MAJOR PROJECT REPORT

CONSUMER PERCEPTION AND INTEREST FOR CHATBOTS; CASESTUDY OF A SaaS B2B SERVICE PROVIDER

**Delhi School of Management,
Delhi Technological University
Executive MBA – 4th Semester**

Under guidance of

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Submitted by

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<u>DECLARATION</u>

I, Saurabh Sardana, student of EMBA 2017-19 of Delhi School of Management, Delhi Technological University declare that the dissertation "**CONSUMER PERCEPTION AND INTEREST FOR CHATBOTS; CASESTUDY OF A SaaS B2B SERVICE PROVIDER**" submitted in partial fulfilment of the requirements for the award of the <u>*Degree of Masters in Business Administration – Executive is an original work conducted by me.*</u>

The information and data given in this report is authentic to best of my knowledge and this report has not been submitted to any other University for award of any other degree, fellowship or diploma.

Saurabh Sardana,

2K17/EMBA/540

Date:
Place:

CERTIFICATE

This is to certify that the dissertation entitled "**CONSUMER PERCEPTION AND INTEREST FOR CHATBOTS; CASESTUDY OF A SaaS B2B SERVICE PROVIDER**" is a work carried out by *SAURABH SARDANA (2K17/EMBA/540) - EMBA 2017-19 batch* and is submitted to Delhi School of Management, Delhi Technological University in partial fulfilment of the requirements for the award of the *Degree of Masters in Business Administration – Executive* for 4th Semester.

Dr Rajan Yadav

Professor, DSM

Date:

Place:

ACKNOWLDGEMENT

The following dissertation "**CONSUMER PERCEPTION AND INTEREST FOR CHATBOTS; CASESTUDY OF A SaaS B2B SERVICE PROVIDER**" is successfully completed under the guidance of Dr Rajan Yadav, Professor, DSM, Delhi Technological University and would like to thank her for providing me necessary guidance, encouragement and motivation to contribute positively in completion of this project.

I would also like express my gratitude to other professors, teaching staff and other officials at DSM who directly or indirectly helped me in this project.

Saurabh Sardana,

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EXECUTIVE SUMMARY

The Project is to explore consumer perception and interests for ChatBots and where a B2B provider - Inverta can scale their business quicker by adopting a Software as a Service (SaaS) model. This would be directly selling on a subscription basis to a wider range of businesses.

In this report the above will be answered through the analysis and research conducted. Target potential target markets will be identified and how to achieve success in them. This result of the analysis and research leads to key recommendations and actions that Inverta should take.

The perceptions have been assessed through a primary data analysis conducted through an online survey while the SaaS model evaluation has been done based on the secondary data assessment. The secondary data has been assessed from a numerous proprietary data sources which are under a non-disclosure agreement.

From the research and analysis that has been conducted, following are the several recommendations and actions that Inverta should pursue:

- Launch SaaS model for the wider market due to the high growth expected for ChatBots/NLE and the high expected adoption rates
- Launch the model within the next 6 months to capitalise on the favourable market conditions and to take advantage of being an early mover
- Target labour intensive industries with cost pressures, businesses with highly skilled labour that can be automated and businesses that want to improve their customer service
- Target those industries via a mixture of social media, web based and physical marketing to increase awareness and drive growth.
- Price the SaaS model based on value delivered to client, differentiate offerings based on service levels
- Have the option of an upfront, discounted annual payment to improve the cash flow and help fund further growth
- Be cognizant of the various risks of pursuing a SaaS model. Ensure adequate human and capital resources are in place.

It is felt that Inverta has a fantastic opportunity to be a market leader in the emerging market for ChatBot and NLE services and that Inverta can scale their business quicker than the existing model. By acting upon our recommendations for the delivery of a SaaS business model, we feel that Inverta will drive significant value for their clients and for their own shareholders.

OBJECTIVES OF THIS DISSERTATION

Inverta is a B2B company that is focussed on developing Natural Language Engagement (NLE) services powered by AI. One of the main uses for the services is in developing intelligent Chatbots that can be used by businesses to improve customer service or reduce costs. Currently, Inverta partner with System Integrators (SI) who recommend their product to business clients. This has led to Inverta being used by large firms such as Lloyds and Prudential.

The project that we have been issued is to explore whether Inverta can scale their business quicker by adopting a Software as a Service (SaaS) model. This would be directly selling on a subscription basis to a wider range of businesses. Along with this we have been asked to explore the following points in relation to the overarching above question:

- What pricing model would the market tolerate?
- What kind of adoption rates can be expected?
- What do the revenue projections look like?
- What impact would a SaaS model have on the current SI led business model?

LITERATURE REVIEW

Literature Review is considered to be the most important stage of the research process as it allows earning from and eventually adding to the previous researches and also saves time, efforts and money. This chapter deals with the review of different studies which are directly or indirectly related to the present study.

The incredible potential of ChatBots lies in the ability to individually and contextually communicate one-to-many [Joe Toscano, 2016]. According to Khan & Das (2018) with "ChatBots" the author defines an artificially intelligent conversational agent that simulates human-like conversation that, for example, allow users to type questions (i.e., queries) and, in return, generates meaningful answers to these questions (Khan & Das, 2018). The ChatBot analyses the content typed by the user and links this to a database that contains possible answers (Crutzen, et al., 2011). To be used a ChatBot needs a platform on which users can type to get answers. Indeed, messaging apps are the platform on which ChatBots work (Radziwill, 2017). Telegram, WhatsApp and Facebook Messenger are all examples of messaging apps that people use on a daily base to chat with friends, interact with brands, make calls, consume content, and buy products and even book a restaurant. These are just a few of the tons of features that it is possible to do with messaging apps nowadays. And marketers use ChatBots on these apps to provide customer service, deliver content to users, and advertise as well as to sell products (Chi, 2017).

Chatbots receive natural language input and execute one or more related commands in a goal-direct behaviour. The most advanced systems implement machine learning technologies that is they can adapt to additional information or new requests. These conversational agents are usually autonomous, proactive and social (Radziwill, 2017).

