SERVISBOT

A CONVERSATIONAL AI JOURNEY GUIDE

A Maturity Model for AI Bot Solutions

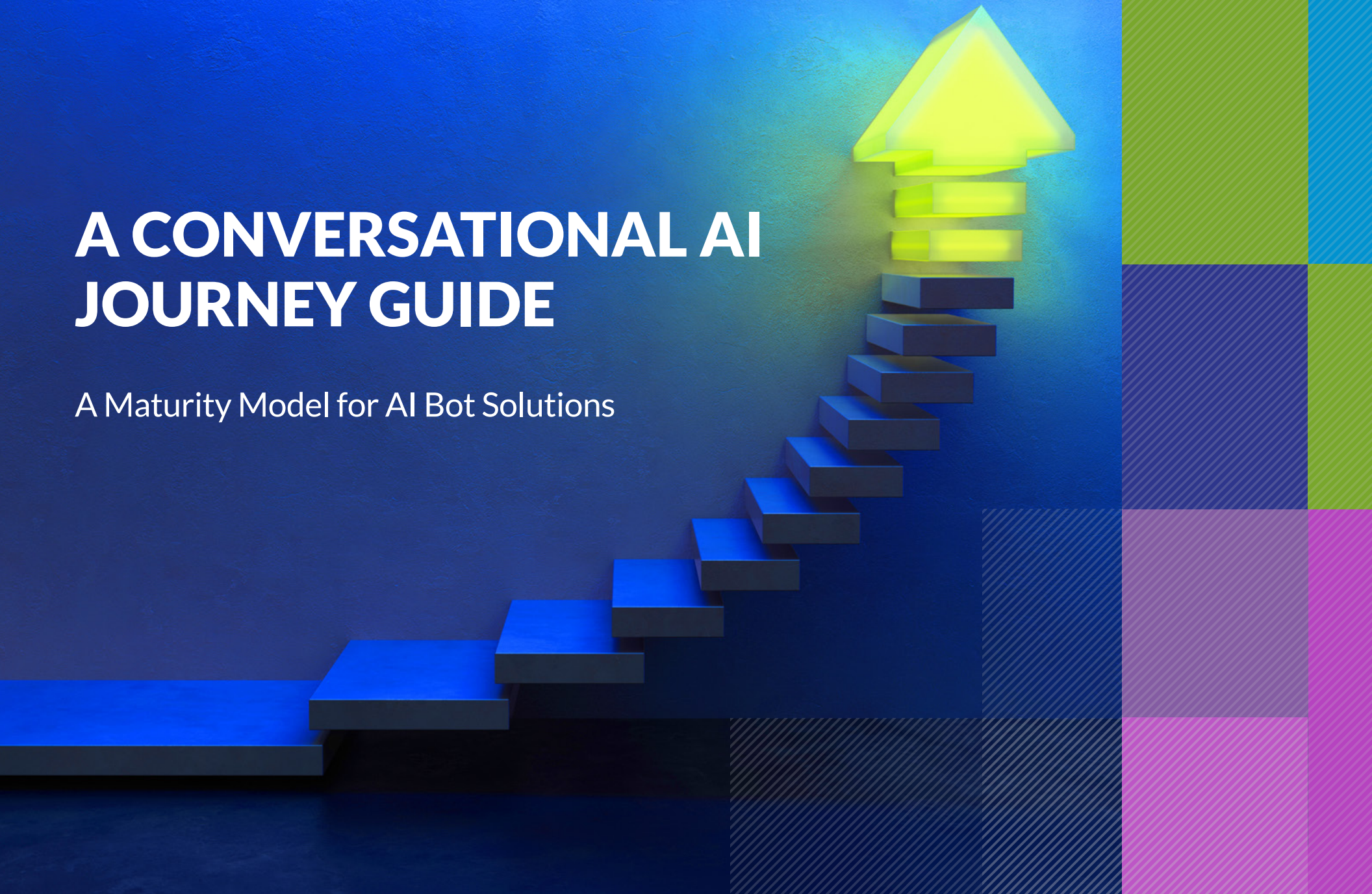


TABLE OF CONTENT

CHATBOTS: THE NEW-AGE DIGITAL WORKER

As the COVID-19 pandemic swept across the globe in 2020, its impact exposed the dependency many businesses had on human-centric and office-based working models, making a strong case for the AI-powered digital worker. Powered by conversational AI technology, these chatbot solutions give businesses a means to engage digitally with their customers and employees, potentially automating over 60 percent of routine interactions.

