A Survey on Popularity of Chat-Bots

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Abstract -Chatbots capabilities seem to be extending and expanding daily as we blink. They are been exploited in the consumer bank queries, track gifts quicker, plan a vacation with less stress, used as Virtual assistant, travel assistant, pizza ordering and do a gentle follow up on any of your unanswered customer request. Opportunities of Chatbots have a pretty big point when they build up the possibilities—people are now using Chatbot more than they're using social apps. If chatbots are implemented properly with better use cases, it can enable a successful collaboration between cognitive & AI technologies resulting in better outcomes. Therefore it is critical that a thoughtful and well informed approach is taken while implementing futuristic chatbot technology. Overall a lot of development Chatbot platforms believe that the power of Chatbots here to strengthen the bond between people who are addicted to chat and committed to making that as easy as they can use.

Index Terms – *Chat bots, AI*

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I. INTRODUCTION

Chatbots are computer programs that you "chat" with, for example within messaging apps. Imagine you wanted to buy something from an online retailer. Today you would go to their website, look around until you found what you wanted, and then place an order. But if said store had a chat bot, you would simply be able to send them a message that you are looking for a particular item, and the bot would respond. You would be having a conversation, if you will, with the store's bot. Such an experience mimics that of going into an actual physical store and speaking with a salesperson.

Facebook and Microsoft, among others, are emerging as leaders in this space, dedicating serious resources so developers can create these bots. In the past six months, Facebook Messenger rolled out over 30,000 bots with more on the way. Facebook believes Messenger can become a primary channel for businesses to interact with their customers, consequently replacing 1-800 numbers with a mix of artificial intelligence and human intervention.

But it turns out that chatbots aren't a new technology. The idea of a humans and machines interacting with one another isn't a radical concept. Over several decades we've been trying to create machines that mimic human behavior. The idea of a chat bot within our messaging apps is actually quite logical given the history.

Today's bots aren't trying to pass for humans, unlike their predecessors, rather their job is to provide information or complete tasks for the humans they interact with. But wait, how does that work? But, how do these bots work? How do they know how to talk to people and answer questions? Isn't that artificial intelligence?

There are two types of chatbots, one functions based on a set of rules, and the other more advanced version uses machine learning.Chatbot that functions based on rules are very limited. It can only respond to very specific commands. If you say the wrong thing, it doesn't know what you mean. Second Chatbot that functions using machine learning, on the other hand, has an artificial brain AKA artificial intelligence. It understands language, not just commands. This bot continuously gets smarter as it learns from conversations it has with people.

It is the latter bots that will become "smarter" as more and more energy is spent on developing them [9].

II. CHATBOTS ARE A BIG OPPORTUNITY

For the first time ever people are using messenger apps more than they are using social networks. An increasing number of young adults are migrating from highly public social media networks like Facebook to private micro-networks like Facebook Messenger, Slack, WeChat, and Telegram for their to day-to-day communication.

It's simple really, but for your business to thrive, you have to go where the people are…and more and more people are turning to messenger apps. And that is why chat bots are so important.

However, the biggest challenge messaging apps present are the billions of conversations happening behind closed doors. We are moving from public social networks to private micro-networks. conversations used to take place in public on Twitter and Facebook. We could quickly find potential customers through public profiles and understand their needs through the public conversations they had on social networks.

How can internet marketers adapt to this shift from the public to the private? Think about the telephone, and the rise of telemarketing. Using chatbots would be used in a similar manner, reaching out to one person or a small group. Furthermore, it is said that Facebook will allow ads in private messages, a 180 degree reversal from their current policy.

One important question to ask is, are customers ready to interact with chatbots? The proof is in the pudding,

folks. According to new research, 89% of customers would prefer to engage with AI-driven virtual assistants to speed up finding information from companies. Chatbots can make it easy for consumers to get answers and information on their own terms, and with tools, they are already using.

