

Nura Knows You Better: Redesigning Conversations With Artificial Intelligence

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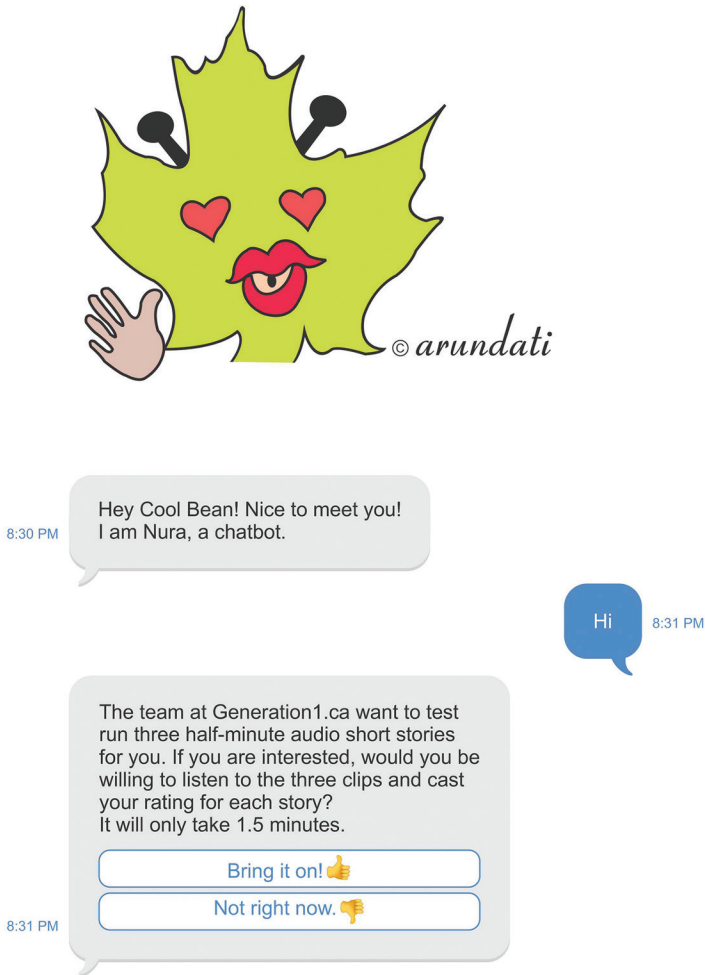
This research brief explores the use of artificial intelligence (AI)-powered chatbots to conduct surveys. Starting with an introduction of what chatbots are, the brief includes a real-life use case; best practices based on the author's professional experience developing a major chatbot survey; research on research; and chatbots' promising applications to survey immigrants, Generation Z, seniors, and respondents in fast-growing, mobile-first economies (regions with high mobile penetration or where the default mode of communication is mobile) such as China, India, Brazil, and parts of Africa.

Chatbots: Who or What Are They?

A chatbot is a computer program that uses AI to communicate via text or audio, simulating the conversation of humans through messaging apps, websites, mobile apps, smart devices, or even the telephone (Morgan, 2017). Chatbots are used regularly in marketing and sales, in customer support, when gathering experience feedback, and in market research. In Figure 11-1, Nura the chatbot greets the human respondent with a "warm wave." The bot's script is in gray textboxes, and the human respondent replies in a blue textbox. Chatbots vary from simple to sophisticated and from screen-only to voice- and sensory-enabled formats. Applications of chatbots include helping seniors who might be unfamiliar with digital interfaces and face medical, physical, or other barriers.

Computer intelligence (as being distinct from human intelligence) was a concept first tested in the 1960s by Alan Turing with the Turing test, spawning the birth of the first "chatterbot" program with 200 lines of code, named Eliza by Turing's colleague Joseph Weizenbaum (Gone, 2016). Today, chatbots herald the age of "conversational commerce" (referring to messaging and shopping together) that is predicted to become entirely screenless or mouseless

Figure 11-1. A chatbot screen (mock-up by the author) where Nura, a chatbot, is enticing the user with its friendly tone to engage in some product research for audio short stories at Generation1.ca



and instead driven by voice commands. One in five searches on the Internet is powered by voice, and tellingly, close to half of all organizations using intelligent chatbots support typing with voice dictation (Brain White Label Chatbots, 2019). Google Home, Amazon Alexa, Siri, and Microsoft's Cortana will all soon be survey vehicles and have been in the news for their varying degrees of success and mishaps with AI-powered chatbots (Brownlee, 2016).

The market size for chatbots today is projected to reach \$3,146.4 million by 2023 (Grand View Research, 2017). Chatbots will power 85 percent of all customer service interactions by 2020, according to a Gartner study (Anderson, 2017). Enterprise businesses often use chatbots to improve and expedite customer experience because the customer can connect with a business representative almost instantly on any device with an Internet connection (tablet, smartphone, computer) and receive a real-time response. Well-trained AI chatbots drive conversational commerce and offer personalization to benefit consumers. Chatbots are easy to use and can be launched via web, mobile, or messaging apps.

