



HOW CHATBOTS WILL FACILITATE THE OMNICHANNEL EXPERIENCE

Whitepaper



1.1 Current Chatbots Market Outlook

The growth in the chatbot market is due to a variety of technological advancements, including the integration of predictive analytics, blockchain, cloud computing, machine learning, and the development of self-learning chatbots. These learning abilities allow the chatbot to adapt to changing digital environments without the need to manually alter any code or algorithms, as it is able to learn from others' actions, decisions and experiences.

Chatbot messaging apps will continue to own the largest market value proportion throughout the forecast period. This due to its ability to increase convenience for conversational commerce. However, in order to do this, there must be an increased level of convenience for the end user. Therefore, both brands and enterprises will have to ensure that they can cover as many communication channels as possible in order to maximise sales and service revenue. In order to migrate users to a conversational commerce experience, chatbots, and more specifically, the popularity of chatbots over messaging apps will be imperative.

The siloed nature of the OTT ecosystem means that these messaging apps can control their own development; making it is easier for them to develop their own chatbots and chatbot services. This OTT ecosystem will allow brands and enterprises to ensure that they are covering as many possible communication channels across many different geographical regions, which has resulted in these messaging apps having the largest addressable user based of conversational commerce.

1.1.1 Chatbot Ecosystem

The chatbot ecosystem is relatively robust, and figure 2 highlights the current chatbots ecosystem and shows what role key stakeholders are adopting in the development of chatbots as an ecosystem. Moreover, this ecosystem highlights how there are many types of chatbot technology including both enabling and third-party technology.

Not only are there many types of chatbot technology, but there are also many types of companies that provide chatbot solutions.

i. End-to-End Solution Providers

Whilst many smaller brands and enterprises use chatbots to perform repetitive and simpler tasks, these end-to-end solution providers are often reserved for larger companies that require a more complex chatbot solution.

These providers work with large companies to understand their requirements, process customer data and create personalised chatbots. Moreover, these companies utilise machine learning, DL (Deep Learning), and NLP so that the chatbot is able to continually learn and adapt to the companies forever changing needs.

ii. Self-service Solution Providers

These providers often cater to smaller brands and enterprises where the chatbot's needs are relatively basic. As these companies often have a significantly smaller budget compared to larger enterprises, they often choose a self-service solution provider whereby its technical personnel can build a chatbot in-house. However, this is assuming that these smaller vendors have an in-house developer, and if this is not the case, it can be costly to onboard a developer to create and manage these chatbots.

Deployment channels such as cloud networks, RCS and messaging apps are where chatbots are embedded and can interact with users directly. However, third-party chatbots are developed by CDT (Chatbot Development Technology) players and used by brands and enterprises to converse with their customers. Lastly, native chatbots are those built by the platforms or apps in which they are operating. For example, Apple both built and deployed its own chatbot, Siri, on its platform.

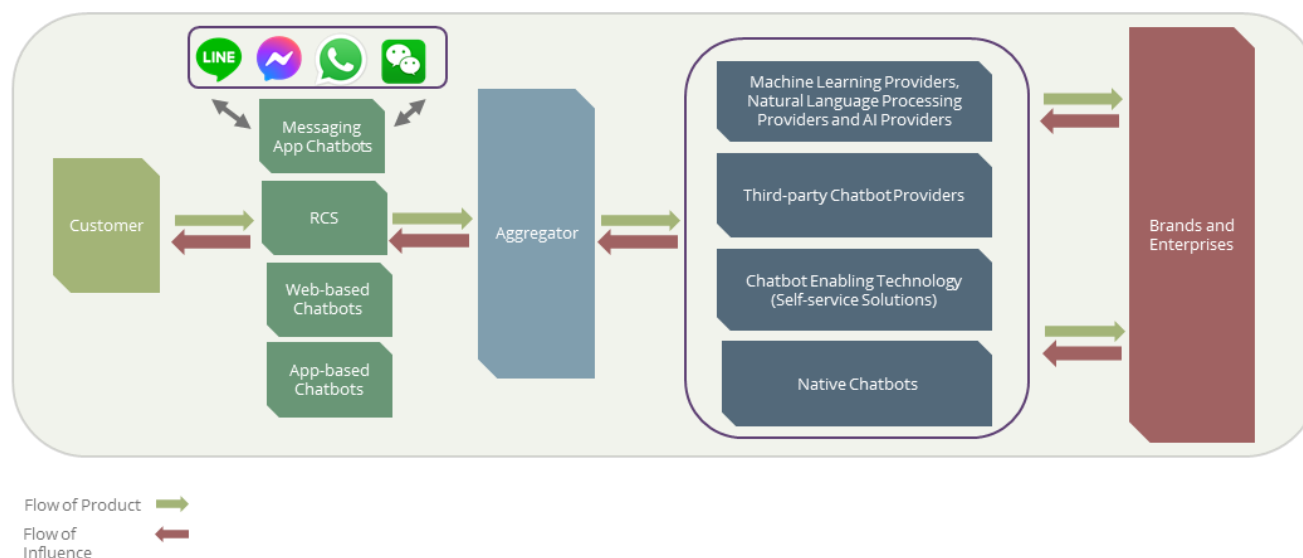
1.1.2 The Role of Chatbots in Omnichannel Retail

