Using Intelligent Chatbots to 
DRIVE USER ENGAGEMENT
Introduction

In this modern world where scientific and technological breakthroughs occur on an almost daily basis, the line between what was once considered science-fiction and science-fact is becoming increasingly blurred. One area where this is particularly evident is in the field of artificial intelligence. We’re still someway off the complexity of AI the world was introduced to decades ago in classic sci-fi such as 2001: A Space Odyssey’s HAL 9000. But in the coming years, and even months, the world is going to be transformed for the better by this incredible phenomenon.

One area where AI has been successfully established is in the world of aviation with an increasing number of airports and airlines looking to chatbots to increase the efficiency of the service they provide to their clients. Using modern know-how and combining it with Chatbot technology and AI, airports can offer better service to passengers, whilst reducing operational costs and expenditures. Most internet users have already interacted with a chatbot in some way, shape or form. Think IBM’s Watson, Apple’s Siri, Amazon’s Alexa and Microsoft’s Cortana. When it comes to the aviation industry, already 14% of airlines and 9% of airports are utilising chatbot technology- a number that is expected to increase five-fold in the next three years. The time is now for airports and airlines to get onboard with chatbot technology, as the concept truly begins to take off.
Discover some interesting facts about chatbots that will help you grasp the significance of this industry.
In 2016, the chatbot market was valued at around €592 million. By the year 2021, the market is expected to grow at a compound rate of 35.2% (Marketsandmarkets, 2017).

- By 2021, 42% of airports will be using AI-driven chatbot services to provide round-the-clock care and assistance for their customers.

By 2020, over 80% of businesses are expected to have implemented some sort of chatbot automation.

(Business Insider, 2016)
By 2021, €3.8 billion is expected to be invested in enterprise intelligent assistants throughout the world. (Opus Research, 2017)

43% of airports have prioritised the ability to provide useful and relevant mobile services to passengers, to help them optimise their time. In fact, some of the world’s largest airports such as Melbourne Airport, London City, and Dubai Airport, already use chatbots to provide passengers with real-time updates and special offers based on their location, amongst other services.

With such a lucrative and disruptive industry emerging, one of the main questions that needs to be addressed is how chatbots can be used to drive customer engagement with a brand, and, ultimately add value to a business. One of the main factors behind this relies on the perceived intelligence of the chatbot. Chatbot intelligence is, therefore, the topic that will be further explored through the text herein.
Do Chatbots Need to be Intelligent?

Intelligence is a very abstract concept. It can have a multitude of definitions and an even larger number of situations and contexts.
Chatbot Intelligence

Chatbots, in a sense, do need to be intelligent. However, until it comes to a point where AI is advanced enough to completely understand a user’s intent using natural language processing, chatbots will remain relatively restricted. Given this restriction, chatbots are being built around solving a specific problem and are restricted by a single domain.

Given these industry-wide limitations chatbots at present don’t need to be too intelligent. You’re certainly not going to have a profound, meaningful conversation with one. You will, however, be able to easily and conveniently accomplish a goal using them. You have a task, like booking a flight, that needs to be accomplished and a chatbot helps you do just that. If the user’s experience with the chatbot is seamless and convenient without the bot getting confused, then this could be perceived by the end user as a very intelligent experience.

The lack of any cognitive or social intelligence does impede the bot somewhat, making it less reliable and far less forgiving than an interaction with a human. Herein lies the difficulty of building the perception that a chatbot is intelligent. Given the conversational nature of chatbots, users are subconsciously comparing the conversations they have with them with conversations with real human beings.

There is a challenge involved in setting the expectations for a bot and going above and beyond these by reducing the complexity of what a bot can do. The key to the perceived intelligence of chatbots is focusing on one thing and doing it well. This is how it can effectively drive user engagement.
How can a Chatbot Become Intelligent?