A digital AI assistant or chatbot is a virtual worker that can interact with a customer or employee using natural language that simulates a human conversation. It can also automate different tasks and workflows that correspond to the customer's needs. This makes it the perfect digital worker that can respond day and night to repetitive and routine requests, either partially or fully automating the intended tasks and deferring or escalating more complex queries for the human worker to resolve.

As with many emerging technologies that are adopted by the enterprise, the implementation of conversational AI solutions has not been as straightforward as it may seem. The decision to adopt a chatbot, to expand its capability, or to scale chatbots across different business use cases needs careful consideration as part of the overarching digital business strategy.

This guide offers our recommendations for a successful and strategic chatbot journey for the enterprise. Gathering perspectives based on our learnings from building and deploying multiple chatbots and on the experience of our clients, there are a number of valuable considerations, whether you are embarking on your first chatbot project or advancing and expanding conversational capabilities across the business. Let the chatbot journey begin.

> "Chatbots are projected to see over a 100% increase in their adoption rates in the next two to five years and are the leading AI use cases in enterprises today."
>
> **Gartner's Hype Cycle for Artificial Intelligence, 2020**

WHAT'S YOUR CHATBOT MATURITY STAGE?

When it comes to guiding businesses in their chatbot implementations, there can be different starting points depending what stage a business is at in their journey or maturity. So let's begin with a quick diagnostic to see where your business is on the chatbot maturity scale.

1. AWARENESS

Planning a Chatbot

- Identify your use cases and goals
- Experiment with tools to create bot prototype/ proof of concept
- Gather training data
- Draft RFI/RFP questionnaire

2. ADOPTING

Experiment with First Chatbot

- Build intent/utterance library for use case
- Tune the bot with training data
- Debug the bot
- Track conversational history
- Integrate bot with data source(s)

3. MATURING

Increase Bot Functionality & Integrate Securely

- Manage bot security, governance, data isolation
- Add language, data integrations, other features
- Experiment with more suitable NLP engines
- Create consistent conversational experiences
- Analyze and track bot performance

4. OPTIMIZING

Manage Bot Lifecycle for Multiple Bots in Production

- Manage intents/flows across many bots
- Maintain and upgrade multiple bots
- Architect a better multi-bot approach
- Manage content lifecycle within each bot
- Analyze and track bot performance

5. SCALING

Scaling and Orchestrating Multiple Bots

- Orchestrate across multiple bots
- Overcome NLP limitations
- Optimize accuracy and context
- Manage different NLP engine
- Lift and shift one NLP to another

MAPPING YOUR AI CHATBOT JOURNEY

Whether you are just thinking about your first chatbot project or extending the functionality of your existing solution(s), or expanding chatbots to other parts of your business, the place to start is by thinking of the use cases that you may have for a chatbot.

1. START SMALL

If you are planning your first chatbot project, starting small is the best approach. Pick a manageable use case that represents low hanging fruit where there will be quick wins and the implementation won't be hampered by technical or other complexities.

Your initial chatbot project shouldn't try to solve every problem out of the gate. It could be that the top ten requests account for the majority of routine issues that consume the current time and effort spent by your workforce with the remaining queries representing more long tail or edge cases. Trying to solve for everything on day one is unrealistic and a potential recipe for failure.

Maybe you focus your initial rollout on a narrowly-focused pain point, a product line, language, or customer group, striving to improve that before adding more products, languages or broadening the reach.

> "The potential to use AI-powered chatbots to improve our conversion rates, while providing operational efficiencies across customer service, was an opportunity we couldn't ignore."
>
> **Louise McCormack, AA Ireland, Customer Lifecycle Manager**

READ THE CASE STUDY

2. PRIORITIZE YOUR CHATBOT USE CASES

Chatbots can be used to deliver far more use cases with stronger ROIs than you think. They aren't just for handling inbound customer requests but can also operate as proactive digital assistants, such as in use cases like digital onboarding, renewals and collections. The potential for chatbots is boundless and progressive companies are willing to apply the technology to areas outside the usual FAQ and customer service applications.