INTRODUCTION TO CHATBOTS

A ChatBot is a computer program or an artificial intelligence which conducts a conversation via auditory or textual methods. Such programs are often designed to convincingly simulate how a human would behave as a conversational partner
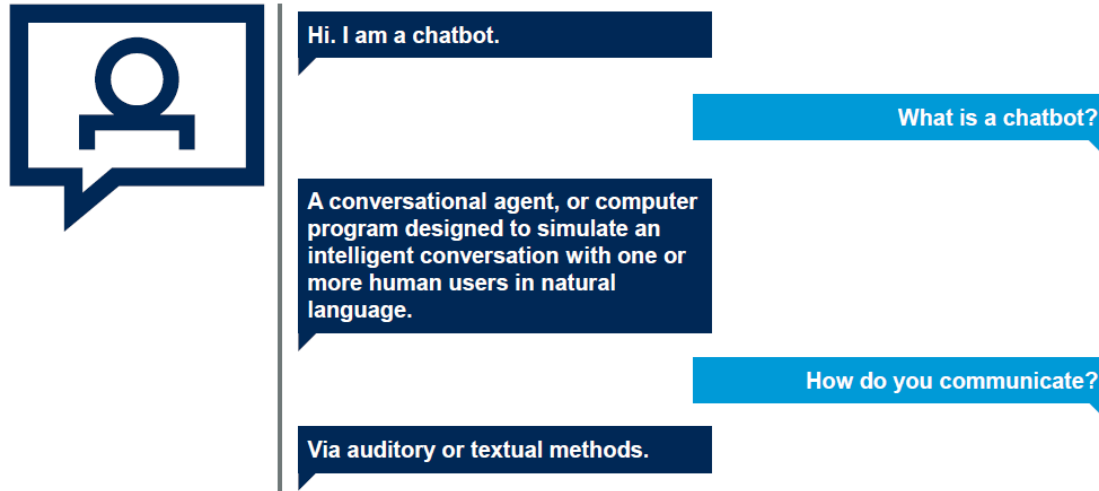
Figure 1: ChatBot Definition

An elevated version of a chat bot is a virtual assistant which not only communicates with the end user to provide resolution steps to an end user, but also provide perform resolution steps using an in-build algorithmic logic.
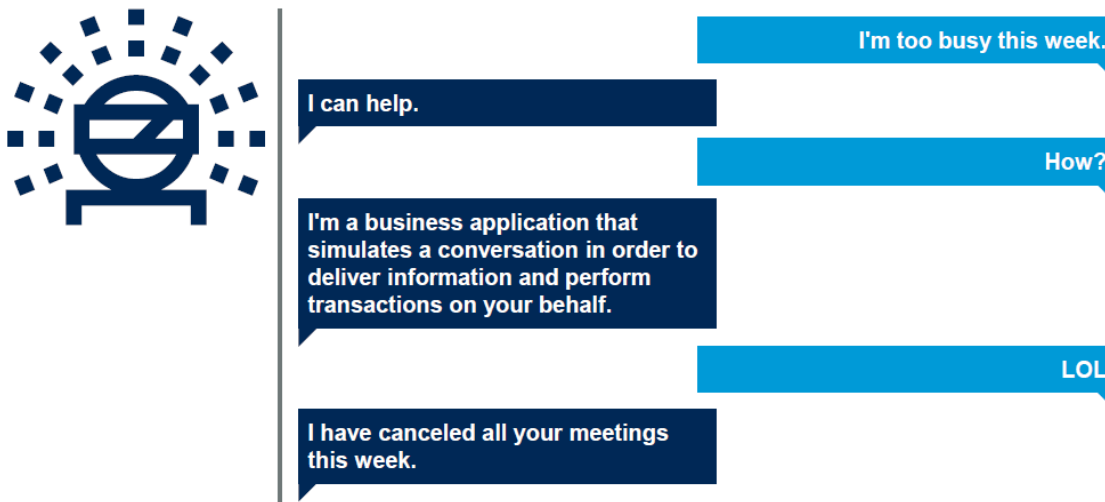
Figure 2: Virtual Assistant Definition

While an more advance AI-ML driven Chatbot would be an virtual support agent where the bot is intelligent enough to understand the issue both interpreting the conversation but also the machine errors and provides an effective resolution.

Figure 3: Definition Virtual Support Agent

But the adoption of chat bot in the replacing the human service agent is low currently, following is an outcome of Gartner survey where the virtual support agents and ChatBots only provide support to 8% of the total incidents or conversations that originate in these businesses.

Figure 4: Survey Outcomes on Adoption of Support Channels in Service Industry

RESEARCH DESIGN

Research is a procedure of logical and systematic application of the fundamentals of science to the general and overall questions of a study and scientific technique, which provide precise tools, specific procedures, and technical rather philosophical means for getting and ordering the data prior to their logical analysis and manipulation different type of research designs is available depending upon the nature of research project, availability of manpower and circumstances.
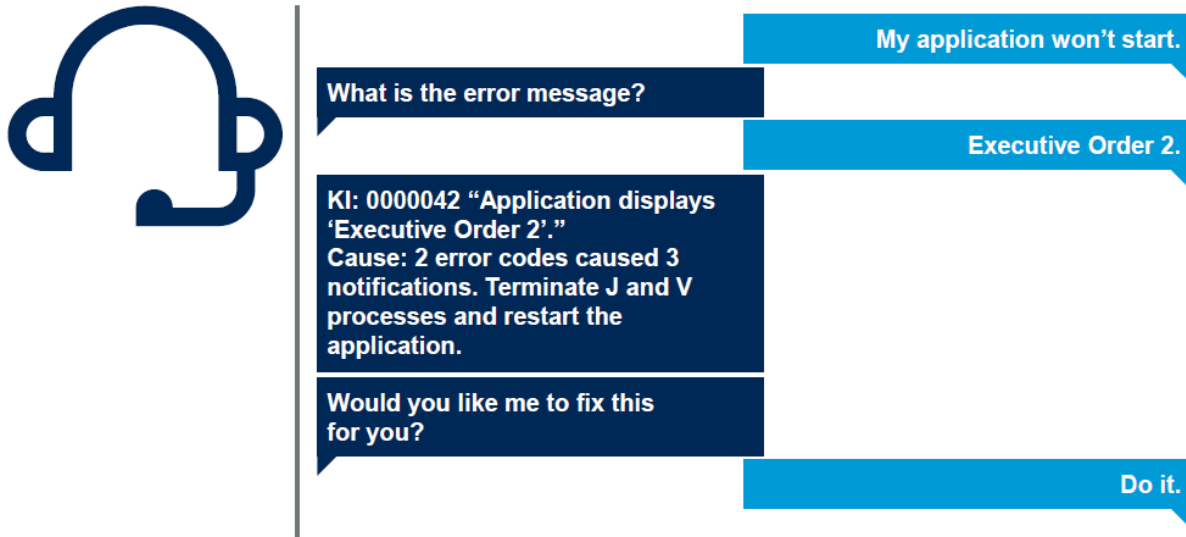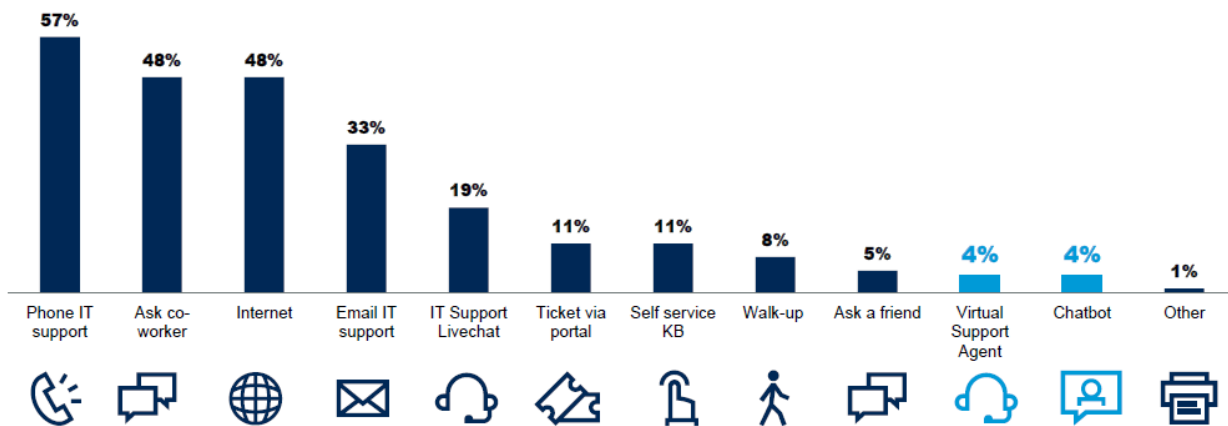
Sampling Design

