

# Integrating AI Chatbot into Qualtrics Surveys

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September 23, 2024

## **Abstract**

This guide provides a simple and easy to implement method for integrating an AI-powered chatbot into Qualtrics surveys using the OpenAI Assistants API. This integration can help survey engagement and enable researchers design various experiments in the context of Human-AI interactions. By incorporating AI chatbots, we can also provide real-time assistance to participants. The complete code for this project is available on GitHub at <https://github.com/alizarif/QualtricsAIChatbot/>.

# 1 Introduction

In recent years, there has been a significant effort to gain more insight into human-AI interactions. One approach to this is using chatbots. We now have many AI-powered or simple chatbots that are widely used for surveys, particularly in marketing and market research contexts <sup>1</sup>. These chatbots enhance respondent engagement, enabling the gathering of better and detailed information Xiao et al. (2020). They could help mitigating challenges such as low response rates and disengaged participants, and create a more engaging conversational experience Costello et al. (2024). However, many of these solutions are difficult to implement or costly when designing AI-human interaction experiments.

AI-powered chatbots, in general, can adapt to each respondent in real-time, adjusting questions based on previous answers and providing personalized assistance. This improves data quality and opens up new possibilities for experimental research designs, including AI-assisted decision-making processes Chopra and Haaland (2023). Qualtrics, as one of the leading platforms for survey experiments, is an ideal candidate for AI chatbot integration. Recent studies have used some level of AI integration on Qualtrics Costello et al. (2024) and explored the idea of using AI in a survey setting, highlighting the potential for AI to address complex research questions.

This guide aims to provide a simple method for integrating an AI-powered chatbot into Qualtrics surveys using the OpenAI Assistants API. I will walk through the process step-by-step, providing some examples and applications.

## 2 Adding an AI Chatbot to Your Qualtrics Survey

Before integrating the AI chatbot, make sure you have:

- A Qualtrics account with survey editing permissions
- An OpenAI API key (keep this confidential)
- Basic familiarity with JavaScript (for potential customizations)

To add the chatbot to your survey, follow these simple steps:

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<sup>1</sup>For example, Inca , Yasna, and Landbot are just a few of the many available options

## Create a New Question

In your Qualtrics survey, add a new "Text/Graphic" question where you want the chatbot to appear. This question type allows for custom code insertion.

## Implement the AI Chatbot

Go to the "Edit Question" section of your survey, click on "JavaScript." In the code editor, paste the code. After adding the code, save your changes and preview the survey to see the chatbot in action. The full code is available on GitHub at <https://github.com/alizarif/QualtricsAIChatbot/>. This is just part of the code:

```
1 Qualtrics.SurveyEngine.addOnload(function() {
2     var that = this;
3
4     // OpenAI API configuration
5     var apiKey = "YOUR\_OPENAI\_API\_KEY";
6     var assistantId = "YOUR\_ASSISTANT\_ID";
7     var threadId = null;
8     // ... (rest of the JavaScript code as provided on Github)
9     // Add event listener for Enter key
10    inputBox.addEventListener("keypress", function(event) {
11        if (event.key === "Enter") {
12            event.preventDefault();
13            sendMessage();
14        }
15    });
16 });
```

Remember to replace "YOUR\_OPENAI\_API\_KEY" and "YOUR\_ASSISTANT\_ID" with your actual OpenAI API key and assistant ID.

## Some Considerations

Note that this implementation requires adding the code to each individual question where you want the chatbot to appear. Also, you can modify and customize the chat interface to match your survey's overall theme and aesthetic. Be aware of OpenAI's API usage limits and ensure your code can handle errors gracefully, specially for large scale surveys. Also consider that the assistant's system prompt can be adjusted based on your purpose.

When using AI chatbots in surveys, it's crucial to consider the ethical implications and

clearly inform participants that they are interacting with an AI chatbot, not a human. Also, be explicit about how the data collected through chatbot interactions will be used and stored. Ensure participants understand and consent to interacting with an AI as part of the survey process.

### 3 Creating Your AI Assistant

To use a chatbot in your survey, you first need to create an AI assistant. You can do this on the OpenAI website or by using a Python script.

If you're using the website, navigate to the OpenAI dashboard and create a new assistant. You can configure its personality and define its capabilities.