Think of chatbots in terms of the target audience (i.e. customers or employees) and the user journey with your business. This helps you identify an array of potential use cases where a chatbot solution could benefit your business.

Look at the very first interaction that someone may have with your company and all the subsequent interactions or journeys they take along the lifecycle. These interactions may include supporting a customer during a purchase, onboarding a new customer, troubleshooting their product issues, scheduling services, handling a claim, making a payment, or renewing their subscription.

CUSTOMER ACQUISITTION	OPERATIONS	CUSTOMER SUPPORT	CUSTOMER LOYALTY
Quotation	Scheduling	Status Updates	Renewals
Booking	Orders/Returns	Tracking	Cross/upsell
Onboarding	Fulfillment	Complaints	Upgrades
Conversion	Collections	Refunds	Promotions
Activation	Claims	Other CS	Loyalty Programs
FAQ	FAQ	FAQ	FAQ

BOT USE CASES ACROSS THE CUSTOMER LIFECYCLE

You may be surprised how many interaction points and journeys that exist beyond customer service. The checklist gives a sampling of some of the common use cases. Once you've identified the use cases, you can then begin to prioritize the top contenders in terms of their business value and the factors that may impact their development.

CHECKLIST FOR IDENTIFYING CHATBOT USE CASES

DEPARTMENTS/FUNCTIONS	SAMPLE CHATBOT USE CASES
Customer Acquisition & Sales (customer-focus)	☑ Applications/Approvals ☑ Bookings ☑ Quotations ☑ Customer Onboarding ☑ Renewals ☑ Upsell ☑ Winback
Operations (customer-/employee-focus)	☑ Account Management ☑ Claims ☑ Billing ☑ Collections ☑ Compliance ☑ Appointments
Customer Service & Support (customer-focus)	☑ Complaint Handling ☑ Order Status ☑ Returns ☑ Troubleshooting ☑ Billing
Marketing (customer-focus)	☑ Loyalty Program ☑ Promotions ☑ Upgrades
HR (employee-focus)	☑ Benefits Management ☑ PTO
IT (employee-focus)	☑ IT Helpdesk ☑ Knowledge Management

> "CIOs need to focus on simple, repetitive, factual interactions where customer needs are well-understood, and data and rules are not complex. To find the use cases and personas where the Virtual Customer Assistants (VCAs) have the maximum impact, conduct co-creation sessions at which business counterparts discuss concepts and ideas in collaboration with their customers."

Gartner: Top CX Trends for CIOs to Watch

3. DEFINE THE BUSINESS GOALS FOR YOUR CHATBOT

As you hone in on your chosen chatbot project, the next step is to consider the business goals for it. These should tie back into your overall business priorities and objectives.

For example, your focus could be on making it easier for customers to get started with your products or services, or you may want to improve the efficiency of your customer contact center, or increase your online sales conversion rates. Make sure to choose your first chatbot based on it being able to deliver measurable business value. For example, using a chatbot on a website to just do what an FAQ webpage does isn't going to help reduce costs. It's just providing an alternative way for a customer to find information.

SOME BOT USE CASES AND THEIR BUSINESS GOALS

Reduce Cost & Effort in Assessing Property.

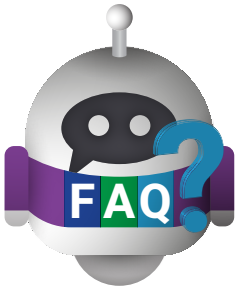
A home insurance client deployed a **Self-Assessment Bot** to offer customers a means for Self-Assessment.

Reduce Cost & Delays Onboarding New Customers:

An auto insurer used an **Onboarding Bot** for uploading and verifying necessary customer documents.

Provide Self-Service Troubleshooting Assistance:

A payment acceptance company created a **Troubleshooting Bot** that helps merchants resolve payment terminal issues.



