LET's CHAT
AI - based Conversations

October 2018
Acknowledgement

The NASSCOM Research report titled "Let’s Chat – AI-based Conversations" aims to highlight the current Chatbot landscape in India. We have tried to bring out how Indian Chatbot market has shaped-up in terms of start-ups, investments and M&A transactions and what are the forces that are driving the market. We have also tried to showcase Chatbot solutions offered by various start-ups as well as established IT-BPM firms. Hope you enjoy reading this report.

Debjani Ghosh
President, NASSCOM

This report has been developed by NASSCOM Research through a comprehensive study to understand the Chatbot landscape in India.

The preparation of this report has been possible with support from various information sources including market insights from representatives from different IT-BPM enterprises and start-ups in India who have extended great help to the research team. We wish to sincerely thank all of them for their valuable contributions without which this report would not have been possible.
Table of Contents

4  Objective of the Report
5  Research Methodology
6  Executive Summary
7  Chatbot Landscape
26  Case Studies
48  Appendix
Objective of the report

- To develop an understanding of the Chatbot landscape in India
- Identify market drivers and challenges
- Understand key business functions and sectors with highest Chatbot adoption
- Understand investment and M&A landscape, and start-up scenario
- Present case studies highlighting innovations and use cases
Research Methodology

Desk-based research across different databases, reports, publications and news articles

Chatbot case studies from the leading IT, BPM, GCC firms and start-ups

Expert interviews with Chatbot developers and users
Executive Summary

The market is driven by increasing customer expectations, increasing proliferation of messaging apps, enterprises’ focus on improving productivity and reducing cost, increasing availability of data and technological advancements to handle the data.

India is one of the world’s most attractive Chatbots markets; it is positioned third after the US and the Europe, respectively, in terms of total Chatbot funding which reached USD90 million in 2017.

The Chatbot landscape in India is characterized by the presence of 150+ start-ups, 120 of these were founded between 2015-2017.

Chatbots in India are still evolving and are a bit far from handling real-life situation, and lack human touch and contextual awareness.

Going forward, as AI technologies improve further, Chatbots’ performance is expected to evolve to provide end-to-end workflow orchestration and resolution.
Chatbots are programs that leverage Artificial Intelligence (AI) techniques such as Machine Learning (ML), Natural Language Processing (NLP), image and video processing, and audio analysis to simulate conversations with human users.
Chatbots continue to gain traction and are expected to achieve mainstream adoption in next two to five years.

Chatbots are one of the most transformational use cases of AI. While practice areas such as Virtual Assistants are heading towards the ’Trough of Disillusionment’, Chatbots are experiencing an increased hype.

With increasing focus on areas that involve communication between humans, especially customer service, Chatbots are expected to gain further traction.

Source: Gartner
Chatbots find highest implementation in customer service function; They are gaining traction in sales and marketing function due to two-way communication nature.

**Customer Service**
- Quick response time
- Available 24X7
- Handle high volume of requests
- Improved agent productivity
- Lesser errors

**Sales & Marketing**
- Generate leads
- Schedule meetings
- Push product sales
- Proactive customer interaction
- Increased customer engagement

**HR**
- Candidate screening
- On-boarding
- Company information and policies
- Employee training
- Performance management

**IT**
- Incident notifications
- Incident creation
- Task notifications and notes
- Outage alerts and reports
- Reset passwords

**Finance Support**
- Payroll processing
- Handle seasonal spike in requests
- Perform audit
At present, Chatbots are capable of responding to user’s simple queries; Going forward, they are expected to evolve and recommend products to the customer.
The Chatbot market is driven by increasing customer expectations, increasing proliferation of messaging apps and enterprises’ focus on improving productivity and reducing cost.

- **Changing customer expectations** and focus on providing better customer experience.
- Enterprises’ need to streamline operations and reduce the operating cost.
- The mobile revolution further fuelled by increasing proliferation of messenger apps and reluctance to download apps.
- Open source communities, further accelerating the development of products & services through collaboration.
- Maturred machine learning algorithms (NLP processing, deep neural networks, etc.) that provide the tools to convert big data into action.
- Cloud computing and the availability of inexpensive hardware providing access to the physical infrastructure required to run these programs.
- Data digitization and big data providing inputs required to power these programs.
Advancements in machine learning and natural language processing has resulted in evolution of Chatbots from a programmed answering agent to an intelligent virtual assistant.