In an recent article from Tracxn, it is stated that Over $140M has been invested in Chatbots since 2010, with ~$85M invested in 2015/2016 YTD. Founding activity spiked in 2015, with 53 startups being launched. 29 startups have already been founded this year. Notable investments in 2016 include New York-based X.ai, which secured a $23M Series B in April, and Palo Alto-based AI-assistant Ozlo, which secured a Series A in May. It was mentioned that Tracxn' s report on Chatbots was covering only companies that are providing automated chat based enterprise or consumer applications, development platforms and bot stores. Any platforms which providing chat based assistance by using human agents have been excluded.[6]

Figure 1.1Tracxn top funded startup business report

III. CHAT BOTS ARE SO IMPORTANT TO YOUR BUSINESS

Bots are ushering in one-to-one marketing at scale. What this means is that millions of people can talk to your brand without there being a human on the other end. Two of the biggest bot platforms are Facebook Messenger, which now boasts 900 million monthly active users, and KIK, which has surpassed 200 million; combined means that your bot can reach over a billion users on just those two platforms!

Bots are extremely malleable by design, so they can be used for a variety of purposes. Here are a few examples:

Driving Tune-Ins: A bot knows which time zone you're in, so it can ping you an hour before a show to remind you to tune in and watch![8]

Driving Online Or In-Store Sales: A bot can send you shoppable looks. Depending on which photos and products you have liked or previously purchased, it can send you product recommendations or deliver coupons for in-store purchases. Bots can also deep link to a mobile commerce site so you can buy the product through your phone.

Driving Brand Engagement: Many brands will use a bot to deliver branded content much in the same way that a website, blog or Facebook page has delivered content in the past, except with a bot it's interactive and personalized!

A successful bot needs two key things to stand out: a great script and a clear brand voice.

Remember we mentioned the "choose your own adventure" books? Some had up to 50 different endings. Script-based bots work in a similar fashion but with many more outcomes, because the bot is able to learn about your consumer and respond accordingly. What this means is that you have to write a compelling script that has many branches or multiple-choice scenarios. Do you like white or black sneakers? Do you watch movies in the theater or at home? The customers' answers to the questions should inform what the bot tells them next.

The script (and the content it delivers) also need to be aligned with the overall voice of the bot. What this means is establishing a bot brand voice. Ask yourself: What does your bot's tone sound like? Is the bot a man or a woman? Is s/he funny, sarcastic, witty, irreverent, sexy, eager to please or strictly informative? A good place to start building your bot brand voice is to examine your existing social media accounts and look at how your brand's voice is expressed on Twitter and Instagram.

Now imagine your brand has a lot more to say, because it can. What should your bot say? What does it want to learn about the consumer? Is it trying to get someone to watch something or to buy something? Is it there to entertain or provide utility? And of course, the writing and the visuals should be compelling.Clearly, the use cases for bots are endless

IV.CHATBOTS ARE THE FUTURE OF MARKETING

Chatbots and messaging apps are revolutionizing the future of marketing.Marketing in the 2000s was dominated by Search Engine Marketing and Optimization (SEM and SEO). The early 2010s saw the rise of Facebook and social media marketing. Most recently we've seen mobile marketing rise and plateau as users have stopped downloading new apps. Now, we are entering the era of messaging. In the below Figure 1.2 it should be noticed that messaging apps are meeting its peak and surpassing the Social network apps. [8]
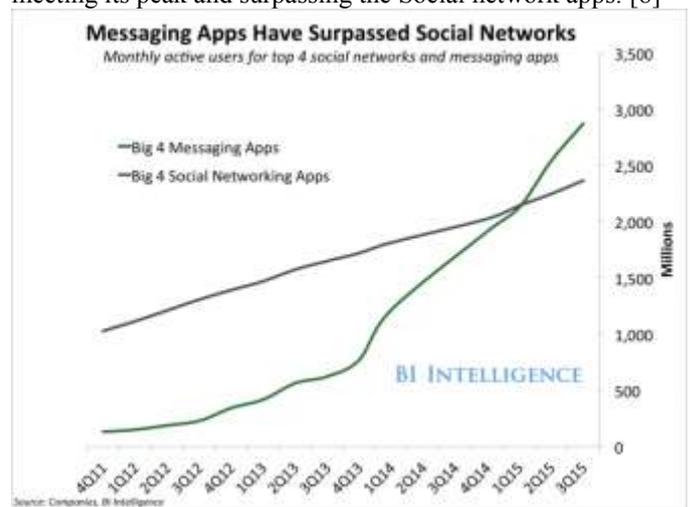

Figure 1.2 Growth of the four largest messaging apps and that of the four largest social networks.

