

Create Winning Customer Experiences with Generative AI

Three recommendations for where — and how — to deploy this new technology. **by Nicolaj Siggelkow and Christian Terwiesch**

Published on HBR.org / April 04, 2023 / Reprint [H07JY6](#)



srggn/Getty Images

Since its launch in November 2022, ChatGPT, the chatbot developed by OpenAI, has taken the business world by storm. Following this success, [Microsoft has increased its investment in OpenAI](#) and has [launched a new version of its search engine Bing](#) that provides users with generated answers in response to searches, as opposed to providing them with thousands of links to choose from. Not surprisingly, Google, as the incumbent in the search engine market, quickly reacted and

is launching Bard, its own attempt to create an AI chatbot leveraging the power of large language models and integrate it into the search process. (“Large language models” are deep-learning algorithms for natural language processing that can summarize, translate and generate new text.)

Moving beyond search, both Google and Microsoft are now making their chatbots available through an API (application programming interface, a form of a protocol), thereby enabling software developers from other firms to integrate their systems with these new chatbots. From finance to healthcare and from education to travel, industry observers expect an explosion of service innovations and new digital user experiences. Leveraging the capabilities of large language models, chatbots have developed amazing capabilities to generate human-like responses, and to speak in different languages and styles.

Faced with these new technological possibilities, we see executives wrestling with the question of how to take advantage of this new technology and reimagine the digital customer experience. Clearly, ChatGPT and Bard still have many shortcomings (e.g., hallucinations, biases, and non-transparency), but the technology is improving rapidly and is showing great promise. Thus, now is a good time to start thinking about the competitive implications that will inevitably arise from this new technology. Based on our research and our recent book, *Connected Strategy*, we provide the following recommendations for creating a winning customer experience.

Recommendation 1: Focus on the customer, not the technology.

The first gut reaction to new technologies is often to focus on the technology and ask, “What can this technology do?” We would rather encourage managers to first think about a customer pain point that needs to be resolved, and then ask, “How can this technology help?” To

identify pain points, we find it helpful to think of a customer experience as a journey through three phases, all starting with the letter R.

The initial phase in a customer journey is the **recognition** of a customer need. Either the customer or the service provider (with or without a chatbot) needs to figure out that the customer has an unmet need. Given the ability of large language models to interpret texts and integrate data, these models could become great assistants. For instance, a user could give such an assistant the permission to continuously read information such as health records, Fitbit data, and legal paperwork. The AI system could then create prompts for the user that possible needs are lurking, be they in the form of the need for a health screening visit, or the need for a more comprehensive insurance coverage. Note that such customer experiences can be initiated by the chatbot and thereby can overcome the forces of inertia and myopia that hold back the user in many parts of life. Following the prompt by the chatbot, this new generation of large language models also allows customers to engage in a conversation with the chatbot that helps to describe and discover needs more clearly than in the past.

In the second phase of the customer journey, these user needs are translated into a **Request**. Large language models are very good at extrapolating from data points and predicting what the user might want to see next. As a result, the system can create a list of novel ideas for how to solve a particular customer need and curate a set of recommendations for products and services that help fulfill the unmet need.

Finally, the firm needs to **Respond** back to the customer. Here, one can take advantage of large language models' ability to write without any human involvement. For example, new medical reports can be generated and the appropriate care providers can be informed or even

asked for appointment availability. Similarly, contracts and insurance policies can be generated or updated. All of this can be performed at the appropriate level of sophistication (report to patient vs. doctor) and might even be adjusted to find the right tone for the user's current mood (anxious, happy, disappointed).

Recommendation 2: Focus on the learning.

The three R's we discussed (recognize, request, respond) allow firms to build great customer experiences. To transform a series of experiences into a deeper customer relationship, a fourth R comes into play: **repeat**. With any interaction that a company has with a customer, there should be some new learning about the customer so that in the next interaction, the firm can do an even better job at recognizing, requesting, and responding. The repeat dimension can create a powerful positive feedback loop: The more a firm is able to delight the customer, the more likely it is that the firm can have a repeat interaction with the customer, which in turn provides the firm with yet another opportunity to learn about the customer, allowing them to delight the customer even more in the future.