**Chatbot Evolution**

1. **1st Gen**
   - Automated repetitive tasks
   - Minimal use of NLP
   - Focus on incident logging, cost saving and increasing employee productivity

2. **2nd Gen**
   - Resolution of basic tasks
   - RPA-driven use cases
   - Contextualized support leveraging multi-lingual, basic NLP

3. **3rd Gen**
   - End-to-end workflow orchestration and resolution
   - Mature NLP capabilities
   - Personalized support leveraging AI / ML / advanced analytics
   - Exponential productivity increase

Source: Everest Group
Chatbot architecture includes a mix of third-party platforms and proprietary/in-house tools which allows quick turnaround and customized implementations.

- Users interact through a device on a messaging platform which is processed through NLP.
- Then the bot can launch an action, answer with real-time information from a database/API, or handover to a human.
- The more messages the bot receives, the more it improves known as machine learning. At times the bot is helped by a human it’s called supervised learning.

Source: Chatbot Magazine; NASSCOM Analysis
Chatbot landscape features market players including platform providers, developers and enterprises and consumers.

**Chatbot Platforms**
- IBM Watson
- slack
- Facebook Messenger
- AWS

Messaging and OEM apps that provide distribution of Chatbots.

**Chatbot Developers**
- CONTUS
- peerbits
- CEDEX TECHNOLOGIES PTE LTD
- BotsCrew

Vendors that use third-party Chatbot solutions to develop custom solutions for their clients.

**Enterprise / Consumer Chatbots**
- sf
- pagerduty
- ASK EVA
- ipal
- C

Chatbots for enterprise use cases or the ones meant to be used directly by consumers.

Source: Haptik
BFSI is at the forefront of Chatbot adoption, especially for customer-facing use cases; Healthcare and Education are among the emerging use case sectors.
Chatbots are still in the evolving phase and are unable to handle real-life situations; They also lack personalization, human-touch and contextual awareness.

Inability to handle real-life situations
Chatbots are not equipped to handle real-life scenarios. They can be repetitive and their intelligence is limited unless they are constantly updated.

Context awareness
Response from Chatbot depends on how a question is asked and related language variations. Slight variations in how a question is asked could result in wrong / no answer.

Getting wrong answers
Chatbots are still evolving and in most of the cases are capable of providing answers to questions that have been clearly pre-defined. Beyond those they might throw-back wrong answers.

Lack human touch
Chatbots come across as impersonal and verbose while handling queries and sharing information with customers.
India is one of the most attractive Chatbot destination in terms of start-up investment; It ranks third after the US and the Europe

- Global investment in Chatbots witnessed a strong growth of 31.4% (CAGR) over 2011-17
- India continues to be an attractive market; positioned among top three countries in terms of total funding. Mumbai and Bangalore with total funding of USD 46.8 million and USD 22.1 million, respectively, lead funding in India

Source: Tracxn
The market witnessed a relatively muted investment scenario over 2012-15, which grew more than four-folds in 2017.

Chatbots landscape in India is characterized by the presence of 150+ companies; 27 of these funded in last five years.

With an average ticket size of USD 3.5 million, Series A funding continues to lead seed funding which stood at USD0.9 million in 2017.

Source: Tracxn
In India, majority of funding has been into Virtual assistants, Enterprise functions and Development platforms.
Gupshup, one of the leading bot and messaging platform start-ups, is the highest funded Chatbot start-up in India.

Source: Tracxn
Chatbot start-up landscape is characterized by handful acquisitions, led by Freshworks

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshworks</td>
<td>Joe Hukum: Provider of enterprise Chatbot solutions for customer engagement (July 2017)</td>
</tr>
<tr>
<td>Phonon.in</td>
<td>Chatimity: Social chat room app for finding and interacting with people based on interest and location (October 2016)</td>
</tr>
<tr>
<td></td>
<td>Airwoot: Startup that uses ML to help brands deliver customer service on social media (April 2016)</td>
</tr>
<tr>
<td>MagicX</td>
<td>iDelivr: Offers Chatbot development and deployment platform for customer engagement (November 2017)</td>
</tr>
<tr>
<td></td>
<td>ZoyoAI: AI-based virtual chatting assistant (October 2015)</td>
</tr>
</tbody>
</table>

Source: Tracxn
In the current scenario, text-based bots are more prominent as compared to voice-based bots; However, latter are expected to gain traction in the future