The following factors will be decided within the scope of sample design:

Universe of the study means the area or the limits of the study in which it is to be conducted. Universe was divided into three categories theoretical universe, accessible universe and target population.

- **Theoretical Universe** means that part of total population which fulfills our conditions. It included all the youngsters worldwide.
- **Accessible Universe** means that part of the total population which is within our reach. It included all the youngsters in India.
- **Target Population** means that part of the accessible universe who actually will answer the query. It included the selected individuals in different domains including students to professionals.
- **Sample Unit**: Sample unit indicates who is to be surveyed. The researcher must define the sample unit that will be sampled. In this study sampling unit were the selected individuals in different domains including students to professionals, elected according to the convenience and own judgement.
- **Sample Size**: A sample of minimum respondents was selected from the different domains including students to professionals in Delhi. An effort had been made to select the respondents evenly. The survey was be carried out on 92 respondents.
- **Sampling Technique**: For the purpose of research convenience sampling technique and judgemental sampling technique was used. On the basis of the convenience and own judgement.

Data Collection and Analysis

Secondary data:
Secondary data are those which have already been collected by someone else and which have already been passed through the statistical process. In this case one is not confronted with the problems that are usually associated with the collection of original data. Secondary data either is published data or unpublished data. Secondary data is collected from govt. publications, journals, magazines, financial records, web sites and annual publications of the company. In this study secondary sources used were websites and journals.

Primary data:
Primary data are those, which are collected afresh and for the first time, and thus happen to be original in character. Primary data were collected by conducting surveys through questionnaire.

Survey questionnaire was self-administered and distributed personally. The respondents were debriefed for the objectives of the research and informed that the questionnaires would be treated confidentially.

The questionnaires were distributed to 92 respondents through Google Forms. The questionnaire was divided into two sections. The questionnaire comprised of a rank question, close-ended questions, and five point likert scale questions.

Tools of Analysis and Presentation

Tools of Analysis
In the given research tools for analysis used were percentages, summated scores and chi-square test.

Tools of Presentation
It means all the tools used to present the data in a meaningful way so that it becomes easily understandable. In this research data was represented by figures and charts. Tables and Pie Charts were used to present the data.

DATA ANALYSIS AND INTERPRETATION

The Market

The ChatBot market are firmly established with many companies seeking to develop solutions for the corporate market. While both markets are still relatively small, they are growing quickly as businesses recognise the benefits. The ChatBot market is expected to grow by 35% p.a. until 2021[i] and the NLE market is forecast to grow by 25% p.a. until 2024[ii]. This will result in the markets being worth £2.2bn and £34bn respectively. This strong growth, coupled with research that shows 80% of businesses will have some form of ChatBot automation leads us to the opinion that it is highly attractive market.
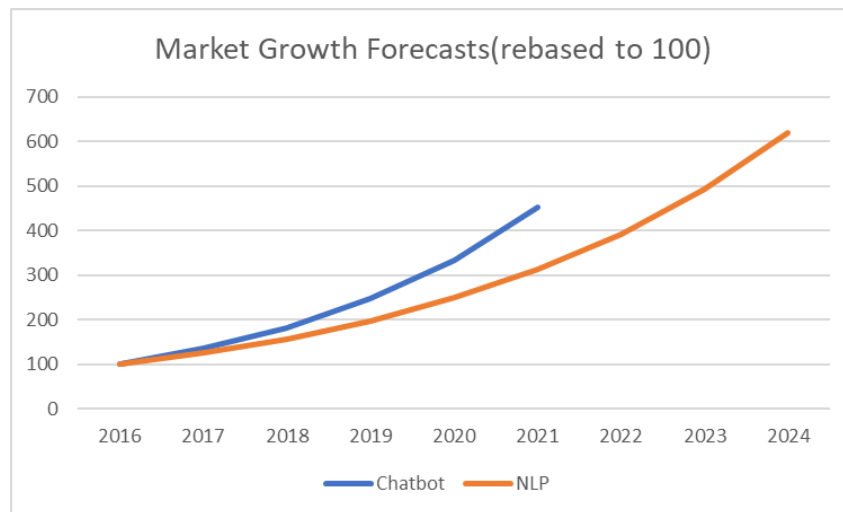

Figure 5: Trend from secondary source on the market growth forecast of the ChatBot and NLP technologies

Coupled with the attractive industry dynamics is a favourable external environment for Inverta. The combination of weakened currency, higher inflation, and subdued consumer spending leads to a challenging economic environment for most businesses. This is evidenced by studies from EY[iii] and Begbies Traynor[iv] that suggest 30% of the profit warnings last year were down to cost pressures and that nearly 500,000 businesses were experiencing 'significant financial distress', up 36% since 2016.

While on the face of this, one would assume this is bad for Inverta, the secondary data analysis and research shows the opposite is true. Businesses must reduce operating costs and remain competitive by differentiating their offerings from their competitors. Inverta can achieve both things for companies by reducing the intensity of labour and allowing consumers to communicate with companies in their preferred manner.

To understand more about the consumer's perception and interest in ChatBots a survey of 92 people, who's results and interpretations are provided in the next section.