To properly understand the unique intelligence that a chatbot – or all AI for that matter – possesses, you need to take a step back and look at it from a purely utilitarian stance. Chatbots are a set of tools that have been combined in a certain way to help a user achieve a predefined goal. There are several tools that can be used to increase a bot’s perceived intelligence and usefulness to a user including:

Image Recognition
This is the ability for a bot to see an image and understand exactly what it’s an image of. This can then be used as a prompt for the bot to start a conversation about the image that was presented to it.

Sentiment Analysis
This is one of the most important tools any bot can have to replicate intelligence. Sentiment analysis allows the bot to understand how the user feels about a topic in real time based on many different variables. The bot can then differentiate its responses about a subject based on what a user says. It can also be used to identify when the user has become aggravated, at which point the bot will know that bringing in a human to take over might make for a better user experience.

Conversational Understanding
This requires the bot to understand the complexity of natural flow that exists in conversation. This is something that comes so effortless to humans, but it’s actually an extremely complex action. The many layers of context, the use of words and language all have a role to play.

For example, asking a chatbot “What’s the weather like in Malta? And in London? What about Dublin?” This is a very simple conversation to follow, however, it can be very complicated for a chatbot. Getting a bot to the point where it can understand flows such as this will drive user engagement to new heights.
Text to Speech and Speech to Text

Many of the current giants in the chatbot industry like Cortana, Siri and Ok Google have already made a lot of headway in this area. But there is still a long way to go. Speech to text is clunky at best. Accents are difficult to pick up on and colloquialisms are basically non-existent, often leading to a frustrating user experience. When chatbots get to the point where you can have a seamless vocal conversation with them, only then will the perceived intelligence of the bot drive further engagements and interactions.

The key to increasing a bot’s intelligence is using the right machine learning tools for the right situation. Each bot doesn’t necessarily have to have every tool available, in fact that would more than likely impede the bot’s performance rather than enhance it. An intelligent chatbot that drives user engagement should be built using the right tools to solve the problem it needs to solve and nothing more.

The perceived intelligence of the bot will be benchmarked off the scope of its functions. For example, if a chatbot for HR can give employees information related to company policies and does this well with the least amount of effort from the user, then it will be considered an intelligent bot.
How Can Chatbots be Perceived as Intelligent?

The tools and machine learning technologies mentioned act as a gateway to intelligence within a bot.
Perceived Intelligence

How exactly can perceived intelligence be measured within a bot? The Turing Test, an assessment of whether something can think, can effectively measure this. In other words, are you talking to a robot or to a human.

There are currently two schools of thought on this process: intelligence is something that you are or intelligence is something that you do. Chatbots are seen to fall into the latter of these philosophies. The idea being that you should be fully aware that you are talking to a robot. In that sense, the Turing Test isn’t the best indicator.

There are many areas that can, in a way, act as the key performance indicators for chatbot intelligence.
Delightfulness
Bots that provide a seamless, pleasant experience can be seen as a delight to interact with. If the user feels happy after the conversation or service, then the chatbot has accomplished this goal.

Consistency
A chatbot that exhibits consistent behaviour over a period of time is more likely to be perceived by the user as intelligent. This consistency is linked to the user’s trust in the bot. So, if a user trusts the bot’s ability to carry out the task at hand, then they will subconsciously believe the bot to be intelligent.

Minimal Frustration
Bots that can reduce the amount of text commands a user needs to input by clearly communicating what they can do will drastically minimise frustrating experiences. For example, if you were to ask a bot: “What time is my flight?” and it replies, “I don’t know what you mean”, this breaks the natural flow of conversation and can be rather annoying. If it were to reply: “I don’t know what time your flight is, but here is a list of things I can help you with”, the bot can quickly get back on track to helping the user.

