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The CTO's guide to DIY customer experiences

What it takes to build conversational customer experiences in-house, and what to consider.

Contents

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When it comes to customer experience, the pressure to build, not buy, is growing.

The DIY opportunity

Technology leaders are challenged by the business to deliver the conversational experiences their customers demand—and do it fast. They can't be constrained by vendors' timelines (and they don't want to have to call a vendor every time they need to make a change). And only a handful of organizations can afford to build the vast machine learning infrastructure required to support conversational AI experiences.

Cloud, APIs, microservices, open source tech, and CI/CD methodologies have all ridden to the rescue to help organizations quickly deliver unique experiences powered by advanced AI tech. But when you're taking a DIY approach to customer experiences—especially those powered by conversational AI—there a number of other factors to consider, such as skills gaps, omni-channel deployment, and the "black box" nature of many AI tools.

DIY offers a huge opportunity for technology leaders who craft the right strategy and invest in the right tools. To assist, we've created this guide to help you consider what's right for your organization as you explore the DIY opportunity.

In this guide, we'll look at:

— The critical success factors for a DIY approach that delivers business impact

— Key considerations for defining your DIY strategy for conversational AI

— Why democratizing AI is so important—and the tools that can help you do it

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DIY success factors

A successful DIY approach for conversational customer experiences depends on more than just the technology. To create and sustain a DIY capability that generates business value, technology leaders must be able to find the right skills and minimize the time, cost, and effort of deploying conversational experiences across multiple channels.

Bridge the skills gap
1: Conversational design
This is probably the most difficult skill to teach or to hire, but it's also one of the most underrated skills by many organizations.

We all understand instinctively when a conversation is good or bad, but it can be difficult to pin down why it's good, or how it went wrong. Too many organizations think conversational design is easy—you just hire a writer and let them get on with it.

But just because you can play catch in your backyard, it doesn't make you a World Series MVP. Even the most talented writer will need expert mentoring to understand the intricacies of designing conversations that feel natural but efficiently guide customers to the fastest path to resolution.

Having conversational design expertise on your team is vital. Because if the design of the conversation goes wrong, the whole customer experience falls down.

2: Artificial intelligence
Many large organizations now have AI specialists on the payroll, or access AI engines from the big cloud providers, but often they're focused purely on natural language understanding (NLU) and fail to see the bigger picture.

It's relatively easy to access commodity NLU capabilities and set up a simple chatbot to answer a handful of FAQs or pass people on to an agent. However, that's not the intelligent, conversational experience your customers are looking for.

Understanding the customer's question is easy—plenty of NLU systems will let you do that. Coming up with the right answer, on the other hand, is very hard. It requires AI specialists who can train an algorithm to understand the relationship between linguistics (what the customer wants) and external knowledge (what the answer is). That also means having well-curated knowledge management systems—another specialist skill that's essential for conversational AI success.

3: Speech science
This discipline is related to the others, but requires a distinct set of skills in its own right. For conversational experiences to be truly conversational, it's important to have the ability to tune the NLU, speech recognition, and speech synthesis systems that underpin the conversation.

Without speech science expertise—or easy to use speech engine tuning tools—that's very difficult to do. But, as we'll see later, if you can look inside the AI block box and see how a solution is put together and why it's built like it is, that can give you the insight to create engaging conversational experiences.

With the right tools, it's not always necessary to hire rare skills. In fact, the best DIY tools will act as mentoring platforms for your existing team, helping them acquire and develop new skills as they go.

Solve the omni-channel conundrum
Even if you have all the skills on your team and access to powerful AI engines only a click away, you'll still need to consider how to deliver a consistent, connected omni-channel customer experience.

While a "build once, deploy many" approach is certainly tempting from an SDLC speed point of view, conversational experiences can't simply be deployed as-is to every channel. Even something as simple as whether the customer is engaging with you on a screen or not will affect the way the conversation needs to be presented and the types of content you can serve.

For many organizations, deploying conversational experiences on different channels requires multiple projects, with the entire experience being rebuilt from the ground up for each new channel.

However, a faster, more efficient approach (if you have the right tools) is to break things down into design and development, reusing the transmodal elements—the underlying NLU, the ontology of meaning and relationships—and tweaking the design to match each channel's capabilities.

This approach doesn't just make omni-channel design, development, and deployment faster, it also makes it much easier to measure and optimize performance across all channels.

Cracking open the black box

Developing, deploying, and optimizing customer experiences at speed is essential to remain competitive, and a well-planned and well-orchestrated DIY approach can certainly help. But tech leaders also need to know exactly what they're building—how it works, and how it fits into their architecture strategy.

A DIY approach shouldn't just be about accessing AI functionality through an API. CTOs and other senior technologists need to look inside the black box to see how the tools developers use are built, and how they fit together.

Most large enterprises have either created or contracted an AI team, but for a DIY strategy to work effectively, AI must be democratized. The keys to the black box must be available to everyone: designers, developers, test and QA engineers, infrastructure architects, and business stakeholders.