Interpretation of the Survey data
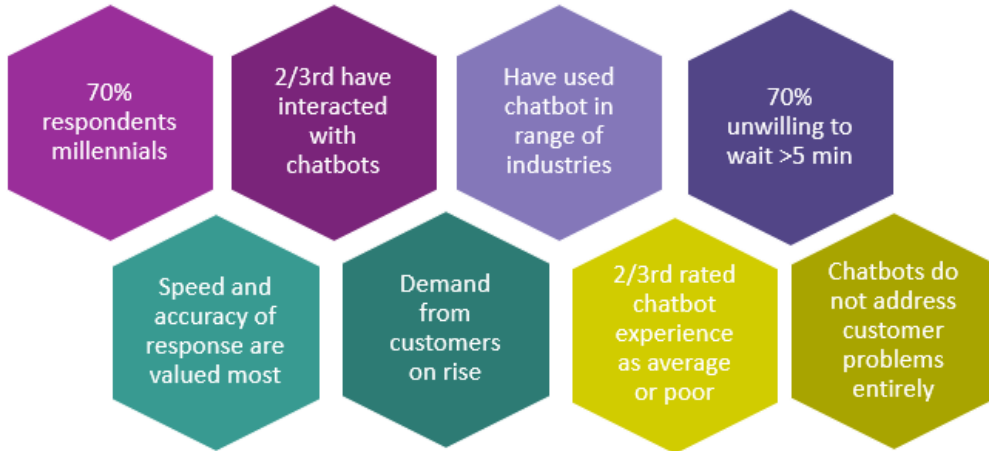
Figure 6: Key highlights of survey

1. Familiarity of Chatbot
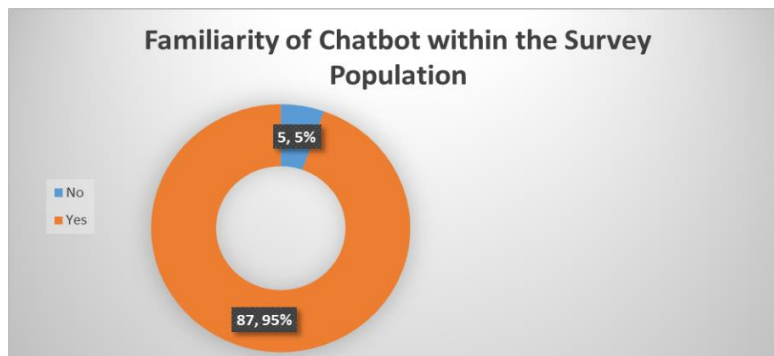
Figure 7: Chart survey results for familiarity of ChatBot
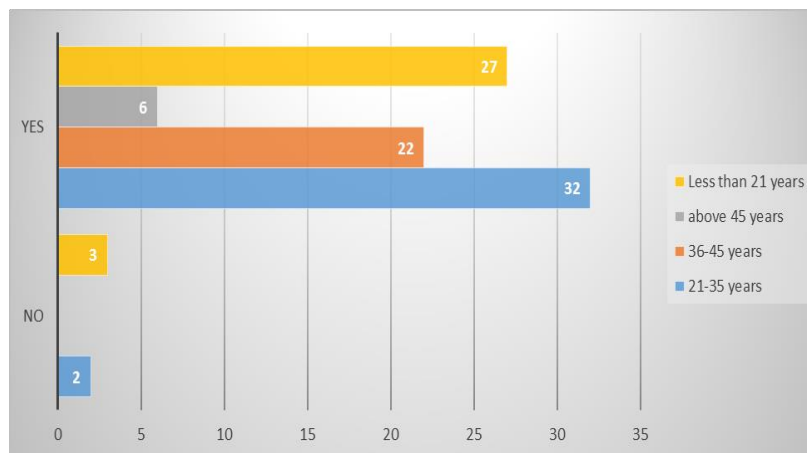
Figure 8: Chart displaying age wise familiarity of ChatBot

The survey results clearly show, that majority of the people surveyed do have fimilarity with the chatbot technology and only a 5% of the people surveyed had not unknown about this technology.

Secondary data analysis and research would clearly show that majority of customer interfaces that are available across websites, apps of service industry like banking, financial services, travel, e-commerce channels provide an interactive functionality to get outputs from the chatbot channels.

2. Preference to interact and experience in interaction
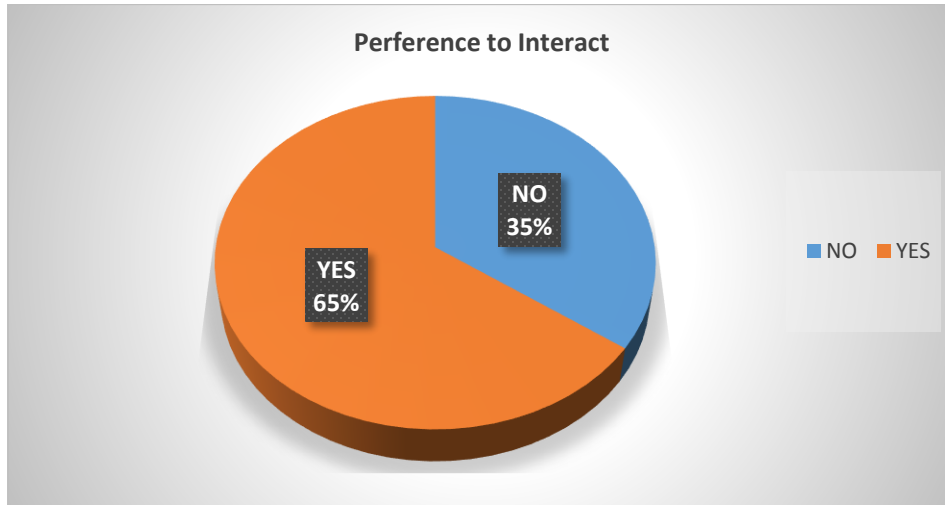
Figure 9: Chart displaying survey participants' preference to interact

Clearly the survey, highlighted that the preference to interact is 65% of the overall people surveyed against the service being taken by a human agent which could be possible due to

- The failure of the companies and technology solution to elevate the solutions to the levels that can match the experience of a human service agent.