The eCommerce market has become one of the fastest-growing markets in today's climate and with this rise in user demand, it is essential for brands and enterprises to maintain an uninterrupted flow of services across multiple channels and at all times of day.



The rise in the eCommerce market means that a chatbots' ability to accept and process payments is imperative. However, the facilitation of payments over chatbots is still relatively unique, as many chatbot vendors do not have the means to process payments across its chatbot interface. In order for a chatbot to be able to process payments, these chatbot developers use the APIs of a payment system or bank. These payment systems include companies such as PayPal, Stripe and EasyPay. For web-based chatbots, if the user wishes to make a payment, then the chatbot will provide them with a payment button. Once this payment is processed, the chatbot will then either continue or stop the conversation. However, for app-based chatbots, if the user wishes to make a payment, the chatbot will provide a website link that the user has to follow in order to process the payment.

Figure 1: Chatbots Market Ecosystem



Source: Juniper Research

However, with apps such as Messenger and Telegram, the user can automatically save their payment information on the app. This means that the chatbot does not have to ask consumers to reinput their information, instead it can source the payment details from the customer's account and will just ask the customer to authorise this purchase. Once this purchase is authorised, the chatbot vendor receives tokenised credentials and can charge the user for the item.

The role of personalisation and chatbots can also be applied to being available for communications on each customer's preferred channel. Today's retail market is consumer led and therefore, the brand does not determine on what channel interactions take place. Instead, the customer chooses how they wish to communicate. Omnichannel chatbots are built on one platform and then deployed across multiple channels including email, customer-facing websites, mobile messaging apps, mobile apps, and sometimes voice assistants, such as Google Home and Alexa.

This omnichannel retail experience is imperative to customer experience as it allows both brands and enterprises to offer the same quality of service across a variety of channels and ensure that all customers are served equally. In order for a business to provide high-quality customer service across a range of communication channels, brands and enterprises will have to learn to identify and track the clients across these digital channels in order to gather data and analyse the customer journey to provide insights into customer queries. One of the biggest challenges currently facing the chatbot market is having the ability to provide a continuous conversation to clients across a range of channels. This is where omnichannel chatbots are of use.



1.1.3 The Role of Omnichannel Vendors

The use of chatbots in omnichannel retail requires the support from many omnichannel vendors, including both self-serving and third-party chatbot development vendors, CPaaS platforms, OTT apps, and online retail.

i. Chatbot Vendors

In order for brands and enterprises to be able to maintain a continuous conversation across a range of channels, it is imperative that chatbot vendors allow their chatbots to be installed on these channels. This can be done through the use of APIs that are specific to each channel.

ii. CPaaS Platforms

Having the support from CPaaS platforms is imperative to providing a successful omnichannel experience. As CPaaS platforms are able to support a multitude of communication platforms such as SMS, RCS, and OTT messaging, they are able to offer fallback options whereby the successful delivery of a messaging is assured by sending an SMS messaging to customers in the event that a particular messaging app is not installed on a user's device. This is particularly useful with RCS messaging, as it is still a relatively immature global market. If the recipient does not have RCS software installed on its device and a chatbot attempts to send a message via this medium, then the CPaaS vendor will ensure that the message will be sent via SMS instead as this is a standardised, very well-established messaging medium.