Large language models are inherently good at learning from prior experiences. They use prior interactions as feedback and train themselves to utilize the information they're given in the interactions with a particular user. Their knowledge base with respect to a user thus grows with any interaction, basically hard-coding the positive feedback loop we described above. Moreover, these systems are also able to make inferences from other, similar customers, speeding up the learning process even more.

Recommendation 3: Use the technology to complement your capabilities, not substitute for them.

Thanks to the APIs from Google, Microsoft, and others, the capability of integrating large language models into digital user experiences will not be limited to big tech companies. The good news is that everybody, even a small healthcare start-up, or a school district with antiquated technology infrastructure, will have access to this technology. But, from a strategic point of view, this is also the bad news. Integrating the skills of large language models will become table stakes — i.e., every firm will do so — rather than being a source of competitive advantage. In other words, it is safe to predict that a firm using this technology will gain a competitive advantage over one that does not. But, this might not suffice to create a winning customer experience.

To illustrate, consider what has happened to dockless scooter and bicycle sharing. A new technology (mobile apps and GPS) enabled the futuristic user experience where a customer can find a bike, remotely authorize its use, enjoy it, and drop it off wherever desired. This approach was so appealing that multiple mobility providers decided to offer this exact same customer experience. This was good for customers who could switch from one provider to another within seconds, but caused cut-throat competition and bankruptcy for many of the companies.

Firms need to remember that technology alone is not a source of competitive advantage, especially not when it's available to everyone. The key question is how a firm can use it in a way that it is valuable and that enhances its customers' willingness to pay for it, but that also cannot be easily imitated by others.

To answer this question, we propose that one should think about the new technologies as a complement to a company's current capabilities,

rather than as a substitute. A lot of the current discussion around chatbots is based on the mental model that AI-empowered technology will substitute for human labor: Costs would come down while overall willingness to pay would not be affected. This is probably true, but it doesn't leave much room for competitive differentiation. A better mental model is to think about chatbots as complements, enhancing a firm's existing capabilities in ways that are unique to the firm. For that, one needs to identify the distinctive value proposition that a firm offers its customers, i.e., to have a deep understanding of how to implement the four R's we outlined above. A healthcare system that seeks to gain a competitive advantage relative to its competitors through connectivity and easy access to care will benefit more from large language models by looking for ways to further strengthen and improve its patient relationships, as opposed to providing the same relationship it has provided in the past at a lower level of costs.

The launch of ChatGPT will be remembered in business history as a milestone in which artificial intelligence moved from many narrow applications to a more universal tool that can be applied in very different ways. But a technology in and of itself does not create value. For value creation to happen, we have to think about large language models as a solution to an unmet need, which requires a precise understanding about the pain points in customer experiences. As we discussed, these models can help address pain points that occur along a journey spanning the phases recognize, request, and respond. Once the value is created, firms face the challenge of defending the value from their competitors. As ChatGPT or similar systems can be used by all players in an industry, it is important to not only focus on the engineering problem of fixing unmet customer needs, but also to tackle the strategic question of how it can help leverage a firm's capabilities.

This article was originally published online on April 04, 2023.



Nicolaj Siggelkow is a professor of management and strategy at Wharton and a codirector of the Mack Institute for Innovation Management. He is a co-author (with Christian Terwiesch) of [*Connected Strategy*](#) (Harvard Business Review Press, 2019).



Christian Terwiesch is a professor of operations and innovation at Wharton and a codirector of the Mack Institute for Innovation Management. He is a co-author (with Nicolaj Siggelkow) of [*Connected Strategy*](#) (Harvard Business Review Press, 2019).

Copyright 2023 Harvard Business Publishing. All Rights Reserved. Additional restrictions may apply including the use of this content as assigned course material. Please consult your institution's librarian about any restrictions that might apply under the license with your institution. For more information and teaching resources from Harvard Business Publishing including Harvard Business School Cases, eLearning products, and business simulations please visit hbsp.harvard.edu.