The global Chatbots market was valued at USD 88.5 Million in 2015 and is anticipated to witness a substantial compound annual growth rate (CAGR) of 35.08% over the period 2016-

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2023. Regionally, the global Chatbots market is segmented into North America, Latin America, Western and Eastern Europe, Asia-Pacific, Middle East and North Africa (MENA) and Rest of World (Row). Globally, web-based chatbots are gaining traction among the enterprises due to its advanced connectivity and user-friendly interfaces. Expansion of social networking websites across the globe are escalating the demand for chatbots. The demand for chatbots has been particularly seen in large enterprises owing to its efficiency.

North America Chatbots market is likely to escalate owing to adoption of Chatbots by some of the big organizations such as Facebook Inc. In addition to that emergence of new Chatbots providing start-ups in the U.S. is also expected to expand North America Chatbots market in future. In 2016, demand from U.S. market expanded 19.65% Y-O-Y, making it one the biggest markets for chatbot implementation in North America followed by Canada. Further, Europe is also expected to witness a significant demand of Chatbots from the rapidly growing outsourcing industry in the region. A great demand and opportunity in Europe is expected to arise from Germany, U.K. & France by 2023; new players and existing established market players would see a spiked demand in these three countries in Europe. In addition to that, Asia-Pacific Chatbots market is envisioned to witness a robust growth sparked by increasing expansion of messaging applications in countries such as India, Malaysia, South Korea, Japan, Indonesia and China.

Rising inclination of enterprises towards increasing customer experience along with reducing operational costs and working efficiency is expected to garner the growth of global Chatbots market over the forecast period i.e. 2015-2021. In addition to that increasing digital transformation is also envisioned to bolster the global Chatbots market over next 4-5 years. However, lack of awareness and large dependency on humans for customer interaction are anticipated to restrain the global Chatbots market in future[7].

Figure 1.3Global Chatbot Market Report

A new marketing channel is an exciting opportunity to experiment with fresh ad formats and connect with consumers in novel ways. Businesses also enjoy fewer companies competitors, less ad fatigue, and potentially exponential returns on marketing investment dollars (ROI).

Companies are now creating bots for Slack, Amazon Echo, Facebook Messenger, Kik, and SMS to talk directly to users. Bots range from recommending outfits (H&M), giving beauty tips (Sephora), direct ordering (Dominos and 1–800-Flowers bots), and much more.

Here are the four critical ways chatbots are transforming marketing and how businesses can capitalize on the current conversational trend.

A. TRUE ENGAGEMENT BEYOND CLICKS

In traditional online advertising, we call a click of an ad or play of a video "engagement". Engagement with a chatbot, on the other hand, is an active conversation with a user.

Disney created the Officer Judy Hopps bot on Facebook Messenger to tease their audience and drum up excitement prior to the movie's release. Instead of passively watching a movie trailer, users joined Judy on a detective hunt and experienced her interactive story first-hand. Engagement was astronomical—users spent more than 10 minutes on average talking to the character and countless users restarted the conversation to replay a different scenario.

Conversation and rapport building is significantly more effective than a simple ad or video view. The interaction leaves users with an entertaining experience, a better understanding of the brand, and a positive emotional feeling—takeaways rarely achieved with traditional ads.

B. INSIGHTS DIRECTLY FROM USERS

Users converse directly with chatbots just like they do with their family and friends.In this highly personal and conversational setting, chatbots can ask questions too intrusive to be in traditional ads. Questions such as "Where do you live?", "What music do like?", "Where's your dream travel destination?" or even "What do you think of the latest Geicocommercial?" are socially acceptable and even welcome in chatbot interactions.