iii. OTT Messaging Apps

OTT is a favourable option for brands and enterprises to use to communicate with their customers as it is less expensive than other communication methods such as SMS and RCS. As OTT apps are not standardised against specific global or mobile operator regulations, they have more flexibility for regional migration. However, similar to RCS, OTT messaging apps are limited to whether the user had that specific device installed on their device. Moreover, the fragmentation of the OTT messaging space is expected to remain over the next five years which will challenge both CPaaS and chatbot vendors to ensure that they are able to facilitate their services on all of the different messaging platforms.

1.1.4 Advancements in AI and Cloud Computing

As chatbots use a number of different communication methods such as written text and speech, Juniper Research believes that chatbot vendors will begin utilising multimodal AI. Machine learning algorithms have traditionally trained their models using one source of data. For example, a chatbot model that uses NLP is typically trained using textual content, whereas chatbots that use voice recognition are often trained using key word detection and voice cancellation. This type of machine learning uses a single AI model whereby the outcome is mapped to a specific source or data type. However, multimodal AI converges two or more streams of information which allows the chatbot to have a higher degree of accuracy across multiple communication mediums.

i. Natural Language Processing

In today's chatbot ecosystem, most chatbots are integrated with NLP technology which allows the chatbot to determine the meaning from language. This is where natural language is broken down and converted into data elements; enabling the computer to decipher its meaning.

NLP is a subfield of linguistics and AI and its aim is to supply machines with the ability to understand and respond to both text or voice data. This NLP does not only allow the chatbot to understand this language, but it also allows for the chatbot to reply in the same medium, similarly to how humans converse. NLP combines both statistics with computational linguistics, machine learning and deep learning models. This allows for the chatbot machines to process human language in the form of both text and speech and be able to understand its full meaning.

ii. Natural Language Understanding

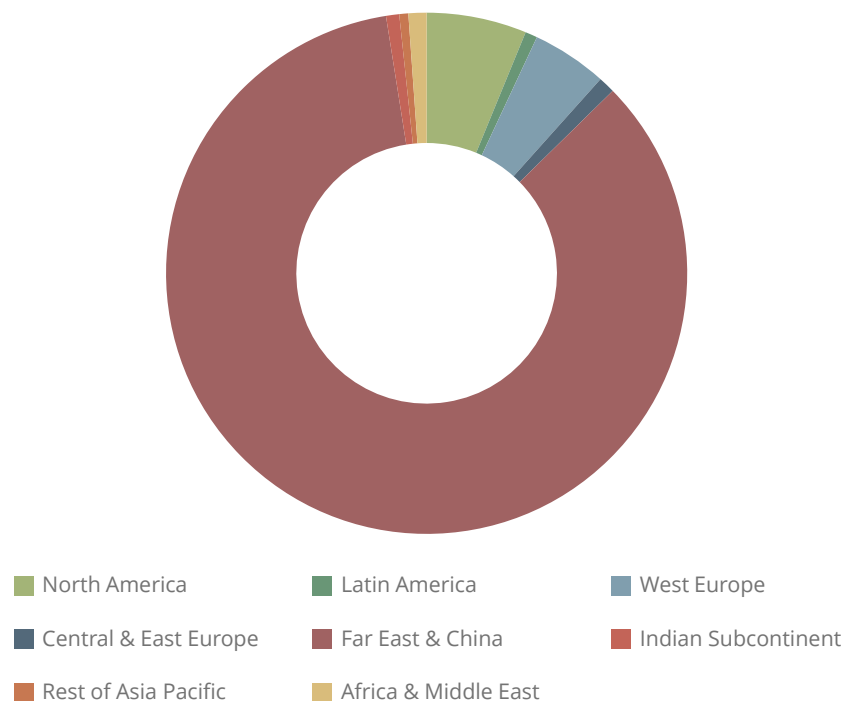
NLU is a further subset to NLP and its aim is to extend its machine linguistic capabilities. It uses different algorithms to interpret the natural language, derive meaning, identify context, and draw insights from the text or speech data. It is also able to understand how the same words may have different contextual meanings and overcome language flaws, such as spelling mistakes, thus removing the ambiguity recognised by NLP.