Domain Knowledge
A chatbot that focuses on a niche can easily be plugged into a domain, giving it a very deep knowledge about a specific subject. This niche interaction will soon foster greater and bigger things. But it’s best to start off small, allow the bot to perfect what it’s doing and then expand. There is no way of knowing how many new queries a bot will receive daily. It’s best to constrain this problem and start building expertise in a specific field.
Can Personality Drive Engagement?

There are many chatbots already on the market, such as those developed by PullString, that have packed a lot of personality into their bots. Anything from origin stories, stories from the bot’s childhood and its interests have been included.
Artificial Personality

Personality and humour are incredibly powerful assets for impacting perceived intelligence. Humour is especially effective as it requires a lot of inflection and tonality as well as a level of empathy between the speaker and the person being spoken to. A bot will need to process this incredibly complex social interaction to successfully tell a joke.

Another important point to note is whether the chatbot is for consumers or for businesses. Consumers on a whole are far more responsive to humour. It is the key differentiator between a boring bot and one that people will return to time and time again because they had a really enjoyable experience conversing with it.

Personality is far more effective for a bot designed to help someone with work activities. If something goes wrong, a bot with personality will make the user feel like they have a friend supporting them through the difficult situation. A bot that is continually making jokes will only frustrate and perhaps even exasperate the situation.

Of course, humour and personality are completely contextual to the situation and the use case. Much like learning a new language, humour should be the last thing that the bot is taught. These “social skills” are decorators to the core functionality and code that give value to the end user. Once the bot is fully functional and can achieve its goals, then humour should be added. No one will want to talk to a bot that is constantly joking around but has absolutely no added value to the user.
How Can Contextual Recognition Drive Engagement?

A chatbot’s ability to know its audience and know whether they’re at home or at work is very important to leverage perceived intelligence in the bot’s favour.
Contextual Engagement

A chatbot’s ability to know its audience and know whether they’re at home or at work is very important to leverage perceived intelligence in the bot’s favour. In this way, it will be able to replicate how people communicate through text based chat mediums. In other word, the way we communicate on these channels depends on what we think the other person is doing. You’re not going to bombard someone with messages if you think they’re driving, and a bot should know not to do these things too.

The challenge here is being able to get more context on what a person is doing in their daily life, whether it be based on GPS, time of day or geofencing. If done correctly, contextual recognition can add huge value to interactions. For example, if a chatbot had the resources to know that a person has entered an airport, where they’re flying to, how long the flight is and how long they will be waiting until their flight. With this information alone, there are a multitude of personalised and contextual conversations that the bot can initiate with the individual.
Conclusion

A chatbot’s intelligence can be seen to have a number of different, complex factors at work.
Final Thoughts

More important than the tools used to simulate intelligence is the context of how they are used. It’s evident that the more contextually aware the chatbot is at understanding intent and natural flow, the more intelligent the user will perceive the chatbot as. As far as perceived intelligence in this regard goes, ebo’s extremely powerful machine learning capabilities allow it to learn about user intent, natural flow and context the more it interacts with users.

An intelligent chatbot will be able to carry out a specific task, it will be able to understand the language used, and the context it’s used in. Ultimately it should provide an enjoyable experience that makes the end user smile. Being fluent in 19 languages, ebo can interact with a huge number of users in many different countries, all at the same time. What’s more, ebo can converse with them where they feel most comfortable. ebo has multi-channel integration meaning it can chat on a plethora of different messaging applications, be it Facebook Messenger, Slack, Skype, or even through SMS.

Combining this with the ability to send personalised, location-specific messages will build upon how the user interacts with the chatbot. ebo can access your databases in a completely secure manner and will receive information about your customers. This information will be used to provide a completely bespoke, unique conversation to each customer. Intelligence is, by far, the key to driving user engagement with chatbots.

ebo’s capabilities mean that your customers are guaranteed to perceive it as an extremely intelligent bot. Providing them with such an enjoyable and intelligent experience will drive user engagement and will change the way you interact with your customers forever.

If you would like to know more about how ebo can help your business, contact us today for a free consultation.

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