- Additionally, the solutions need to adopt and the organisations must strive to bring in right marketing effort to ensure that the solutions reach the majority of the people.
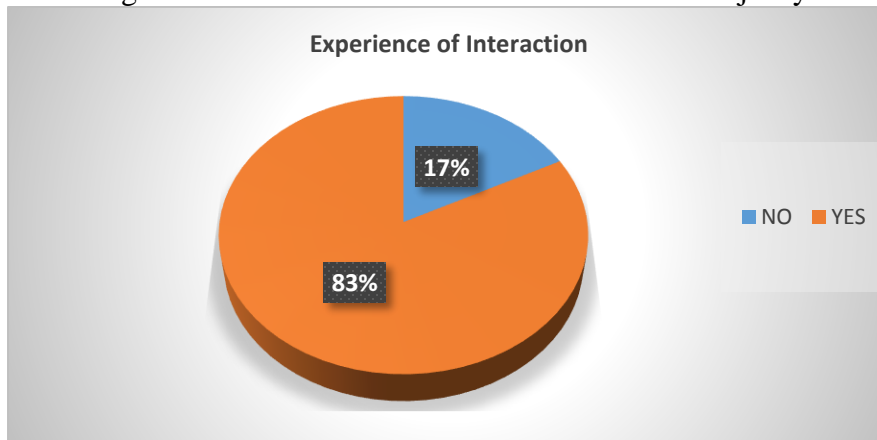
Figure 10: Chart displaying survey participants' experience of interaction

Further of the total people surveyed around 83% of had experience of interaction with the ChatBot which when correlated with the number of people who were familiar with ChatBot reveals that ChatBots as a technology has a narrative in the industry and there are still people who have heard about the technology but haven't used it. The probable reason could be lower marketing effort by companies to educate people about the ChatBot technology and solutions available to the end users.

3. Experience while interacting
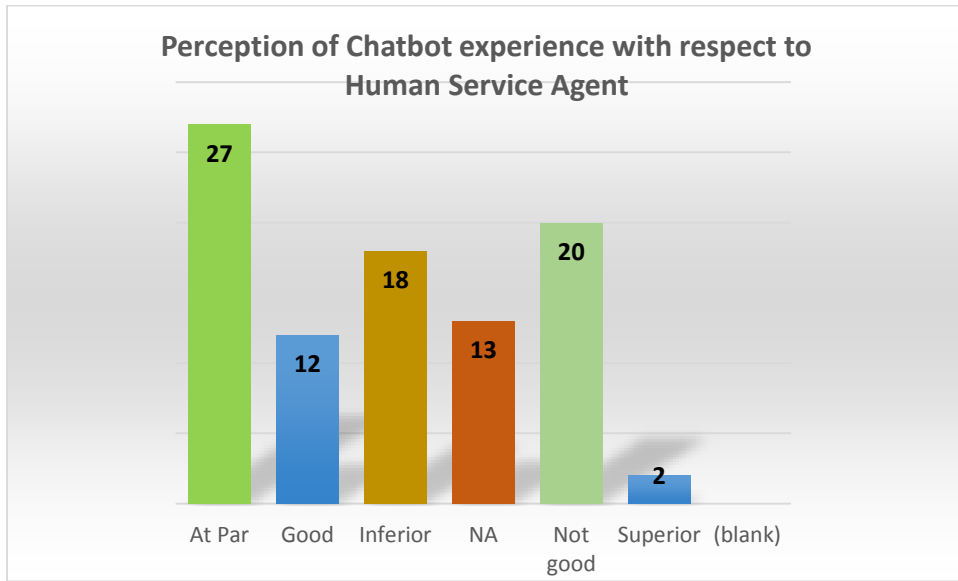
Figure 11: Chart displaying survey participants' experience perception against human service agent

Another key highlight of the survey results is the experience derived by the 83% people who have used the ChatBots. The percentage of the users that have perceived a superior experience is very less at 2% whereas an at-par score is at 29% and good at lower end of 13%. Thus the results clearly show technology is lagging behind to provide an experience which is at part or superior than the human agent.

This cloud be related to the nascent stage of technology innovation and once the technology stabilised in the product cycle we could than expect the adoption as well the growth in the experience levels.

4. Key reasons behind the behaviours exhibited during interaction
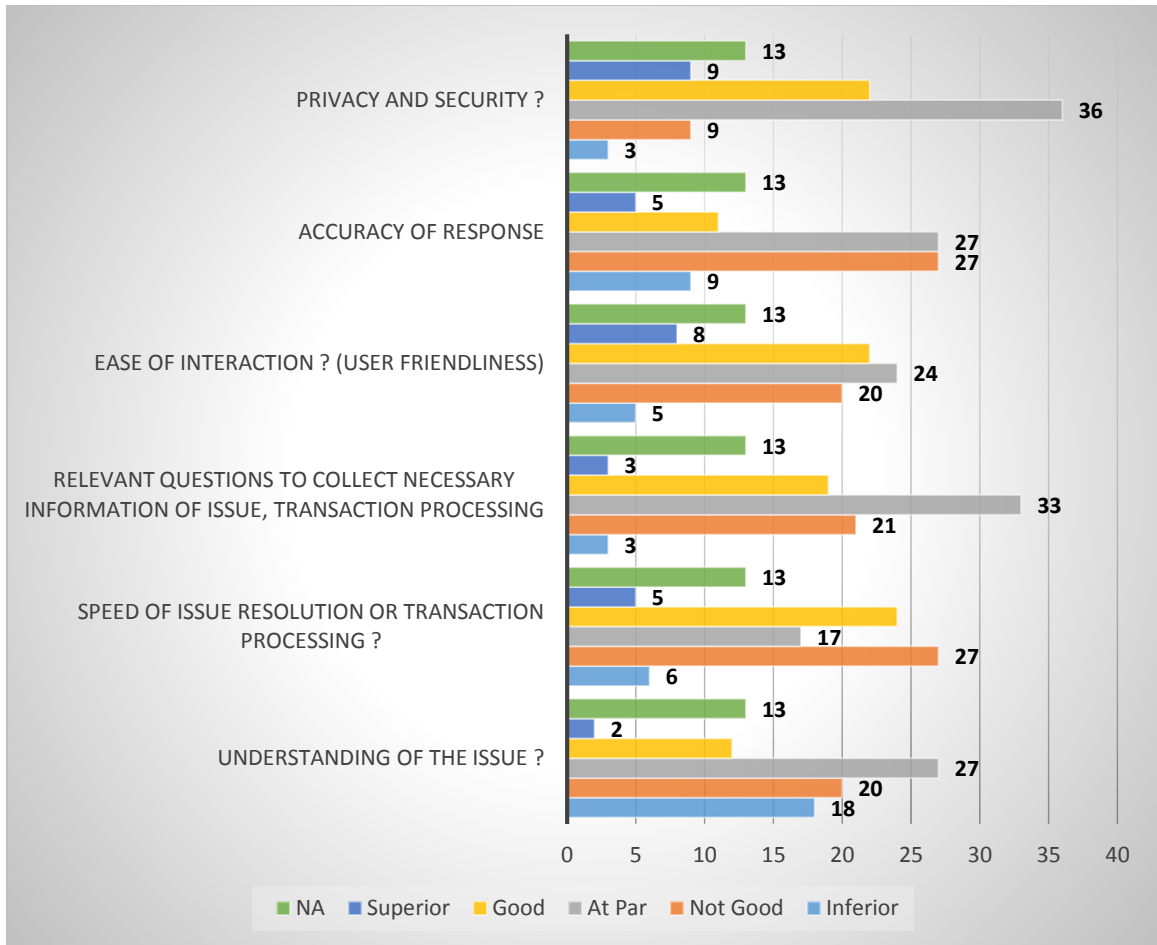
Figure 12: Chart displaying survey participants' perception on different parameters against human service agent

The next chart clearly shows, the survey results owning to the perception of the users on the probable reasons where the ChatBots have failed to derive the right level of experience which would be at par or higher than that of the end users.