<table>
<thead>
<tr>
<th>Input</th>
<th>Predominantly text, additionally, speech-to-text on devices such as smartphones, computers, etc.</th>
<th>Voice, on devices such as smartphones, computers, smart speakers, wearables devices and other IoT devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>On-screen answers, images and videos. Dependency on screen to view output</td>
<td>Output independent of screen. However, limitation to cast images and videos in case of smart speakers</td>
</tr>
<tr>
<td>Privacy</td>
<td>Considered more personal. Suitable for use in public places</td>
<td>Suitable for use at home, car, etc. Uncomfortable to talk to in public/crowded areas</td>
</tr>
<tr>
<td>Adoption rate</td>
<td>Quite high as access is through mobile devices and computers which have lower barrier of entry</td>
<td>Moderate, expected to pick up as smart speakers become more mainstream</td>
</tr>
</tbody>
</table>

While text-based bots can converse with users through social networks, email or specific messaging applications, Voicebots go a step further and leverage technologies such as speech recognition, NLP, speech synthesis, artificial conversational intelligence, etc., to convert a simple IVR into a voicebot capable of solving customer queries over telephone call.
Voicebots are expected to go beyond the conventional applications in the future and will co-exist with text-based bots in our homes, cars, etc.

Smart Homes
- Order groceries
- Operate/control smart devices
- Monitor energy and water usage

Connected Cars
- Share location
- Remote heating/cooling
- Fuel consumption/level

Employee Engagement
- Manage leave application
- Track team performance
- Share real-time feedback

IT Helpdesk
- Install printer
- Reset password
- Raise ticket

BI Dashboards
- Sales forecast
- Employee productivity report
- Outage reports

Contact Center
- Recommend product/service
- Outbound broadcast
- Feedback management
In the current form Chatbots are not fully equipped to deal with complex requests. They also lack personalization. Going forward, Chatbots must evolve to be more ‘human-like’ and ‘smarter’ to offer better customer experience and personalization.

90% of the new internet users are expected to be non-English speakers in the next few years. In order to cater to these customers, Chatbot firms, linguists and technologists should come together for developing Chatbot solutions that support vernacular conversations.

As AI, NLP and ML improve further, Chatbots’ ability to understand vernacular conversations and make sense out of those conversations will improve, resulting in more reliable responses. However, Chatbots should not restrict to conversations, and should respond to inputs such as videos, gestures, etc.

With technological advancements, future Chatbots are expected to be scalable, intelligent, cognitive and support multiple languages to provide personalized contextual responses.
AI-powered Chatbot, combined with Natural Language Interface, helping IT services desk to simultaneously address hundreds of user requests.

- 300,000 users
- 6,000 tickets/month/bot
- 100% first call resolution
- 60% of repetitive IT tasks handled without human intervention

**Key Benefits**
- End Users
  - 24x7x365 availability and reachability
  - Error and risk free
  - Reduced TAT

- Enterprises
  - Automated IT operations
  - Reduced cost
  - Rest-API interface
  - No coding required

**Sectors**
- Cross-sector application

**Business Functions**
- IT services desk
  - Employee on-boarding
  - Password reset
  - Desk-side issues
  - Server and service restart
  - Application health check
  - Log purge

**Tools / Platform / Solutions**
- Digital command centre as a service
  - Digital service desk
  - Higher RoI

**USP / Innovation / Value Addition**
- 300,000 users
- 6,000 tickets/month/bot
- 100% first call resolution
- 60% of repetitive IT tasks handled without human intervention

**Key Highlights**
- Cross-sector application
- IT services desk
- Automated IT operations
- Reduced cost
- Rest-API interface
- No coding required
Natural Language Processing based automated assistant that can provide answers to payroll queries

- Pointed and effective query addressal
- 24x7x365 availability
- Contextual responses

End Users - Enterprises
- Improved productivity
- Better employee engagement

Sectors
- Cross-sector application

Business Functions
- Payroll processing

Key Benefits
- Improved productivity
- Better employee engagement
- Pointed and effective query addressal
- 24x7x365 availability
- Contextual responses
- Address payroll queries
- Manage seasonal spike in requests for e.g. while filing IT returns, pay slip download, bank loan application, etc.