The golden rules of conversational AI

— **Provide a great developer experience:** You can't build great customer experience without supporting your developers to innovate quickly.

— **Understand how customer journeys move across channels:** If your engagement channels are siloed, how will you connect them to provide a consistent omni-channel experience?

— **Remember—engagement is not optional:** Engaging, natural experiences are mandatory – customers expect it.

— **Put innovation at the core:** Enable innovation at all levels of the organization by increasing your visibility and control over the process.

— **Flexibility and openness are essential:** They give you the agility and oversight to deploy and optimize at speed and at scale.

— **Implement end-to-end automation:** That's how the internet giants push rapid-fire CX changes straight from the designer's brain to the end-user experience.

It's only by democratizing AI that organizations will be able to take full advantage of everything the tech has to offer, while ensuring they're building exactly the right experiences for their customers—and the right solutions for their architecture strategy.

Of course, expert AI practitioners (along with other skilled specialists that we'll discuss later) will still be essential. But with greater transparency comes greater control of the entire process, from design and development, to validation and optimization. And that visibility and control can be very powerful for stakeholders at all levels of the organization.

The fact is, we need to crack open the black box.

Go inside the black box with Nuance Mix

Even if you have all the skills on your team and access to powerful AI engines only a click away, you'll still need to consider how to deliver a consistent, connected omni-channel customer experience.

Nuance Mix provides a comprehensive AI tooling platform to support your DIY strategy for conversational experiences.

With Mix, your teams can access the tools and core speech engines we've developed in 25+ years of providing award-winning voice applications and virtual assistant solutions. With role-based tools, built-in automation, prebuilt models, and expert tutorials, Mix enables everyone from designers and developers to testers and business stakeholders to collaborate on creating high-quality conversational AI applications. And Mix also enables your teams to build consistent, channel-appropriate conversational experiences for every channel, in multiple languages, all in a single project.

Cloud-native, API-first

Nuance Mix is built on a modern, cloud-native architecture, giving your teams access to APIs and microservices for powerful speech, NLU, and dialog technologies for creating intelligent, conversational AI experiences.
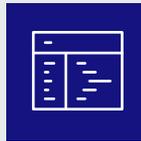
Great developer experience

Nuance Mix gives your designers and developers access to proven, intuitive tools, alongside community and learning forums, to help them build their skills at creating intelligent IVR, virtual assistant, chatbot, and messaging experiences—without having to write a single line of code.

Mentoring platform

Nuance Mix doesn't just encourage and assist your team members to develop new conversational AI skills using tutorials and prebuilt models, it also functions as a mentoring platform, providing direct access to Nuance experts right inside the tool itself.

Flexible deployment options

Run your Nuance Mix applications in the Nuance cloud, a third-party cloud, or on-premises—whatever fits your architecture strategy.

Make the most of the DIY opportunity

Intelligent, conversational experiences are no longer nice-to-haves in customer engagement—they're table stakes. Having the agility to quickly design, build, validate, and optimize these experiences as customer demands change will often require a DIY approach, rather than relying entirely on vendors (although external expertise may still prove valuable to fill gaps in your own capabilities).

To capitalize on the DIY customer experience opportunity, technology leaders must consider three important criteria for success:

— **Skills**
  Ensure you have the ability to add conversation design, speech science, and AI skills to your design and development expertise.

— **Omni-channel experiences**
  Find tools to help minimize the time and costs of creating conversational experiences that span multiple channels.

— **Democratization of AI**
  Crack open the block box to understand how conversational experiences are built, and enable a broad range of roles to access tools that accelerate the software development lifecycle (SDLC).
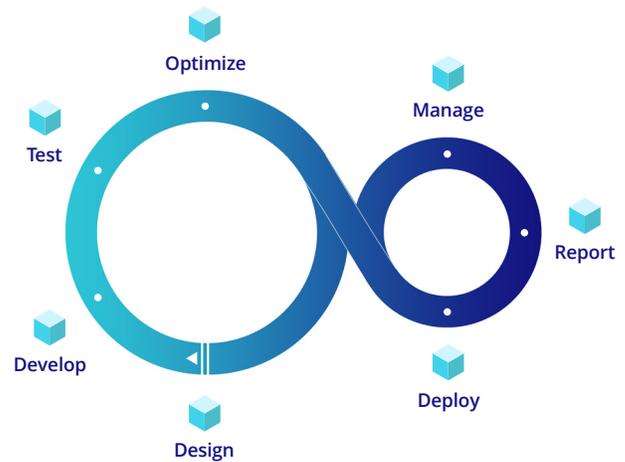
Software Development Lifecycle for Intelligent Customer Engagement

With the right DIY strategy—supported by the right tools, and external assistance where it's needed—you can de-risk DIY and rapidly create conversational experiences that get your customers talking.

LEARN MORE
To find out more about Nuance Mix, and see how it could support your DIY strategy, explore the resources on our Nuance Mix infohub.