SAMPLE CHATBOT USE CASES AND THEIR GOALS

CHATBOT USE CASE	SAMPLE GOALS
Online Quotation Assistance	• Increase online conversions by x% • Improve information accuracy by x% • Reduce initial quote-to-sales time by x% • Reduce cost per quote by $x
Customer Onboarding	• Reduce time to onboard new customer by x days/hours • Reduce labor costs of gathering customer proof docs by $x • Increase accuracy rate of gathered documents • Reduce dropoff rate of new customers by %x
Product Troubleshooting	• Resolve top x% of inbound queries with bot • Reduce average cost to serve by $x per interaction • Increase retention rates by x% • Increase SAT score by x%
IT Helpdesk — PW Reset	• Automate x% of total PW reset requests • Reduce service costs of PW reset by x%

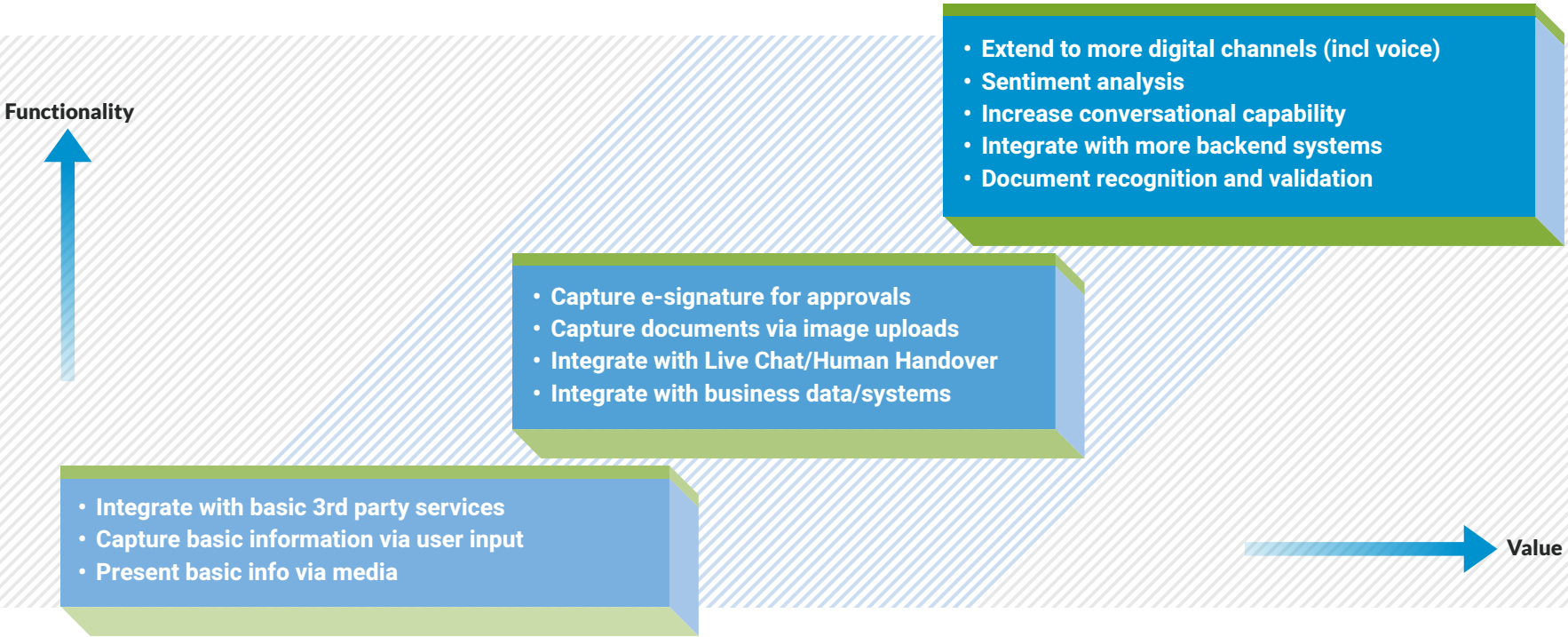
> By using the digital assistant, we've been able to divert calls and greatly reduce the number of conversations initiated via live chat. We've removed a lot of repetitive manual effort that didn't add much customer value, and we're now continuing to add more automated options for our customers."

Justin Sebok, Senior Product Manager, WorldRemit

4. PLAN THE CHATBOT FEATURES THAT ADD VALUE

Consider the specific features of your chatbot that help you achieve or exceed your targeted outcomes. Rather than having chatbots emulate your current workflows, consider the value they bring in transforming manual tasks to automated and frictionless ones.