Tools / Platform / Solutions
- Built-in security in every transaction
- All API calls on HTTPS Layer with cryptographically secure Access Key and Secret Key for the data access
- ML system with built-in feedback loop
- Analytics on queries raised, answered and unanswered

Key Highlights
- 7 clients
- 87,500 users
- 128 chats/day

Use Cases
- Cross-sector application

USP / Innovation / Value Addition
- NoSQL

Key Highlights
- Cross-sector application

Use Cases
- Payroll processing

USP / Innovation / Value Addition
- NoSQL

Key Highlights
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Use Cases
- Cross-sector application

USP / Innovation / Value Addition
- NoSQL
A web-based self-serve platform that enables conversational advertising on Chatbots

**Key Benefits**
- Target users based on intent rather than 'perceived' interest
- Focused targeting - Lower cost outlay, increased ROI
- Lesser, but more relevant ads.
- Less intrusive - content delivered only if user indicates explicit interest

**Sectors**
- Consumer-focused product and service industries

**Business Functions**
- Advertising
- Brand marketing

**Use Cases**
- Focused campaigns for brand advertisers
- Deliver campaigns based on user searches and requests
- Opportunity to replace mobile apps

**USP / Innovation / Value Addition**
- Dialog builder
- Conversational content format
- Ability to match intent from user conversation to campaign targeting
- Ability for Chatbot owners/publishers to monetize their content and user base

**Enterprises**
- Target users based on intent rather than 'perceived' interest
- Focused targeting - Lower cost outlay, increased ROI

**End Users**
- Focused targeting - Lower cost outlay, increased ROI
- Focused campaigns for brand advertisers
- Deliver campaigns based on user searches and requests
- Opportunity to replace mobile apps
AI-based Data Discovery platform offering personalized Chatbot and Voice-enabled assistants through smartphones, tablets and laptops

Key Highlights
- 50+ clients
- Accurate and real time data
- Multiple channels and devices
- Factual and descriptive insights
- Allows user input can vary, no set input pattern
- Summary e-mail to get a quick snapshot of the pain areas

Sectors
- CPG, Retail, Insurance, Technology, Telecom, Banking

Business Functions
- Campaigns, Brand Tracking, CRM, Supply Chain, Contact Center

Use Cases
- Real-time insights such as:
  - Query sales metrics and get instant responses
  - Descriptive insights that tell whether targets have been achieved, overachieved or underachieved
  - Executive summary highlighting critical business metrics

Tools / Platform / Solutions
- Node JS
- Python
- Laravel
- MongoDB
- Nginx
- Apache
- HTML 5

USP / Innovation / Value Addition
- Engine developed on Advanced Deep Learning architectures
- Engine generates Natural Language for both voice and text (NLG)
- Engine not only measures intents, entities and parts-of-speech, it also understands the context behind each conversation, query and discussion

Key Benefits
- Focus on self-service by executives
- Ability to have descriptive/causal insights along with predictive analysis
- Cost saved through reduced dependency on expensive analytics tools
- Time saved through reduced dependency on expensive analytics tools

End Users
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- Multiple channels and devices
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An all-in-one platform to build Chatbots

Key Highlights
- 40 clients
- 4,500+ conversations/week

Key Benefits
- e-commerce
- Hotels (hospitality)
- Loyalty programs
- Gig based venues

Business Functions
- Customer support
- Customer engagement
- Sales
- e-commerce
- Hotels (hospitality)
- Loyalty programs
- Gig based venues

Use Cases
- Quick RoI
- Customer satisfaction
- Customer acquisition
- Transaction enablement
- 24x7 real time support
- Unified interface
- Hassle-free support
- Sell tickets
- Handle guest lists
- Manage loyalty programmes
- Service requests
- Check-ins
- Issue reporting

USP / Innovation / Value Addition
- High customization
- Low deployment period
- Low cost and high accuracy
- Analytics
- Dashboards
- No need for training and technical know-how

Enterprises
- Business Functions
- Sectors
- Tools / Platform / Solutions

End Users
- Quick RoI
- Customer satisfaction
- Customer acquisition
- Transaction enablement

Tools / Platform / Solutions
- Slack
- Facebook Messenger

Sectors
- Customer support
- Customer engagement
- Sales
- e-commerce
- Hotels (hospitality)
- Loyalty programs
- Gig based venues

Business Functions
- e-commerce
- Hotels (hospitality)
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Odigo Concierge – AI-based virtual assistant providing specialized self-service solutions for customer experience

**Key Benefits**
- Enhanced client satisfaction through greater customer engagement
- Reduced human agents to address routine queries
- Ability to re-deploy human agents to address more value-adding tasks

**End Users**
- Reduced TAT for getting routine queries resolved
- Routine transactions can be done without having to wait for a human to attend to it
- Multi-channel support, i.e. support available from a web front-end or mobile channel or a Skype/Slack chat interface

