

Call Centres Of The Future

Having established itself as the call centre capital of the world, salaries are now increasing in India, attrition rates are very high, and infrastructure costs are rising. So how does the industry stay competitive? Call centres are now embracing technology to stay ahead.



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“**h**i, this is Ruchi. I am calling from Moneymoney bank, we have a pre-approved personal loan of Rs. 40,000 for you, madam...”

Does that sound familiar? How many times have you received such a call? Do you immediately hang up; do you humour the agent and carry on conversing; abuse the poor agent... or end up buying the product that she is selling?

A 'call centre' is a generic term for help desks, information lines and

customer service centres. Call centres have become the central focus of many companies, as these centres stay in direct contact with the firm's customers. Call centres are of two basic types: those that handle inbound calls, where customers call in for service, and outbound call centres, where agents from contact centres call customers to offer services. Call centres not only offer phone-based support, but also support through online chat, SMS and e-mail.

Call centre to the world

India, today, is the call centre to the world. Companies outsource their call centre operations because that way they can get access to skilled and expert staff without having to worry about recruiting them, training them and retaining them. India has both the skilled manpower and the lower costs that make it the preferred destination.

But running call centres is a highly competitive business. The same reasons that make India attractive could, in turn, make some other location attractive in the not so distant future. In India, salaries are increasing, attrition rates are very high, and infrastructure costs are rising. So how does the industry stay competitive? Call centres are embracing technology to stay ahead.

Computers as interviewers

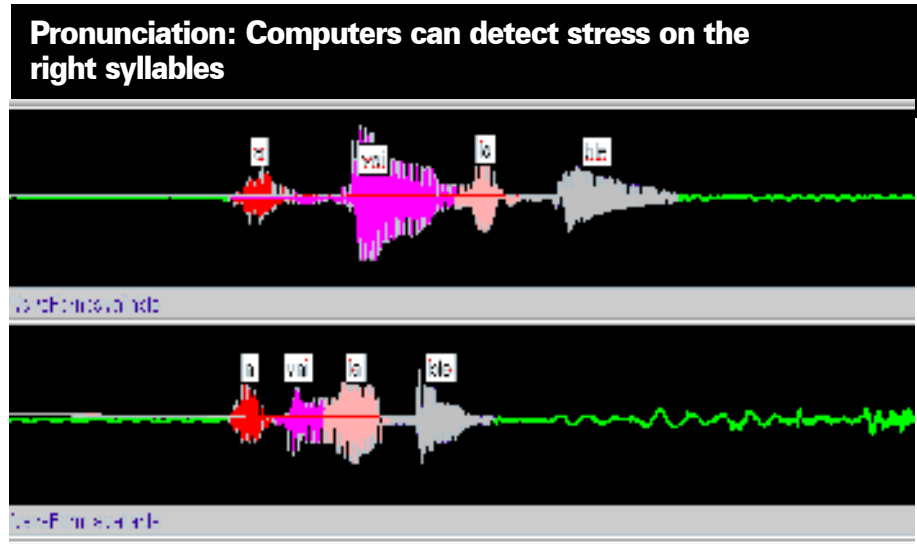
The call centre industry in India is growing at the rate of 40 per cent per annum. However, attrition rates are as high as 30 per cent. This means that lots of people need to be hired. For every one person that you hire, you need to interview ten people. So the cost of hiring one person can be as high as Rs 20,000 if the screening cost is included. The cost of interviewing and hiring a thousand agents is itself a couple of crores. Large call centres hire a few thousand new employees

every year, so the cost of interviewing is a major expense for them. As the call centres move to second-tier cities, it is expected that the ratio of hires-to-rejects will be even higher, making the hiring process even more expensive.

Call centres hope to reduce this cost by automating the first level of screening. Software to test human language skills now exists. The basic language skills needed by an agent include fluency, good vocabulary, good grammar, proper pronunciation and good comprehension. An interviewer marks each candidate based on these skills. Today, speech recognition and natural language processing (NLP) technologies are maturing, and can be used to evaluate candidates on each of these parameters. For example, to test pronunciation, the system checks whether the person is laying stress on the correct syllables in a word. Many Indians pronounce available as 'avlabel', and a speech recognition system is able to detect the stress on the wrong syllables. Comparisons between automated systems and human interviewers show that they are usually in agreement about a candidate's worth, thus paving the way for automated screening processes to be put in place. Now it is only a matter of time before such systems are widely adopted. Very soon, your interviewer may be a computer. Kiosks can be set up in remote corners, and candidates can go there and get interviewed at their convenience.