Conversational interfaces are cross platform and allow humans and computers to interact in a common language to accomplish simple commands or tasks and, in more sophisticated AI, allow for quality data collection through conversational chatbot surveys (Brownlee, 2016). Conversational surveys allow respondents to interact in an informal style to provide longer, more in-depth and engaged feedback through methods like AI-powered chatbots, using social and messaging apps, for richer insights (Powton, 2019). According to conversational survey provider Wizu, chatbot surveys have improved respondent participation for many reasons including the following:

- They elicit deeper insights that are (91 percent) more actionable than traditional surveys.
- Chatbot surveys drive customer loyalty.
- Respondents feel more engaged and provide detailed long-form answers that offer more data points and context into the insights (Hyken, 2018).

Chatbots' popularity is a consequence of the changing dynamic of technology-human dependence. Chatbots offer the instant gratification of conversation, deliver a perception of customer empathy as seen in the Figure 11-1, and can resonate across age cohorts (Reid, 2018). The best executed chatbot surveys are short, host an easy and engaging interface, and lack interviewer bias: the smarter the AI, the more intuitive the interview is. Survey modes have evolved from face-to-face to include telephone, web, mobile, and a variety of chatbot surveys (e.g., from quick-reply chatbots and rule-based chatbot surveys to the smarter AI chatbot surveys). According to Rosie Ayoub (2018), managing director of Norstat UK, in her *NewMR* presentation entitled

“Chatbots: It’s not what they say, it’s how they say it,” tonality and voice of chatbots have a better impact on response rates than neutral open-ended questions. Chatbots thus seem to offer AI-powered connection, comfort and clarity, challenge, and instant rewards that traditional surveys do not. For buyers and suppliers of research, AI adds more exciting elements to traditional qualitative interviews and is cost effective when operating at scale, using fewer human resources. In fact, better AI-powered chatbot surveys could provide firms who blindly opt for automated quant a cheaper and better automated qualitative option (Craig, 2019).

Use Case

An anonymized Canadian university wanted to develop a learning curriculum for one of its academic programs aimed at better integrating new immigrant professionals into the Canadian workforce. To do this, they first needed to know their students’ diverse cultural and communication styles. In the past, they asked their students to answer a personality quiz made up of Likert rating scales, but the response rate was not very high and there was evidence of data quality problems due to flatlining and self-report bias, according to the client. The behavioral scientist on the team suggested recording reaction time for each response in the questionnaire to help analyze the results. The resulting chatbot survey used simple English language, emojis, and visuals that illustrated hypothetical situations to help respondents pick choices that best represented their views or feelings. Data would later be analyzed in assigning their diagnostic profile and assessment. Based on the reactions of chatbot survey respondents (who described the experience as “fun!” “exciting,” “best survey experience ever”), one could argue it was a lightly gamified survey experience. The chatbot survey was launched first on Facebook messenger followed by a web application programming interface, WhatsApp and WeChat messenger apps, and a mobile short message service. The respondent incentive to participate in this quiz was a personality profile diagnostic assessment of their cultural and communication styles and related recommendations to help them adapt to the Canadian corporate workplace environment. For the pilot test run, the incentive to participate was a “What kind of Canadian are you?” personality profile created by the author in collaboration with the team that engaged and enthralled survey takers. The client bought the

methodology and created a proprietary learning management system to host the program (AI-powered bot).¹

Best Practices in Chatbot Surveys

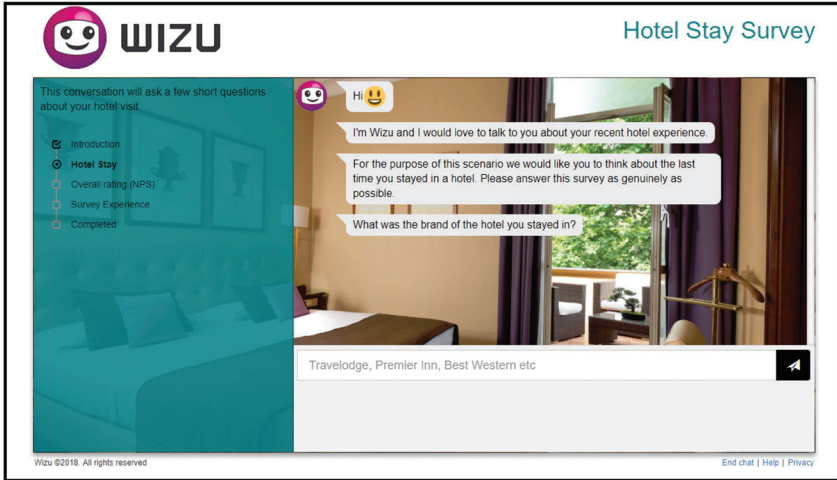
Based on the author's professional experience developing chatbot surveys and conducting market research with leading brands, especially in tech-first and mobile-first environments, some best practices when using chatbots as surveys include the following:

- Keep them short (e.g., under 10 minutes).
- Adopt data minimalism and request the least amount of data possible (avoid asking for demographic information up front).
- Be adaptive, intuitive, and responsive by using more advanced AI-powered chatbots.
- Do not transpose an online survey to chatbot modality expecting it to work or yield the same or better results.
- Train the chatbot properly to speak in the tone of humans, so that the conversation with the human user has the right balance of conciseness and style to deliver “customer delight” (an experience that far exceeds customer service) and, in the case of surveys, “respondent delight.”
- Design questions that are direct, clearly worded, and engaging, with a friendly, helpful tone and voice.
- Create an easy-to-navigate interface without the technical glitches of early-stage AI, such as bots repeatedly replying, “Sorry, I did not understand you.”

To illustrate some of these best practices, Figures 11-2 and 11-3 show a “Hotel Stay” survey conversation that used intelligent AI to ask concise questions in an engaging, conversational tone. In Figure 11-2, Wizu the chatbot (depicted with a WIZU icon) made an introduction. Figure 11-3 shows the customer's response in black textboxes. The Wizu chatbot in both figures comes alive as it deals out emojis and adopts a customer-centric tone.

¹ At the time of this chapter's writing, the learning management system was in beta and was expected to launch some time in 2020.

Figure 11-2. Chatbot Wizu initiates a conversation with a guest about a customer experience hotel stay survey



Source: Wizu (2019).

Figure 11-3. When prompted by AI chatbot Wizu, a customer reports on the hotel stay service experience candidly

AI and Text Analytics

- 175 additional comments through probing
- 526 comments on topics not mentioned previously
- Example: What did you not like about the hotel? Answer = "The parking"
- Comment after AI prompt = "The parking was too far away from the main hotel."

Sorry to hear that 😞

What did you like about the hotel?

It was clean and central location

What did you not like about the hotel?

Hard to access and poor parking

I'll send your comments about the Hotel to Rocky, Hotel Manager

Do you have any comments relating to the Restaurant or Service?

Restaurant was poor in the evenings but excellent for breakfast. Reception staff at checkout weren't very friendly

Source: Wizu (2019).

Promising Uses of Chatbot Surveys

There are many promising uses of chatbots including surveying the traditionally hard-to-reach Generation Z, mobile-first populations, and seniors (with audio-based chatbots).

Generation Z Research

Millennials might be the earliest adopters of chatbots, but their successors—the Generation Z cohort—is more technologically savvy, omni-channel, and the hardest to reach cohort due to their immersion in the mobile and social ecosystems (Mazanik & Szymanski, 2019). Chatbot plug-ins are a way of gaining attention, interest, and accurate insights. Known for their simplicity, candor, accessibility, and device-agnostic interface, chatbot surveys that are gamified can reveal some of this population’s deepest or most intimate thoughts in real time.

Mobile-First Economies

Respondents in Africa, China, India, and Brazil, for example, are mobile first, meaning their most frequented (often their cheapest) communication channel is the mobile one, making them heavy mobile users (Chatbot Pack, 2019). The platforms these respondents are most familiar with include messaging apps like Skype, WhatsApp, Telegram, Twitter, and Kik. By 2019, eMarketer predicted that more than one-quarter of the world would be using messaging apps, led by China and India, and the best way to leverage consumer context is by meeting consumers in their preferred environments via chatbots (eMarketer, 2016). There are “cultural and structural differences” in mobile-first economies versus mature economies, with the majority of business-to-business software as a service sales, engineering, and product development taking place in the former (Ismail, 2019). Mobile-first consumers’ high proficiency with the chatbot interface makes them active participants in the consumer tech and chatbot revolution.

Seniors Research

As societies rapidly age, creating new problems and opportunities globally, advanced AI-powered chatbot technologies and voice agents allow us to glean deeper insights from our seniors, 40 percent of whom experience loneliness

globally (Wiggers, 2019). Well-trained AI chatbots, powered by audio commands that record and respond to seniors in accessible formats, offer catharsis, yielding in-depth insights in market, medical, and opinion research.

Scaling Up the Conversations With Smarter AI

Chatbots are paving the way for the future of survey research, making them the go-to approach for mass-scale qualitative research. They appeal as a research method across demographics especially cross-culturally, among the young, in mobile-first economies, and among increasingly audio-commerce-reliant seniors. Jennifer Reid (2018), CEO of Rival Technologies, reports, “The demographics of the people who take chats are not significantly different from those who take traditional surveys.” About one in four consumers use a chatbot daily, and about 60 percent of millennials and Generation X adults have interacted with a chatbot (Williams, 2017). Chatbots, as we have seen in the examples in this chapter, can potentially harness deep qualitative insights, leveraging a value- and behavior-driven understanding of customers and their feedback through conversations in market and opinion research.

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