**Use Cases**
- Answer simple FAQs/Q&As
- Reset password
- Payment due dates
- Provide status of an invoice under process

**Sectors**
- Financial services
- Manufacturing, Automotive & Life sciences
- Consumer products, Retail, Logistics, Distribution & Transportation
- Energy, Utilities & Chemicals
- Telecom, Media & Entertainment

**Business Functions**
- Business functions that require self-service and higher end-user engagement

**USP / Innovation / Value Addition**
- Omni-channel front end
- Natural Language understanding
- Integration with third-party messenger channels, software and Odigo Contact Center
- Context-based responses
- Escalation to live agents
- Dialog Manager
- Analytics

**Key Highlights**
- 50+ clients
- ~2000,000 users

**Tools / Platform / Solutions**
- Google
- Microsoft
- AWS
Cognitive agent solutions built on AI technologies

Key Highlights
- 30+ clients

Sectors
- Automotive
- Property and casualty insurance
- Retail banking
- Credit card services
- Food and beverage
- Commercial real estate

End Users
- Improved customer experience via conversational UI
- 24x7 support available
- More personalized user experience through contextual awareness, sentiment analysis and emotion recognition

Business Functions
- Perform money transfers
- Provide information about account, products and rates information
- Place orders
- Recommend products/deals
- Deliver real-time in-store promotions

Tools / Platform / Solutions
- Choice and flexibility of solutions tailored to each customer’s requirements

USP / Innovation / Value Addition
- Contact center solutions

Enterprises
- Reduced contact center call volume
- Reduced time on repetitive self-help questions
- Improved quality of service in terms of consistency and accuracy of answers
- End-to-end operational excellence increased as product failures are identified early
- Volumes of rich, highly contextual data that may not exist today

Key Benefits
- 30+ clients
AI-powered text and speech Chatbot solution to meet the business needs of the Travel and Hospitality industry

**Key Benefits**
- 24X7 availability, quick response, and instant engagement to guests leading to higher guest satisfaction
- End-to-end reservation booking and insta-payment, integrated with the enterprise systems for seamless transactions
- Capability to interact naturally and intelligently in global languages including English, Arabic, French, Chinese, Russian, German, etc.
- Supports text and speech interactions
- Offers an intuitive and visually appealing user interface
- Hybrid platform allowing human intervention

**Use Cases**
- Manage reservations using any device without human assistance
- Personalized offers based on previous usage and experience
- Real-time assistance such as information on hotel in-house services, recommendations for local site seeing

**Sectors**
- Travel and Hospitality

**Business Functions**
- Reservation desk
- Concierge

**Tools / Platform / Solutions**
- Integrates with business critical systems such as Corporate Website, PMS, CRS, Payment Gateway, and Email server
- Supports Multi-lingual transactions
- Offers voice and text enabled assistance
Chatbot leveraging Machine Learning algorithms and Natural Language processing techniques to provide enhanced reporting and analytics

Key Highlights
- Reduced costs leading to improved ROI (more than 1100% annualized ROI for a specific client)
- First month break-even from bot deployment

End Users
- Intuitive way to interact with the software and get answers
- Faster turnaround to queries and reporting needs
- Substantial reduction in user's manual effort

Key Benefits
- Enhanced reporting and analytics of key metrics through dashboards

Sectors
- Digital verticals
- Customer operations

Business Functions
- All business functions

Use Cases

Tools / Platform / Solutions
- Python
- MongoDB
- spaCy
- RASA NLU
- Tensorflow

USP / Innovation / Value Addition
- Natural Language for getting data analytics insights
- Predictive text
- Data visualization
- The bot "learns" with each query resulting in more accurate data analytics

Enterprises
- 2 clients
- 600+ users
- 34,925 queries/month

Business Functions
- Customer operations

Use Cases

Tools / Platform / Solutions
- Python
- MongoDB
- spaCy
- RASA NLU
- Tensorflow
Chatbot connecting different applications to get information/reports

**Key Benefits**
- Immediate response to the customers / Candidates
- Better engagement

**Sectors**
- Recruitment

**Business Functions**
- Profile search across different data sources
- Intelligent notification of data/reminder
- Holding the users in a single window

**Use Cases**
- Chatbot connecting different applications to get information/reports

**Key Highlights**
- 150 users
- 500 queries/day

**Tools / Platform / Solutions**
- API.AI
- Python
- DJANGO

**USP / Innovation / Value Addition**
- Brings down the time spent in searching for a suitable profile from multiple data sources to a fraction of what was taking earlier