1.2 Market Forecast Summary: Total Chatbot Messaging Apps Accessed by 2026

The total number of chatbot messaging apps accessed globally will increase from 3.5 billion in 2022 to 9.5 billion by 2026. This growth of 169% will be driven by the increasing adoption of omnichannel retail strategies by eCommerce players and the rising integration of chatbots within messaging platforms.

Figure 2: Total Number of Chatbot Messaging Apps Accessed by 2026, Split by 8 Key Regions



Source: Juniper Research

- Moreover, retail spend over chatbot messaging apps will account for over 50% of global chatbot retail spend by 2026. The rapid development of messaging app functionality will attract high-value online retailers to chatbot messaging apps over competing channels.
- Due to the increase in omnichannel retail, chatbot developers should form strategic partnerships with CPaaS (Communication Platform-as-a-Service) vendors to expand the reach of their services and offer a compatible solution for enterprises exploring new messaging channels, including messaging apps and RCS (Rich Communication Services).
- Additionally, vendors must develop their chatbots to integrate with voice assistants to capitalise on the growth of in-home smart speakers, such as Amazon Echo and Google Home. By implementing these voice capabilities, chatbot vendors can maximise the value proposition by encouraging voice-led conversational commerce.
- The total spend over chatbot messaging apps in China will surpass \$21 billion by 2026, with applications such as WeChat providing a definitive framework for chatbots that is branded for each retailer.
- Due to the success of the chatbots market in China, vendors operating outside of China should begin to emulate this framework to drive further chatbot adoption by offering services such as payment capabilities, social media and rich media. Additionally, as chatbot traffic grows, machine learning must be used to assess past conversations and further automate the omnichannel retail experience over chatbots.



Order the Full Research

Featuring extensive assessment of the growing chatbots market across multiple channels, discover the monetisation potential in 5 key vertical markets. Split by 26 countries, this invaluable new report includes Juniper Research's Competitor Leaderboard which reveals 15 leading chatbot development vendors.

Key Features

- **Future Chatbots Market Outlook:** An in-depth view of the chatbots market ecosystem, chatbot integration via channel analysis, exploration of key market constraints and challenges. This section also includes a deep dive evaluation into growth and monetisation strategies for key chatbot markets that will aid in future market growth. The 5 key markets considered in this chapter include:
 - Banking & Finance
 - eCommerce & Retail
 - Healthcare
 - Media & Entertainment
 - Travel & Hospitality
- **Juniper Research Competitor Leaderboard:** Key player capability and capacity assessment for 15 chatbot development vendors; positioning them as either an established leader, leading challenger, or disrupter and challenger. Our Competitor Leaderboard scores these companies on their size of operations in the chatbots space, their extent and breadth of market partnerships, the sophistication of their platforms and Juniper Research's view on each company's innovation and future business prospects. The companies included in Juniper Research's Chatbots Competitor Leaderboard are:
 - Artificial Solutions
 - Chatfuel
 - IBM Watson
 - LiveChat
 - Microsoft
 - Oracle

- **Benchmark Industry Forecasts:** Five-year forecasts are provided for total chatbot retail spend, total advertising spend over chatbots, and total chatbots market value. These forecasts were split into four chatbot deployment channels including messaging app chatbots, app-based chatbots, web-based chatbots, and RCS chatbots for 8 key global regions and 26 select countries.

What's in this Research?

1. **Key Takeaways & Strategic Recommendations:** Top-level report evaluating key market challenges along with strategic recommendations for maximising chatbot market revenue.
2. **Future Market Outlook:** Deep dive evaluation of the future of the market; outlining future value-added services, such as conversational commerce and omnichannel retail, as well as potential market challenges, including the misinterpretation of human emotion.
3. **Five-year Forecasts:** Extensive forecasts on the total market value of the chatbot market, including the number of chats accessed, and total transaction across multiple chatbot channels.
4. **Interactive Forecast Excel:** Highly granular dataset comprising of 9,300 datapoints; allied to an interactive scenario tool; giving users the ability to manipulate Juniper Research's data (Interactive XL).



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