You may start out with some basic Q&A type functionality or a web-assist experience where the bot helps customers complete a form, providing descriptions or mini video tutorials and answering any queries a use has. But what if your use case relies on gathering evidentiary or other documents or images. The ability to capture these via the customer's device camera and have them instantly uploaded and verified by the bot could be game-changing.The more advanced you are on the maturity scale, the more functionality and value you may have added to your bot.



> The bot definitely makes it smoother for the merchants. Our call centre can take five to ten minutes to handle an identical request. We've designed the bank account change process so that the bot won't let the customer progress to the next stage until they've provided all required documents. Visually, it's much easier for the merchants and it lives up to our model of modern customer service."
>
> Jennifer Doyle, Head of Digital Platforms, BOIPA/EVO

READ THE CASE STUDY

5. ASSESS YOUR TECHNOLOGY AND CONVERSATIONAL READINESS

Just because you have identified the ideal use case for your business doesn't necessarily mean that it is the most feasible starting point. It's important to identify your technical and conversational readiness before you embark on your chatbot project.

API Readiness

Enterprise chatbots thrive on data in order to identify and authenticate a user, add context and personalization, make rule-based decisions, and automate workflows. The ability of a chatbot to automate tasks and provide a good conversational experience relies on data held in multiple data sources or systems, either internal to the business or via third party systems. And the chatbot accesses this data from disparate systems via APIs.

So imagine your chatbot use case needs to retrieve a customer's account balance or the deductible on their insurance policy. Without being able to access this information from the appropriate backend systems it cannot fulfill the customer's intent. Often data may be held in a system that does not have an available API. The ability to extract this data and have this functionality in the bot involves building the API connector and this can take time and IT resources.

API readiness is an important consideration when deciding what data services you need to get your initial chatbot use case off the ground. And over time as the APIs for connecting to further data sources are available, the bot functionality can be extended and enhanced.

Conversational Readiness

A chatbot relies on a good dataset of intents, utterances, and responses to provide a good conversational experience. Depending on the use case, there may be existing customer or live chat scripts available that offer a good starting point for understanding what the top queries are and how users are phrasing their requests. Leveraging these scripts helps in building the initial training dataset for the bot and priming it with the correct responses. As users start to engage with the bot, missed intents and utterances, or ambiguous responses can be captured and through the application of machine learning the bot can be tuned and optimized to deal with them.

For some use cases, however, the conversations need to be designed from scratch as there may be no suitable conversational dataset or scripts or an industry-specific conversational dataset may be available but needs to be customized and adapted. These are not insurmountable hurdles but are good things to consider upfront.

6. DRIVING BOT ENGAGEMENT

You build a bot and they shall come! Just because you've created a great chatbot to engage with your customers doesn't mean that they will instinctively know that. To take advantage of the potential for high engagement rates that chatbots can yield and reap the benefits of resulting automation here are some considerations.

- **What Is The Target Audience For Your Chatbot?** It could be a specific customer group based on region, language, product, or status. Your bot may be designed to help troubleshoot product issues for merchants or employees, or provide upgrades to premium customers and partners, or it may be a general customer service bot that is designed for all your customers. Not to mention many chatbot solutions are designed for internal employees. Who you are targeting with your bot helps shape some of the following decisions that will influence engagement.

- **What is the Use Case for your Chatbot?** Chatbots are often associated with inbound customer service requests (and sometimes even confused with live chat) but, as mentioned earlier in this eBook, there are many different types of interactions and journeys where a chatbot can engage and automate. Chatbots can also be designed to be proactive and reach out to customers on messaging or SMS channels, where open rates are as high as 98% compared with just 20% for emails.

- **How Large Is Your Potential User Base?** The ROI of your bot often will rely on the volume of users that engage with it. However, that's not to say that a very high value bot that can automate a process for a low number of premium customers won't deliver ROI.

> "Because of the sheer volume of calls we were receiving during the lockdown, we needed to move away from having an agent on the phone with a customer talking them through the process, especially when they were repeatedly answering the same questions. We needed to find a different method."
>
> **Justin Sebok, Senior Product Manager, WorldRemit**

- **Where Will Customers Find Your Bot?** Your chatbot can be deployed on various digital channels. It can be accessible on relevant web pages (e.g. contact us, customer support page, product page, etc.), on your mobile website or mobile app, or it can be on messaging channels like WhatsApp, Facebook Messenger, Slack, or business chat channels. You can also deploy a chatbot as part of a solution to deflect incoming phone calls to a more convenient digital self-service channel where the bot can engage directly with the customer via SMS, a messaging channel, or within the company's app.