**Enterprises**
- Immediate response to the customers / Candidates
- Better engagement

**End Users**
- Single interface to connect with multiple data sources
- Instant communication across geography

**Sectors**
- Recruitment

**Business Functions**
- Profile search across different data sources
- Intelligent notification of data/reminder
- Holding the users in a single window

**Tools / Platform / Solutions**
- API.AI
- Python
- DJANGO

**USP / Innovation / Value Addition**
- Brings down the time spent in searching for a suitable profile from multiple data sources to a fraction of what was taking earlier
Chatbots powered by NLP modules that can be quickly customized into a Chatbot framework to provide ‘human-like’ responses.

**Key Highlights**
- 30+ clients
- 800 users/day
- 50,000-100,000 queries/day

**Key Benefits**
- Always-on, virtual sales representative
- Lower staff cost
- Up-sell and cross-sell opportunities
- Higher customer satisfaction/engagement
- Faster insight creation-consumption cycle

**Use Cases**
- Relevant product recommendations
- Information on product availability
- Instant reviews and ratings
- Reduced dependency on expert analysts to crunch numbers

**Sectors**
- Retail
- CPG
- Hospitality
- QSR
- Banking
- Telecom

**Business Functions**
- Sales
- Customer Support
- Marketing
- Human Resources
- Finance
- Travel Desk

**Tools / Platform / Solutions**
- NLP models trained over a corpus of 50,000 sentences
- NLP to understand user’s inputs and extract user’s intent to identify the context
- Built for scale and quick deployment
- Customizable to suit an enterprise’s requirements

**End Users**
- Enterprises
- End Users

**USP / Innovation / Value Addition**
- In-store virtual shopping assistant
- Virtual business intelligence assistant

**Tools**
- Google
- Amazon
- Slack
- Facebook Messenger
AI and ML enabled omni-channel platform supported with a multi-lingual solution

Key Highlights
- 7 clients

Sectors
- Banking, Financial Services and Insurance

Business Functions
- Lead management
- Operations support
- Customer support
- Financial transactions
- Analytics

Tools / Platform / Solutions
- Homegrown platform

Use Cases
- Schedule alerts/reminders, predict preferred calling time or send meeting invites
- Regulatory integrations
- Provide training support on corporate certifications, employee training, quizzes, gamification, etc.
- Lead generation, customer retention, etc.

End Users
- 24X7 availability
- Personalized experience
- Quick response time
- Average conversation time of 32 seconds

Key Benefits
- Quick TAT
- Accurate and time-saving
- Productive & profitable
- Improved customer experience
- Understands user sentiments
- Multilingual and multi-channel support
- Reduction in contact center cost

Enterprises
- 7 clients
- Banking, Financial Services and Insurance
- Lead management
- Operations support
- Customer support
- Financial transactions
- Analytics

USP / Innovation / Value Addition
- Omni-channel platform enabled with AI, ML, and NLP
- Advanced contact management solutions
- P2P and P2M payment transaction using chat interface
- Provisioning of end-to-end solution
- Bots to human switch over

Tools / Platform / Solutions
- Homegrown platform

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- Quick TAT
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- Lead generation, customer retention, etc.
Gia, Myra – Chatbots from Goibibo and Makemytrip

**Key Highlights**
- 15,000 user per day
- Over 70% success rate

**Sectors**
- Flights
- Hotels
- Trains
- Hospitality

**Business Functions**
- Customer Support
- Train information services
- Hotel bookings

**Enterprises**
- Hoteliers use it to
  - Update their room inventory
  - Change prices based on demand
  - Respond to special requests from customers
  - Opens up 10% additional inventory

**End Users**
- Available 24x7
- Across apps, Whatsapp, Facebook Messenger
- Context-aware
- Self-service

**Use Cases**
- 100+ use cases for travel support – cancellations, refunds, delay alerts
- Web check-in, flight seat selection, room upgrades
- Claim benefits from loyalty program
- Mine advice from traveller groups

**USP / Innovation / Value Addition**
- Platform to democratize bot creation
- NLP in Hindi
- Self-learning next intents
A conversational AI model that generates intents from a body of text and trains to answer them

**Key Benefits**
- Instant help for their needs
- Comfortable chatting or emailing
- Better satisfaction levels
- Modern and forward looking