If you prefer to use code, here's a simple Python script to create an assistant:

```
1 import openai
2 openai.api_key = 'YOUR_OPENAI_API_KEY'
3 assistant = openai.Assistant.create(
4     name="Survey Helper",
5     description="An AI that assists users in completing surveys,
6                 providing clarifications and engaging in decision-making
7                 scenarios.",
8     model="gpt-4"
9 )
10 print(f"Assistant ID: {assistant.id}")
```

### 4 Example Applications

The integration of AI chatbots in Qualtrics surveys opens up a wide range of possibilities for survey experiences and conducting innovative research. Here, I mention only a few key applications, to show how chatbots can help the survey.

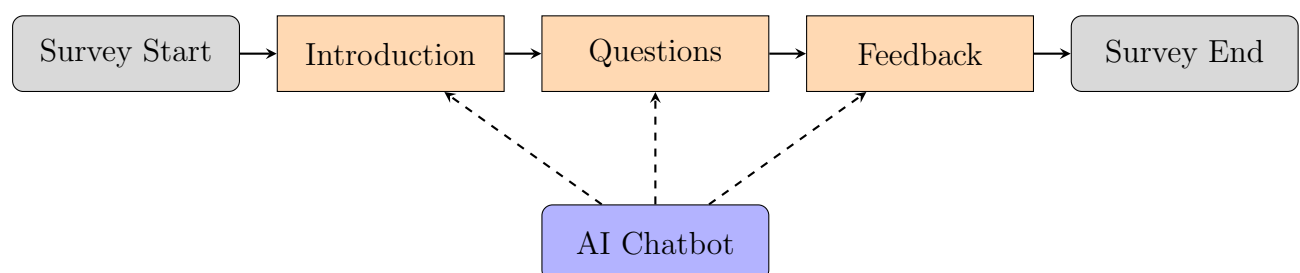


Figure 1: Potentials of AI Chatbot Integration Throughout the Survey Process

## 4.1 Survey Introduction and Instructions

At the start of the survey, the AI chatbot can work as a guide and explain the survey's purpose. It can address common queries about survey duration or importance, helping participants feel more at ease and potentially reducing early dropouts. The OpenAI Assistants API allows the chatbot to access instruction documents (See Section 5), enabling it to provide detailed information about the survey or experiment.

**User:** *How long will this survey take?*

**Chatbot:** This survey typically takes about 15-20 minutes to complete. Feel free to ask me any questions.

## 4.2 Question Assistance

For potentially confusing questions, the chatbot can act as an on-demand assistant. It can provide definitions, or clarifications, leading to more accurate responses and fewer skipped questions. This feature is particularly useful for complex or technical surveys.

What do you expect the rate of inflation to be over the next 12 months?  
Please give your best guess.

**Over the next 12 months, I expect the rate of inflation to be \_\_\_ %**

Financial Advisor Prediction: 3.5%

### Chat with AI Assistant

User: Hello

Assistant: Hello! How can I assist you with economics issues today?

User: I got advice from a financial advisor that inflation rate will be 3.5% in one year. What do you think?

Assistant: Predicting inflation rates can be complex and involves many factors. Inflation rates are influenced by various economic indicators such as consumer spending, monetary policy, and global economic conditions. While

Send

Next →

Figure 2: A Simple Interaction with AI Chatbot on Qualtrics

### 4.3 Personalized Survey Paths and RCT

By using Qualtrics’ built-in logic, the chatbot can be programmed to appear based on specific responses, creating a more tailored experience. This allows for the collection of data through personalized follow-up questions or targeted information provision.