- **Setting User Expectations.** Once your customer clicks on your chatbot you want to be sure that they are aware that they will be engaging with a bot and not a human. Avatars on web pages may give the impression that the customer will be chatting with a live chat agent. So be transparent and let them know it's a bot. This doesn't mean that your bot can't have a personality and human-like character.

- **How Can You Drive Up Bot Engagement?** The visibility of your chatbot is key to customers finding it. If you are trying to deflect customers from phone lines you'll need to consider how your IVR can handle this and ensure that you give a clear option from the IVR menu and a compelling reason for the users to accept getting a link to the chatbot rather than waiting for a live agent to deal with them. If your bot is deployed on a webpage, how visible is it? A small avatar in the lower right corner may need to give way to a more obvious call-to-action that animates or pops up an intro message.

> "We also experimented with changing the call to action (CTA) for the bot on their webpage, introducing a larger format "Need Help?" button with a subtle bounce animation. Following this simple change, bot engagement increased by 150%"

Jennifer Doyle, Head of Digital Platforms, BOIPA/EVO

7. TESTING & OPTIMIZING YOUR CHATBOT(S)

Optimizing Conversational Data

Once your first chatbot is in production you will need to continually monitor how customers interact with it to see how it can be improved. Even if you have used email or live chat conversations as training data for your bot these may be problematic for the underlying NLP as they can contain random, single word, or ambiguous queries that the NLP doesn't handle well. Sometimes you assume to know what customers are looking for and don't realize until you have seen the bot in action that customer intent can be different than expected. Conversation history with the bot and a means to inject missed utterances and intents to the bot is important as is the ability to make changes to the bot quickly and easily.

Monitoring Bot Performance, Engagement, & Conversion

Bot analytics are important in measuring bot success across different metrics. Besides monitoring the number of users that initiate a conversation with the bot, it is important to understand user engagement throughout the complete conversational flow, setting goals at different points or for different transitions and events. This helps you understand how far the user gets and any barriers that prevent them from completion or conversion. For example, an online retailer may have a web assist bot to guide users through a product purchase, answering their queries along the way, checking for promotions, and processing their payment. There are several points in the conversation where completion and conversion can be tracked.

> "We weren't constrained at all, the ServisBOT platform gave us the flexibility to make changes within 24 hours if need be. A lot of providers claim that, but with ServisBOT we really could. It was great to have the ability to request changes and have a team that could deliver at the click of your fingers."
>
> **Jennifer Doyle, EVO Payments (BOIPA)**

Exploring NLP Engines

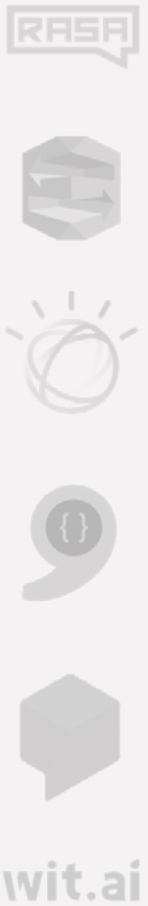
As you expand the use cases for chatbots you may begin to explore different NLP engines in terms of their suitability to the goals of your business and use cases. For example, you may have started using Amazon Lex as your chosen NLP but discover that Google DialogFlow is more suited to handling larger intent volumes. Or your enterprise developers may start to work with Rasa, the open source software for building advanced conversational AI assistants.

Each of the different NLP engines has their pros and cons - some are easy to get started with for casual users while others require trained data scientists. One or two can handle numbers and special characters better than others. Some are good for English language only while others support multiple native languages (including Arabic and Chinese). The ability to mix and match these engines depending on the problem to be solved ensures maximum flexibility and low vendor lock-in.

Bot Lifecycle Management

As more bots go into production, lifecycle management becomes more challenging as this has to be done at each individual bot level. Managing a growing set of intents and utterances, tracking conversation history, and feeding back learnings to each bot can become challenging as your chatbots become more complex and as you roll out more bot solutions. Bot Lifecycle Management not only includes the smooth deployment of a bot from staging to production but extends to the complete lifecycle of managing updates, versioning, and rollbacks.