**Sectors**
- All industry verticals

**Business Functions**
- HR
- Help desk
- Customer service

**Tools / Platform / Solutions**
- Automatic question generation

**Use Cases**
- HR
- Help desk
- Customer service
- 40+ clients

**USP / Innovation / Value Addition**
- Learn and train to answer questions on a company's HR policies from HR manual
- Monitor emails and provide automatic responses depending on an email content
- Build KPIs and metrics on common questions, issues, etc.,
- Password reset, Wi-Fi-access issues

**End Users**
- Automate time consuming yet important processes
- Workflows resulting in greater efficiency and cost-savings
- Access and mine more data, allowing them to tailor their communication and advertisements in a targeted, data-driven manner
An integrated Q&A and transaction bot that provides a self-service support system to end-user/auditors

**Key Benefits**
- Expand to new digital interaction channels of the future
- Enhanced operational efficiencies through self-service

**End Users**
- Interactive channels for user interaction
- New modern user experiences

**Use Cases**
- Engage with the users and guide them on the critical initiative
- Solve the business problem of auditor engagement and solving auditor queries in a scalable manner
- Automated content authoring for business, allowing business self-service capability for business content update

**Sectors**
- Financial services

**Business Functions**
- Audit

**USP / Innovation / Value Addition**
- Bot as a conversational interface to back-end systems
- Ability to have both speech and text interface
- Recognizable and powerful quick-wins
- Flexibility to business thru self-service content authoring
- Help move the firm into the digital future

**Tools / Platform / Solutions**
- Language understanding
- Cognitive services
- SQL

**Key Highlights**
- 40+ clients

**Enterprises**
- 40+
- Financial services
- Audit
- Audit
- 40+
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**Key Benefits**
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**Tools / Platform / Solutions**
- Language understanding
- Cognitive services
- SQL
An enterprise Chatbot for business needs including ESS (Employee Self Service) and MSS (Manager Self Service)

**Key Benefits**
- Direct reduction in support staff count and salary cost
- Employee retention costs also come down as employee engagement improves significantly
- Saves 50% time as compared with mobile app or web

**Use Cases**
- Leave management
- Expense reimbursement
- Travel requests
- Pay slip
- Calendar / manage meeting
- Request approval / rejection
- Team view
- Employee snapshot

**Sectors**
- Manufacturing
- Retail
- Aviation
- Logistics
- Technology
- Hospitality

**Business Functions**
- HR
- Payroll
- Finance support
- IT
- Administration

**Tools / Platform / Solutions**

**USP / Innovation / Value Addition**
- Queries resolved 24 hours a day
- No need to wait in queue for a support person to revert
- Truly frictionless
- Administrative cost reduced by 70%
- Zero training cost

**Key Highlights**
- 1,000+ clients
- 150,000+ users
- 44,275 conversations
- 1,778 leave applications
- 600 expense claims

**Enterprises**
- 1,000+ clients
- 150,000+ users
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A multi-linguistic scholarship platform that handles scholarship related inquiries and provides necessary details

- 1 client
- 50,000 daily active users

- Operations
- Customer support

- Cost reduction
- Seamless user experience
- Reduced TAT
- Increased user engagement
- Reduced inbound service call to customer care call center

End Users

- One stop platform for all scholarships related information
- Interactive FAQ, provides 24X7 support for all types of user queries
- Easy to use interface that supports multi-lingual conversation

Key Benefits

- Allows user to inquire about potentially available scholarships through series of questions and get details about the specifically selected scholarship
- Create the query on the behalf of the student which can be followed by the customer

Tools / Platform / Solutions

- Python
- SQL
- Tensorflow
- NLP

Key Highlights

- Social welfare

Use Cases

- Multi-linguistic scholarship platform aimed to provide information about key scholarships for school and college students in seven Indian regional languages - Hindi, Bengali, Telugu, Marathi, Tamil, Gujarati and Kannada

Key Benefits

- Operations
- Customer support

Business Functions

- Social welfare

Sectors

- Cost reduction
- Seamless user experience
- Reduced TAT
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Enterprises
AI-powered, fully automated, risk based credit rating engine for corporates, bonds and ICO market

Key Highlights

- 18 clients
- 2,500 queries/day

Key Benefits

- Enterprises
  - Automated of credit analysis and reporting
  - Cost efficient
  - No analyst bias and conflict of interest
  - Transparent and scalable
  - Caters to local market nuances

- End Users
  - Interactive near-real time credit assessment tool saves time and cost
  - Improved efficiency
  - Granular understanding of assets with local market nuances and wider coverage

