seven days a week, without human intervention, including the following:

- Answering FAQs for jobseekers, employers and volunteers
- Referring users to specific ACCES programs and services
- Facilitating registration of users into workshops and events that match their interests
- Surfacing direct links to job-search

resources such as resume templates, articles, videos and web content

- Supporting registered clients
- Populating Salesforce CRM with user profiles for staff to pursue as leads

Residing on various web pages, VERA features seven conversation branches, understands more than 100 user intents and has more than 2,000 documents in the Watson Discovery repository. Custom versions of the solution pop up on each program page with quick links for information session registration or requesting a call-back from the program team. In this way, the solution aims to convert the virtual conversation around programs to a dialogue with a human agent.

“If users want to learn more about a particular program, and they go down that branch, they may be asked relevant

questions about their language skills, experience level and so on,” says Aimee Holmes, Director of Digital Services at ACCES. Another branch helps users find programs that are right for them. Existing clients have their own branch, which may direct them to speak with their employment consultant, register for an event or schedule a callback. Finally, there’s a branch for employers interested in using ACCES’s services.

VERA also offers resources for light-touch users who may not want to register but need help with their job search. VERA can direct them to resume-writing tutorials, for example, or tips on acing a job interview. This type of material often concludes with, “If you want more details, call a counsellor so we can work with you individually.” It’s a virtuous circle that adds to ACCES Employment’s credibility.

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Manjeet Dhiman, Senior Vice President, Services and Strategic Initiatives, ACCES Employment

Increased capacity to assist jobseekers

The ACCES and Newcomp team completed a beta version in August 2020, and after testing and a soft launch in October 2020, the attendant was 100% integrated into the website in January 2021. The results so far have been excellent.

VERA conducts over 1,800 conversations each month. It contributes significantly to direct program and event registrations and delivers a 75% user satisfaction rate. “We have updated and streamlined our website, and the addition of VERA creates a whole new experience for clients. It becomes much more



interactive and easier for them to find information,” says Dhiman.

ACCES employees appreciate VERA because it frees them to focus on higher-value activities. Some staff refer clients to VERA for event registrations. Around 100 employers have connected with

ACCES through VERA. And integration with Salesforce has streamlined the process of converting digital inquiries into clients.

To harmonize with ACCES’s in-person workflow, VERA asks users for their contact information and

about their qualifications. This gives consultants a user snapshot that serves as a springboard to continue the conversation. The information appears in the familiar Salesforce environment for managing prospect and client relationships. In fact, staff have converted approximately one quarter of VERA leads into clients, an impressive achievement during the pandemic.

“VERA has opened another doorway to service, and this has come at a very good time for us,” says Holmes. The ACCES team calculates that the agent has saved some 500 employee hours in less than one year in service.

The development team continues to improve VERA’s accuracy by monitoring incorrect answers. And as vaccinations increase and pandemic restrictions are lifted, ACCES plans to adopt a hybrid operating model that combines the best of online services with in-person interactions. With offices reopening and more people looking for work, ACCES will revise its processes and perhaps the information VERA serves up. This way, VERA will align with operational changes.

Moving forward, the Newcomp team will continue to support VERA and help ACCES personnel gain AI expertise. The collaboration has already generated

ideas for infusing AI into other service areas—for instance, using VERA and AI to improve e-learning by making it more interactive and engaging. “We really want to look into how we can expand the use of AI and other technology to continue to build and modernize our services,” says Dhiman.

“VERA is an important addition to our employment service provision and will greatly enhance our ability to respond to growing demand for our services,” says ACCES President and CEO Pond. “We are excited by the new possibilities that AI provides to our organization and to the sector overall.”

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Manjeet Dhiman, Senior Vice President, Services and Strategic Initiatives, ACCES Employment



About ACCES Employment

Founded in 1986, [ACCES](#) (external link) is a nonprofit agency that connects jobseekers with employers in roles suited to their qualifications and experience. It serves nearly 40,000 jobseekers annually from seven locations in the Greater Toronto, Canada area and online. ACCES's vision is a fully inclusive workforce that reflects the diversity, skills and experience of Canada's population.

Solution components

- IBM Cloud®
- IBM watsonx® Assistant
- IBM Watson Discovery



About Newcomp Analytics

A member of the With Watson® Program, IBM Business Partner [Newcomp](#) (external link) helps customers in banking, education, healthcare and other industries obtain powerful insights using analytics. It has provided more than 400 enterprises in North America with the right tools, software and expertise to make sense of their data. Based in Canada, Newcomp was founded in 1991 and employs approximately 75 people.



About With Watson®

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