READ MORE



8. EXPLORE THE SECURITY AND COMPLIANCE OF YOUR BOT

No matter what stage of maturity you are at in your bot journey, security is always a vital consideration and one that becomes increasingly important as you expand the functionality of your bot projects, integrate them more with your business data, and scale them. In any enterprise application, security is multi-faceted, spanning things like:

- The confidentiality, availability, and integrity of your data with industry best practices. Data centers that handle data gathered or accessed by your bots may need certifications that meet your industry requirements.
- Taking steps to securely develop and test against security threats so that the safety of customer data is ensured. Performing design and code reviews as well as security testing at all stages in the chatbot development lifecycle is good practice.
- Leverage secure components, such as encryption solutions, that help protect customer data throughout its lifecycle. Data communications in transit or at rest between a customer and the chatbot may need to be encrypted.
- Network vulnerability scanning, firewalls, continuous monitoring, the use of intrusion detection and prevention programs, help monitor the security of business data and processes for potential threats.
- Comply with data privacy, industry-related, and/or regional-specific regulations. For example when dealing with a European's customer data, compliance with GDPR is a must. In the US, customers from the Health and Medical services industry are required to comply with HIPAA.
- A business continuity and disaster recovery program ensures services remain available or are easily recoverable in the case of a disaster.

> "This demonstrates the flexibility of the platform, it allows us to transform customer engagement while still adhering to the rules and policies of our organisation."
>
> **Jennifer Doyle,**
> **Head of Digital Platforms, BOIPA**

9. BOT ORCHESTRATION & COLLABORATION

Chatbot solutions tend to evolve and grow across an organization as it seeks additional opportunities to automate and expand digital engagement. Even in a single department there may be several task-oriented bots in production, each designed with very specific missions, but that may ultimately need to collaborate or handover to a different bot according to a customer's request.

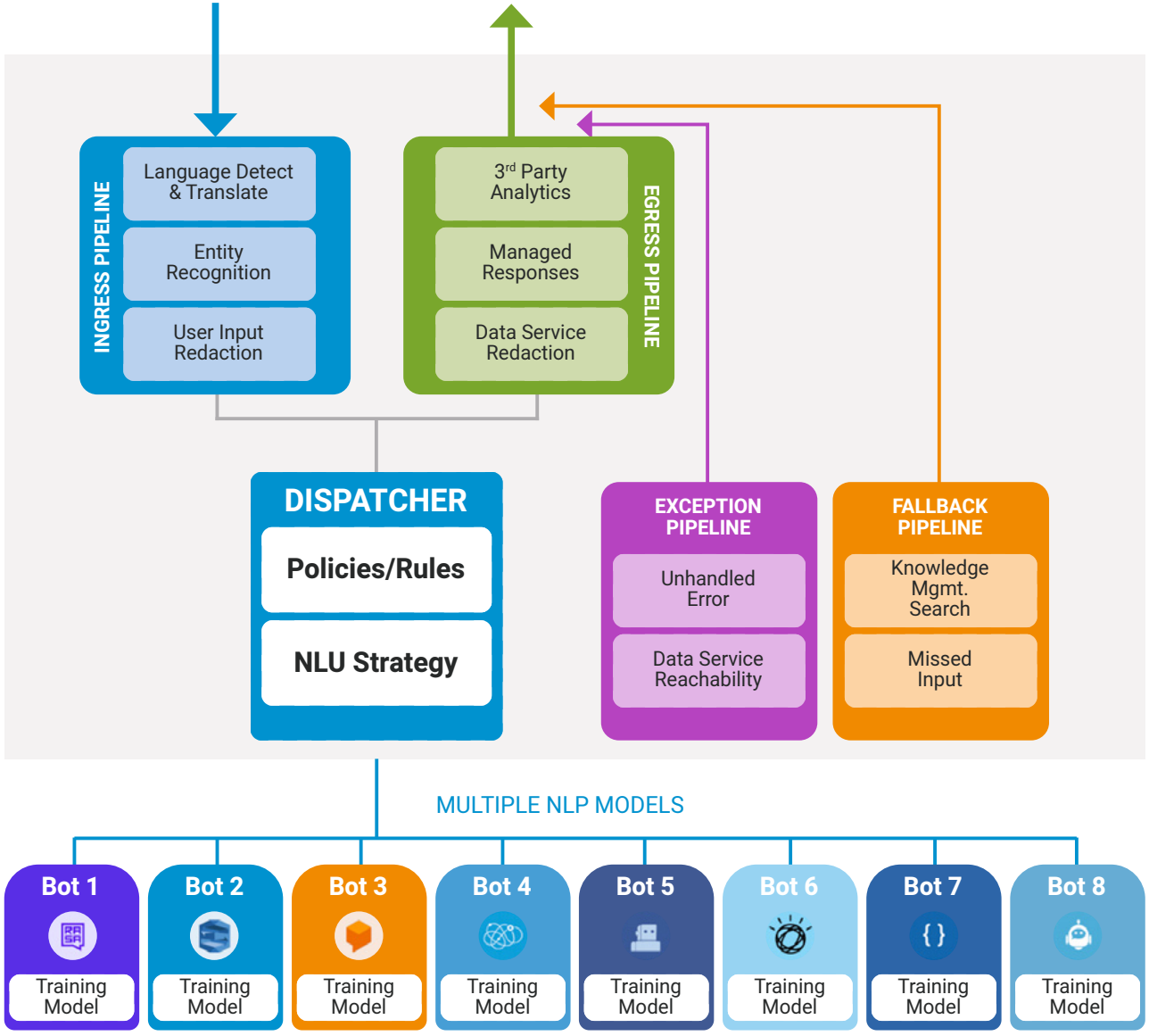
A single bot solution may be able to handle the initial requirements of a business use case but often a business owner decides to add additional capabilities such as language, data protection, small talk, or just simply add new intents to extend its scope. Packing too many intents into an NLP model can lead to what is termed "overclassification". This can lead to false positives, where the bot sends the wrong response to the user query. When this happens the conversational experience is impacted, even to the point of bot failure.