Sectors

- Banking and financial services

Business Functions

- Asset management
- Private bank
- Pension funds
- Insurance funds
- Bank treasury & risk

Use Cases

- Selection and assessment of assets for portfolio investment
- Credit analytics, trends, patterns and near-real time access to credit information
- Automated portfolio construction and risk analytics
- Risk management and reporting of credit quality

Tools / Platform / Solutions

- Reinforcement machine learning, natural language processing

USP / Innovation / Value Addition

- In-house platform
- REST APIs

Sectors

- Asset management
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Use Cases

- Reinforcement machine learning, natural language processing

Tools / Platform / Solutions

- In-house platform
- REST APIs

USP / Innovation / Value Addition

- Reinforcement machine learning, natural language processing
Conversational AI Platform to enable enterprises serve employees and customers with easy to build and deploy cognitive virtual assistants across multi-channels.

**Key Highlights**
- 25+ active enterprise clients
- ~200,000+ recurring users
- ~52,000+ conversations/month

**Sectors**
- Pharmaceutical & Life sciences
- Communication service providers
- Telecom and networking technology providers
- BFSI
- Energies and utilities
- Manufacturing
- Automotive

**Business Functions**
- Procurement
- Sales
- Customer Service
- Quality assurance
- Finance
- HR
- IT

**Tools / Platform / Solutions**
- Automated L1 routing tasks
- Ticket classification and resolution
- Employee onboarding
- IT-related FAQs and first level troubleshooting
- Vehicle data management
- Alert management
- Self-service ticketing

**Key Benefits**
- Reduction in number of monthly tickets
- Lower call volumes for FTE
- Improves SLAs
- Low FTE requirements for peak load servicing
- Lower AHT in resolving issue
- Reduction in agent training time
- Conversational insights

**End Users**
- Self-service automation
- Quicker functionality access directly over enterprise chat
- 24X7 service availability for common issues
- Natural Language conversation based self-service
- Improvement in query resolution time

**Use Cases**
- Automated L1 routing tasks
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**USP / Innovation / Value Addition**
- Deep Learning based Natural Language Understanding
- Cognitive Search and Image Processing
- Knowledge Graphs and Domain Ontologies
- Industry Knowledge Models
- Enterprise Systems and Channel Integration
- Multilanguage capabilities

**Business Functions**
- Procurement
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Conversational AI channel powering enterprises to market, acquire, service and support customers through voice and messaging

**Key Benefits**
- 35+ clients
- 10 million users
- 700,000 queries per day

**Sectors**
- BFSI, FMCG, Retail & e-commerce, Travel & Hospitality, Energy, Automotive, Pharmaceuticals & healthcare, Oil & Gas, and Manufacturing (other)

**Business Functions**
- HR, Finance, IT, Customer Sales & Support, Enterprise Salesforce and Trade Partners

** Enterprises **
- Customer Acquisition and Engagement
- Customer Retention
- Employee Productivity
- Better ROI on marketing and advertising
- 20-30% reduction in support costs
- 20% increase in employee productivity
- 15% increase in the NPS score

**End Users**
- Available 24x7
- Omni-channel
- Personalization
- Self-service
- 30% growth in number of conversations

**Use Cases**
- Customer Support
- Digital Marketing
- E-mail Automation
- IVR Automation

**Tools / Platform / Solutions**
- Single Unified platform for voice and chat based conversations
- Supports 55+ global languages
- Integrated conversational analytics and conversational notifications

**USP / Innovation / Value Addition**
- 35+ clients
- 10 million users
- 700,000 queries per day
Appendix
Key players in the voice-assisted chatbot landscape and their customers

<table>
<thead>
<tr>
<th>Google</th>
<th>Dialogflow</th>
<th>KLM (Royal Dutch Airlines)</th>
<th>ticketmaster®</th>
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<tr>
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<td>Lex</td>
<td>KloudGin</td>
<td>rubrik</td>
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<tr>
<td>Microsoft</td>
<td>LUIS</td>
<td>ups®</td>
<td>Telefonica</td>
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<td>IBM</td>
<td>Watson</td>
<td>Bradesco</td>
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Key Contributors

3i Infotech
DATAMATICS
Cognizant
value3
Yellow
Messenger
wipro
ALLSEC TECHNOLOGIES
banter
FOCUS
Business Innovation
ramco
orion
Course5
eClerx
Capgemini
OptiSol
SYNTEL
consider IT Done
cubet
botspace
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Messenger
make
my
trip
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