Businesses can remember and refer to personal information in future conversations to further customize a user's experiences. Victoria's Secret PINK bot recommends specific styles of bras based on answers to an initial questionnaire. Wingstop's bot suggests new spicy offers to hot spice fanatics. In practice, brands must strike a responsible balance between personalization and privacy.

C MAXIMUMOPPORTUNITIES FOR PERSONALIZATION

Ads have become more targeted over time. Brands are always seeking ways to appeal to users personally, whether through programmatic display ads, retargeting, or direct mail.

With chatbots, brands can personalize a conversation to the individual. Sephora's chatbot on Kik shares beauty tips with teenagers. The bot first inquires what users are interested in learning about—eyes, skin, hair, nails, etc.—and only suggests relevant products, beauty tips, and tutorials. The Hello Hipmunk bot on Skype works with group chats. Travelers can plan trips with friends and family without ever having to leave the chat room.

D. BRING A BRAND PERSONALITY TO LIFE

Brand identity is usually pushed to users in a single direction—banner ad, videos, billboards, etc.

A branded chatbot becomes a "live entity" that can infuse personality into conversations. Disney's Miss Piggy bot is funny and sassy while Universal Studio's Laura Barns Unfriended bot is an angsty and foul-mouthed. The TMY.GRL bot from Tommy Hilfiger allows fashionistas to access exclusive behind-the-scenes fashion content. A company can show, rather than tell, their brand story to their audience.

Traditional ads are"pushed" upon an unwilling or apathetic viewer, while chatbots "pull" users to engage with them. Strategically implemented and well-designed chatbots can tell your brand story, re-engage audiences, facilitate commerce, and grow your business.

V. BUILDING OF CHATBOTS

Few of the best platforms to use if you want to build your own Chatbot listed by techworld.

1.Microsoft Bot Platform https://dev.botframework.com/
Microsoft gives open source Bot Builder SDKs allow one to build simple to sophisticated dialogs, Cognitive Services enable your bot to see, hear, interpret and interact in more human ways

2. Chatscript - http://chatscript.sourceforge.net/
ChatScript is a "next Generation" Chatbot engine, based on the one that powered Suzette. ChatScript has many advanced features and capabilities that, when properly utilitized, permit extremely clever bots to be programmed. There is also a potentially useful ontology of nouns, verbs, adjectives, and adverbs for understanding meaning.

3. Pandorabots - https://playground.pandorabots.com/en/
Pandorabots provides free integrated development environment for building Chatbots loaded with features and tools. Learn the basics of Chatbot development in minutes, or hone your skills with our Tutorial. View and download conversation logs to use during bot development. Then, integrate your bot into applications using AIaaS.

4. Facebook Messenger – F8 developer platform - https://messengerplatform.fb.com/
The Messenger Platform gives you the ability to have conversations with people on Messenger. Facebook has added new tools for one to build and promote bot so they can create a custom experience for your unique audience.

5. Chatfuel - https://chatfuel.com/about-us.html
Chatfuel started on Telegram and quickly grew to millions of users. Today they are focusing mainly on making it easy for everyone to build Chatbots on Facebook Messenger, where our users include NFL and NBA teams, publishers like TechCrunch and Forbes, and millions of others.

VI. CONCLUSION

Chatbots can be best suited for first line of customer service where major interaction from users in request for paying bills, asking for delivery status or updating address which is repeated in nature. Chatbot can be used to manage repeated questions from customers and will enable better utilization of your existing resource to manage intellectual queries from customers. If chatbots are implemented properly with better use cases, it can enable a successful collab between cognitive & AI technologies resulting in better outcomes. Therefore it is critical that a thoughtful and well informed approach is taken while implementing futuristic chatbot technology.Overall a lot of development Chatbot platforms believe that the power of Chatbots here to strengthen the bond between people who are addicted to chat and committed to making that as easy as they can use.

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