Summary of the results

The results of survey lads to 3 conclusions that we view as positive for Inverta and the wider market. For ChatBots, consumer awareness is high, demand from the consumer for ChatBots is likely to increase due to their demands for instantaneity and changing consumer habits (8 hours per day spent on connected devices) and the existing products on the market do not meet consumers' requirements. From an industry perspective the first two points are positive, and the final point shows that the market needs more intelligent ChatBots as current products do not work adequately. As Inverta has a superior product, in terms of its 'intelligence', this provides good potential to penetrate the market.

Target Market/Marketing

When considering whether Inverta should launch a SaaS model, the industries which would benefit most from its product and the best ways for Inverta to market their product to these industries.

When thinking of the target markets, the industries were siloed into broad categories about their rationale for using a ChatBot, accepting that the product can in fact be used to derive multiple benefits. Initially the investigation was on labour intensive industries facing cost pressures that have scope to cut costs by implementing a ChatBot solution. Three sectors which were focused on - call centres, healthcare (for booking appointments and simple queries) and Local Authorities (simple queries). All industries are labour-intensive, and each are facing cost pressures either via cuts to funding, the introduction of the National Living Wage or an increase in business rates.

The second area looked at were businesses that want to scale up, have highly skilled labour and where too much resource is used on non-value adding activities. Financial services fit this description and is a sector worth over INR 120bn. From research and experience, highly paid and highly skilled employees are tasked with dealing with un-profitable clients. However, the simplistic nature of the financial advice required can easily be dealt with by a ChatBot and the industry has seen an increase in the amount of 'Robo-advice'[v] being used.

The final area that we propose to target is firms looking to improve their customer service. On average, energy companies leave their clients waiting over 13 minutes on the phone[vi] much to the disgruntlement of the consumer. Also, as has been evidenced with the snow recently, staff shortages can lead to poor customer service and ruin the reputations of the companies. Having ChatBots that can take volume away from humans will lead to a reduction in waiting times and improve satisfaction.

To target these firms, it is recommended that Inverta has a marketing strategy that focusses on 3 elements: Social Media, Web based and Physical. By covering all three angles, it will give Inverta the greatest opportunity of reaching their target market and launching a successful SaaS model. Recommendations for each part of the strategy are set out below:

- Social Media - active twitter and Facebook accounts, use to build product awareness and target companies that are having very visible customer service issues (as seen by complaints on social media). Use LinkedIn to build up a broad network of people, then publish educational blog posts extolling the benefits of ChatBots and how Inverta can help businesses become more profitable and increase customer satisfaction.

- Web Based - Use Search Engine Optimisation so that the Inverta website appears for key search terms, currently when searching for ChatBots/AI/NLE only news articles appear. Email marketing should also be used in conjunction with the writing of white papers and blogs educating businesses about the benefits of Chatbots.

- Physical Marketing – Inverta should host events about the benefits of Chatbots. Attending target industry conferences should also be done. Finally, consider joining professional bodies such as the Institute of Directors to network with business leaders and promote the Inverta brand.
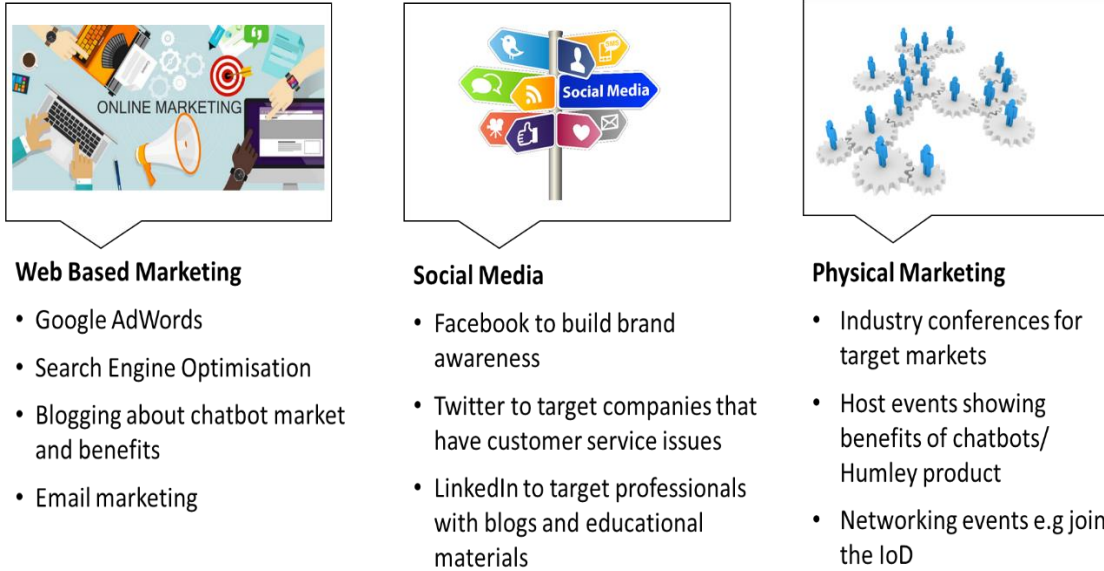
Web Based Marketing

- Google AdWords
- Search Engine Optimisation
- Blogging about chatbot market and benefits
- Email marketing

Social Media

- Facebook to build brand awareness
- Twitter to target companies that have customer service issues
- LinkedIn to target professionals with blogs and educational materials

Physical Marketing

- Industry conferences for target markets
- Host events showing benefits of chatbots/ Humley product
- Networking events e.g join the IoD

Figure 13: Social media marketing strategies for Inverta

Pricing Model, Adoption and Revenue Projections

Having looked at the industry dynamics, the conducive economic environment and the markets to target with SaaS model, we researched what pricing would be acceptable in the market. From there we looked at potential adoption rates and the revenue forecasts.