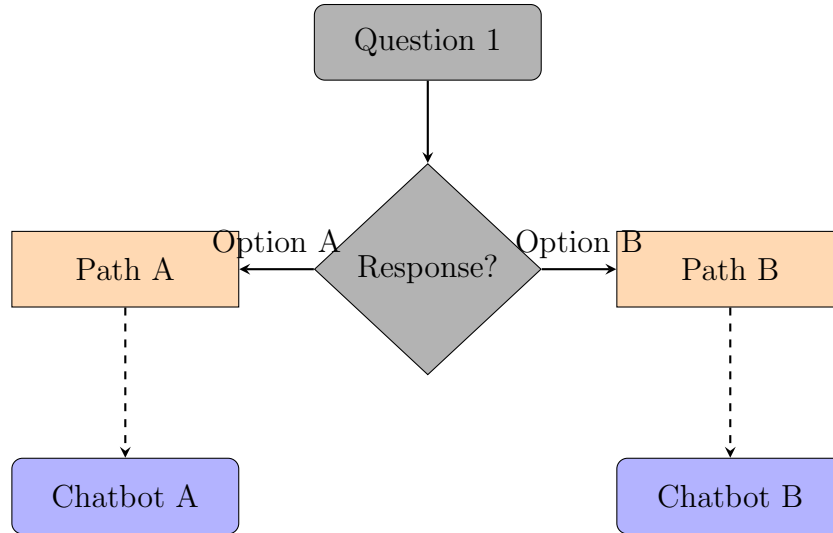


Figure 3: Personalized Survey Paths with AI Chatbot

One other exciting applications is the use of AI chatbots for conducting experiments within the survey itself. We can design studies to test the impact of conversational agents with different capabilities on user behavior, decision-making processes, or information processing. For instance, participants could be randomly assigned to interact with different versions of the chatbot or a control condition. This will provide valuable data on human-AI interaction effects.

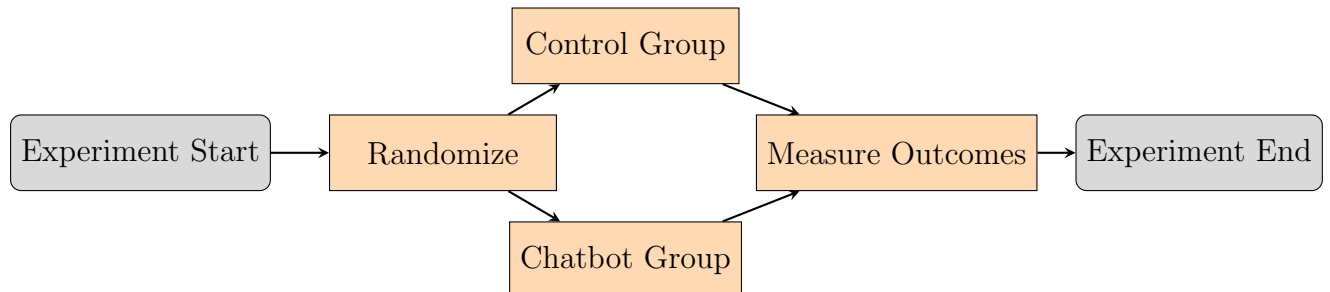


Figure 4: Experimental Design Using AI Chatbot

## 4.4 AI-Assisted Decision Making

The chatbot can be used to assist respondents in complex decision-making processes during the survey. By incorporating scenarios where the assistant provides information, simulations, or real-time calculations, we can create a new decision environments.

**User:** *I'm not sure which investment option to choose in question 10.*

**Chatbot:** I understand. Let's break it down. Option A offers a 5% return with low risk, while Option B offers a potential 12% return but with higher risk. Based on your earlier responses about risk tolerance, Option A might be more suitable. Would you like me to explain the pros and cons of each option in more detail?

## 4.5 Gathering Additional Feedback

At the end of the survey the chatbot can be used for both feedback and post survey questions.

**Chatbot:** Thank you for completing the survey. Is there anything else you'd like to share about your experience with our product or this survey?

**User:** *Yes, I found the questions about user interface a bit confusing. Maybe adding some screenshots would help.*

**Chatbot:** Thank you for that feedback. It's very helpful. Could you specify which questions about the user interface were confusing? This will help us improve future surveys.

## 5 Concluding Remark

We need to remember that AI-assisted research is changing fast. Using AI chatbots in surveys is just the start of new ways to do survey experiments. This field has potential for significant advancements in data collection and experimental methods, opening up new possibilities for understanding human interactions with AI and their decision-making processes.

## Additional Resources

To further your understanding and implementation of AI chatbots in surveys, consider exploring these resources:

- OpenAI Assistants API Documentation: <https://platform.openai.com/docs/api-reference>
- Qualtrics API Documentation: <https://api.qualtrics.com/>
- GitHub Repository for the code: <https://github.com/alizarif/QualtricsAIChatbot>

## References

- Chopra, F. and Haaland, I. (2023). Conducting qualitative interviews with ai.
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- Xiao, Z., Zhou, M. X., Liao, Q. V., Mark, G., Chi, C., Chen, W., and Yang, H. (2020). Tell me about yourself: Using an ai-powered chatbot to conduct conversational surveys with open-ended questions. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 27(3):1–37.