Then there is the issue of a single bot trying to solve complex business problems or handle multiple product lines. Depending on the underlying NLP engine used and how it is configured, the limit of intents that can be handled by one bot can be surprisingly low. When the intent limit for any given NLP engine is reached, the quality of the experience declines.

Collaboration across several skilled bots has emerged as both a requirement and a challenge for enterprises as they expand the scope and number of conversational AI projects across the business. Different approaches, NLP engines, tools, and conversational user experiences may emerge, impacting the ability to maintain a consistent brand experience and a single access point for the user no matter what their interaction may be.

> "By 2025, 50% of enterprises will have devised artificial intelligence (AI) orchestration platforms to operationalize AI, up from fewer than 10% in 2020."
>
> **Gartner's IT Automation Predictions 2021**

BOT ORCHESTRATOR



The way to overcome this is through multi-model NLP orchestration that enables the business to blend independently managed bots into a unified experience. With this architecture, a bot orchestrator acts as the brain of the model, navigating operations across bots and routing to the appropriate bot or bots according to the intent. Multiple NLP bot models can be deployed in parallel, each with its own training data, intents, and utterances, regardless of the mix and match of different NLP engines.

This orchestration model also enables the centralization of capabilities like language, authentication and verification, small talk, data redaction, and escalation, avoiding duplication of these across each bots.

LEARN MORE

FUTURE-PROOF YOUR CONVERSATIONAL AI JOURNEY TODAY

RELATED ARTICLES:

- The Virtual Assistant as Bot Orchestrator
- Six Elements of a Multi-Bot Approach for the Enterprise
- When Conversational AI Grows from a Single Bot to Many Bots

USA
ServisBOT Inc.
P: +1 857 424 0978

IRELAND
ServisBOT Ltd.
P: +353 51 348417

askbotty@servisbot.com

ABOUT SERVISBOT

ServisBOT provides a Conversational AI platform for businesses to build chatbots that automate key customer and employee interactions across multiple digital channels. Our technology makes it easy to create superior customer experiences that integrate securely with business systems. Our Virtual Assistant and multi-bot architecture approach to Conversational AI supports better management, scaling, and governance of complex and diverse bot and systems landscapes.

Follow us online

www.servisbot.com

SERVISBOT