From our research, we have found that many SaaS companies dramatically under-price their service and the prices have no relevance to the value that they deliver to their clients. Looking at some of Inverta's ChatBot competitors we can see a varied pricing model:

Table 1: Comparison of Inverta's competitive landscape and pricing parameters

Company	Cost in INR	Notes
Darvin.AI	₹ 24,000.00	monthly
Virtual Spirits	₹ 14,000.00	Monthly
Botsify	₹ 2,800.00	Monthly
Bot Engine	₹ 2,800.00	Monthly, per 1000 conversations
Bot Fuel	₹ 87,200.00	Monthly
Azure Bots		N/A
Flowxo	₹ 1,120.00	Monthly

However, we approached the pricing model from the perspective of what value can we deliver to our clients, and then price accordingly. The following example shows 'the average call centre' and the scope for cost savings:

Table 2: Average number of call centre employees in the Call Centres in India

Number of Call centre employees	Number of Call Centres	Average number of employees
385000	2000	193

Table 3: Per contact charges

	Yearly Salary per employee	per day (225 working days)	per hour (7 hour day)	per call (7.5 calls per hour)
call centre	800,000.00 ₹	3,555.56 ₹	507.94 ₹	67.72 ₹

	People	Calls per hour	Hours worked	Total calls	Cost per call
Day	193	7.5	7	10132.50	67.72 ₹
Month	193	7.5	140	202650.00	67.72 ₹
Yearly	193	7.5	1680	2431800.00	67.72 ₹

Having worked out how much traditional call costs we came up with a pricing model that still enables huge cost savings by the firm, but also allows Inverta to price according to value delivered and make high revenues. The model works on a volume with more usage causing a lower average cost:

Table 4: Pricing Model which is slab based on the monthly conversations providing value to consumers based on volume increase

Number of Monthly Conversations	Price per conversation	Monthly Cost
0-1000	8.00 ₹	8,000.00 ₹
1000-5000	7.20 ₹	36,000.00 ₹
5000-10,000	6.40 ₹	64,000.00 ₹
10,000-20,000	5.60 ₹	112,000.00 ₹
20,000-30,000	4.80 ₹	144,000.00 ₹
30,000-50,000	4.00 ₹	200,000.00 ₹
50,000-100,000	3.20 ₹	320,000.00 ₹
100,000+	2.40 ₹	Variable

If we work this pricing model into the previous example, we can see the savings that could be made:

Table 5: Benefit of adoption of ChatBot

% of overall traffic using Inverta	Calls Per Month	Traditional cost	Inverta Cost per annum	Savings per annum	% Saving
5.00%	10,133	₹ 8,234,666.67	₹ 680,904.00	₹ 7,553,762.67	4.59%
10.00%	20,265	₹ 16,469,333.33	₹ 1,167,264.00	₹ 15,302,069.33	9.29%
15.00%	30,398	₹ 24,704,000.00	₹ 1,459,080.00	₹ 23,244,920.00	14.11%
20.00%	40,530	₹ 32,938,666.67	₹ 1,945,440.00	₹ 30,993,226.67	18.82%

With hundreds of thousands of pounds to be saved, we believe that pricing model delivers significant value to both parties. Importantly, it provides Inverta with appropriate remuneration for the savings that are generated. It is expected to take some time to gain penetration into the market

and to have the Inverta product handling large amounts of traffic, but this gives an indication of the potential rewards to all parties.

In terms of analysing the adoption rate, we have looked at several of the industries mentioned in the target market section and come to the opinion that there is ~15,000 businesses to target.

Table 6: Adoption of ChatBot penetration and market share

Chatbot penetration	Number of firms	5% market share	7.5% market share	7.5% market share	10% market share
10.00%	1510	76	113	113	151
20.00%	3020	151	227	226	302
30.00%	4530	227	340	339	453
40.00%	6040	302	453	453	604
50.00%	7550	378	566	566	755

According to Business Insider, 80% of businesses are expected to have some Chatbot Automation by 2020. Whilst this seems an overly aggressive assumption, the research we conducted into the benefits suggest that growth will continue, and penetration will increase dramatically. However, we have provided a scenario analysis based on penetration and the Inverta market share.

Our Revenue projections are based on negative, neutral and positive assumptions, as seen in the table above. We have also estimated what the average monthly fee is likely to be, based on the number of customer won in each price bracket (av. Monthly fee ~64000 INR). The graph below shows the monthly revenues for each assumption:

Figure 14 Trend with respect to the adoption of Inverta and customer acquisition
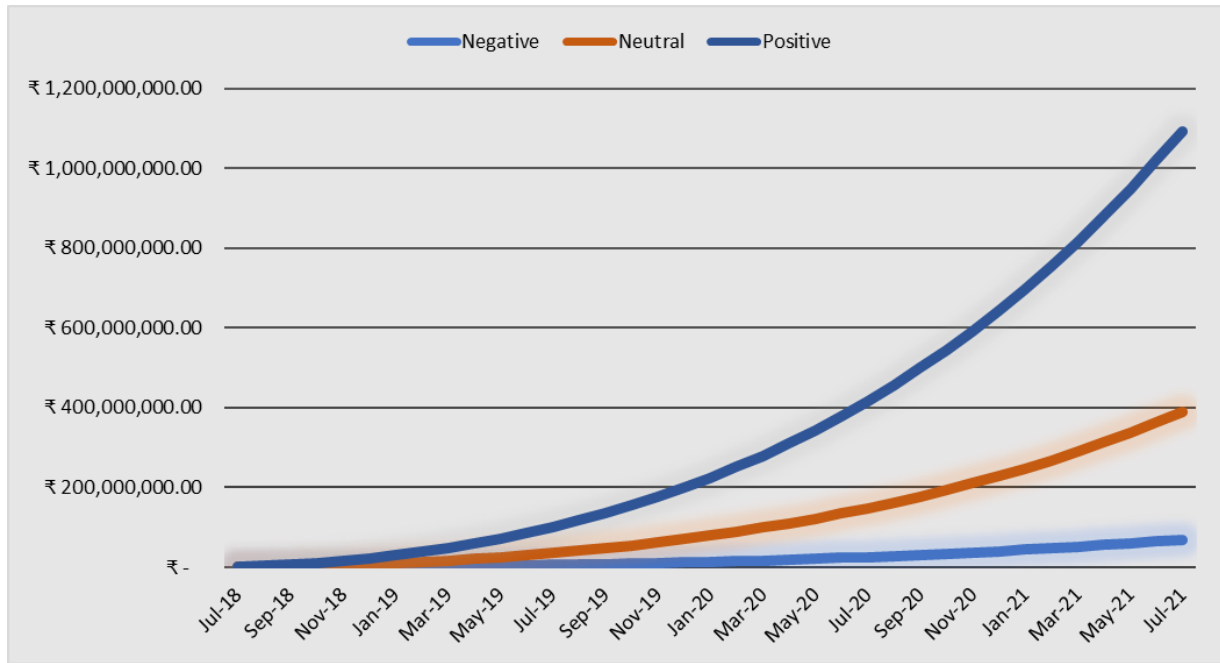
While the proposed SaaS model would have monthly payments, we also recommend having a discounted annual subscription, paying for twelve months upfront. Doing so would significantly improve the cash flow profile of the business and would enable the business to fund future growth.

Impact on SI led business

Whilst the launch of a SaaS model has the potential to disrupt the existing SI led business model, our research suggests that the impact is likely to be limited.

The end user requirements on the SI side are complex and bespoke compared to the businesses that would be using the SaaS model. The level of service that Inverta supplies to the SI side would also be far higher than the SaaS. Based on the above, it is our opinion that the two sides of the business would be sufficiently differentiated and would have minimal impact on the SI side. However, it is important to be cognizant of staffing levels and making sure the service, large enterprises get is not jeopardised by focusing on SaaS.

RECOMMENDATIONS

From the research and analysis that we have conducted, we have come up with several recommendations and actions that Inverta should pursue:

- Launch SaaS model for the wider market due to the high growth expected for ChatBots/NLE and the high expected adoption rates
- Launch the model within the next 6 months to capitalise on the favourable market conditions and to take advantage of being an early mover
- Target labour intensive industries with cost pressures, businesses with highly skilled labour that can be automated and businesses that want to improve their customer service
- Target those industries via a mixture of social media, web based and physical marketing to increase awareness and drive growth.
- Price the SaaS model based on value delivered to client, differentiate offerings based on service levels
- Have the option of an upfront, discounted annual payment to improve the cash flow and help fund further growth
- Be cognizant of the various risks of pursuing a SaaS model. Ensure adequate human and capital resources are in place.

Figure 15: Key highlights of recommendation

We feel that Inverta has a fantastic opportunity to be a market leader in the emerging market for ChatBot and NLE services and that Inverta can scale their business quicker than the existing model. By acting upon our recommendations for the delivery of a SaaS business model, we feel that Inverta will drive significant value for their clients and for their own shareholders.

LIMITATIONS

Although best efforts have been made to reflect the true picture of the project, but this study was subjected to some limitations. Those limitations were discussed below:

- A convenience sample was used for the data collection which made the results not readily generalizable.
- Generally, the respondents were busy in their work and were not interested in responding.
- Respondents could be biased in their responses.
- Due to time constraint the sample size was small which could not be regarded as the true representative of the universe.
- Focused on limited number of industries
- Saving projections based on average data of Call Centre industry
- Survey limited to 92 respondents
- Inverta has capital to implement SaaS model
- Average monthly revenue of INR 64000 from SaaS clients
- Adoption rate and market penetration

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APPENDIX A: SURVEY FORM

The questionnaire was sent through email using Google Forms

https://docs.google.com/forms/d/e/1FAIpQLSeO9ToxEtWm9IuiRcSDPQclP4gHV43RRSyW_X_-McefSCp2Uw/viewform

Chatbot Perception Survey

The following information is being captured to understand the perception of Chatbot as a customer service agent against the traditional contact medium of a Human service agent.

This information will be used only for educational purposes and the details captured will not be used for any business purpose.

* Required

1. What age group do you belong to ? *

○ Less than 21 years

○ 21-35 years

○ 36-45 years

○ above 45 years

2. Do you know what a Chatbot is ? [Chatbot is a computer program designed to simulate conversation with human user, to perform actions that otherwise would need a Human agent. These are available on the websites of providers as a contact channel.] *

○ YES

○ NO

3. While making an online or telephonic query, how long are you willing to wait to communicate with a human service agent before you get frustrated and hang up ? *

○ Less than 5 minutes

○ Between 5 to 10 minutes

○ Between 10 to 20 minutes

○ More than 20 minutes

4. Would you prefer to talk to talk or chat to a "Chatbot" than wait for human assistance ? *

○ YES

○ NO

5. Have you interacted with a Chatbot in near past while accessing any website ? *

○ YES

○ NO

6. If the answer to the previous question was "Yes", what was the nature of interaction with the "Chatbot" ? Otherwise, select the option - "Never Interacted" *

☐ Business Transactions (e.g. Banking transaction, e-commerce purchase ...)

☐ Help & FAQs (e.g. IT services, understanding specific elements ...)

☐ Status Services (e.g. complaints status, service request status etc..)

☐ Leisure (e.g. Travel Booking, Hotel booking ...)

☐ Never interacted

☐ Other:

7. Which industry was your interaction with a " Chatbot" was were ?
Select NA if your response to Q5 was "No" *

☐ Utilities (gas, electricity, power etc.)

☐ E-commerce

☐ Banking, Insurance and Financial Services

☐ Retail

☐ Telecom

☐ Technology / IT

☐ Healthcare

☐ Travel, Transportation, Hotels,

☐ Education

☐ Government

☐ Not Applicable

☐ Other:

8. How would you rate your Chatbot experience ? Select NA if your
response to Q5 was "No" *

	Extremely Poor	Poor	Average	Good	Extremely Good	NA
Experience	○	○	○	○	○	○

9. What is the reason for the rating of your experience as above

Your answer

10. How would you rate Chatbot experience in comparison with Human Agent ? Select NA if your response to Q5 was "No" *

	Inferior	Not good	At Par	Good	Superior	NA
Privacy and Security ?	○	○	○	○	○	○
Understanding of the issue ?	○	○	○	○	○	○
Accuracy of response	○	○	○	○	○	○
Ease of interaction ? (user friendliness)	○	○	○	○	○	○
Speed of issue resolution or transaction processing ?	○	○	○	○	○	○
Relevant questions to collect necessary information of issue, transaction processing	○	○	○	○	○	○

[i] https://blog.ubisend.com/optimise-chatbots/chatbot-statistics

[ii] https://www.statista.com

[iii] https://www.greaterbirminghamchambers.com/latest-news/news/2018/1/31/profit-warnings-hit-highest-levels-for-three-years-report/

[iv] https://www.begbies-traynorgroup.com/news/business-health-statistics/half-a-million-uk-businesses-start-2018-in-significant-financial-distress

[v] https://www.bloomberg.com/news/articles/2015-06-18/robo-advisers-to-run-2-trillion-by-2020-if-this-model-is-right

[vi] https://www.mirror.co.uk/news/uk-news/big-six-hold-times-energy-3168050