Good agent, bad agent

Once candidates are hired, they are moved to the floor to take live calls from customers. Agents on the floor are typically evaluated based on their call handling time and the call outcome. The average handling time for a call varies from process to process, and can range from a few minutes to an hour. For example, if you have a banking-related query, you would talk with the agent for about five minutes. On the



A speech recognition system recognises the words spoken based on the acoustic signals generated by the speaker. When we speak, we vocalise the words by placing energy in the syllables or on some parts of the word. So a computer can detect the word we speak and also determine if we have spoken it with the correct pronunciation.

other hand, if the problem is regarding a hardware or software issue on your computer, the call to troubleshoot it could go on for an hour. The call outcome is measured in terms of specific goals or targets being met. For example, banking loan agents would be assessed on how many customers they were able to convince to take personal loans. Thus, agents are evaluated based on how many calls they took and how many of those calls resulted in successful outcomes. To be viable, a call centre must have its agents perform well on both these parameters.

The message, "Please note that this call may be recorded for training and evaluation purposes," should sound familiar to you? Most calls to a call centre are recorded and stored. Quality analysts review them to prepare agent-wise and general reports. They randomly select a few calls of individual agents, and then prepare reports on their strengths and shortcomings.

Natural language processing systems are capable of going through a large collection of calls and analysing the reasons for success and failure. Many agents, who were obviously fans of Amitabh Bachchan in Kaun Banega

Natural Language Processing: Understanding natural language utterances

Customer complaining about high rates

- "I think your rates are very high"
- "Your cost for the hotel is too much"
- "This is too expensive"
- "I can get it cheaper elsewhere"

In natural language, people express the same thing in multiple ways. A natural language processing system has to understand these variations and group together the sentences that share a similar meaning.

Crorepati, started using his famous phrase on foreign customers "Can I lock this for you?" The foreigners were not familiar with this phrase. A natural language system found that agents who simply asked, "Shall I make the booking for you?" made more bookings. Now, finding this kind of correlation between phrases and call outcomes is something that a human reviewing a few calls is unlikely to make out. But an NLP system analysing thousands of calls 'sees' this very easily. Such systems can be used to analyse the language and behaviour of 'good' agents, and compare them with the 'bad' agents to point out good practices that result in satisfied

customers. Call centres are adopting natural language systems a lot more to analyse conversations, and to identify good and positive practices.

The science of selling

All companies want to know how best to sell. Typical outbound marketing calls have a success rate in the range of 1-5 per cent. Inbound customer-generated calls have a higher rate of success, which can range from 10-25 per cent, depending on the product. Service calls like those made to the help desk of a printer manufacturer, are more about being able to solve the customer problem. Yet even in this case, good agents are capable of cross-selling. So when you call up to ask why your printer takes too long to start, a good agent may sell you printer cartridges, or a dust cover for your new printer, or an annual maintenance contract.

At the end of the day, some agents are more persuasive than other agents. So call centres would love to learn what works and what doesn't, and train their entire agent population regarding the good traits.

Using an association mining system, a call centre noticed that smart agents would quote the rate and immediately divert the customer's attention from the rate by talking about something else. So while a typical agent would say, "Ma'am, the blue cartridge costs Rs 250," and then pause for the customer's response, a smart agent would immediately add without a pause, "We have been getting a lot

A lot of the technology being used in the call centres will remain invisible to the user. As a customer you will see not the technology, but a better quality of service, faster response times, and enhanced user experience.



of requests for these, lately." Thus, the focus is now not the price, but something else. The association between uttering a phrase soon after quoting the price and positive outcomes to calls was made by this association mining system.

Similarly, an association mining system going through airline booking calls found that people buying air tickets to Goa also made hotel bookings, but people going to Jammu weren't keen on booking a hotel room for their stay. This way, the call centre could determine which customers to target with cross-selling offers. While such insights may seem obvious in hindsight, call centre managers do not know about them until an association mining system points it out. At any given time, about 50 per cent of the agent population on the floor comprises new agents—so there are many who do not have sufficient experience to see even the obvious associations.

Information retrieval

Let's assume you call up because

your printer is not working. The agent has to first understand the problem, and then suggest a solution. To do this, the agent needs access to relevant printer-related documentation. Today, for most issues, we Google our queries and get answers - but when the customer is waiting on the line, the agent needs to provide answers quickly, and a Google-like interface won't work. Agents do not know all the answers, and usually have to find them from the set of internal documents that they have at their disposal. To be able to efficiently query and get the answers, call centres are building special information retrieval systems into which agents can type in questions. Within a few milliseconds, answers are provided in the form of the most relevant paragraphs and phrases from, say, the printer trouble-shooting manual, and from past cases. Agents may not know all the answers, but given these tools, they can understand the customer's problem better and look up the answer quickly. Information retrieval tools help in doing this efficiently.

AI for training, evaluation and retraining

The cost of training a fresh candidate is about Rs 50,000. Once candidates are hired, they undergo about three to four weeks of training before going on the floor as full fledged agents. During this training phase,

stress is laid on imparting:

- Language skills, such as proper pronunciation, grammar and fluency
- Soft skills like telephone etiquette, and
- Domain skills for the process that agents will be working on. For example, an agent who will be at a banking loan desk is imparted domain knowledge on loans, interest rates, terms for disbursement, etc.

Usually all the fresh candidates are imparted group training based on a generic agent training manual. But to cut costs and make the training effective, call centres are realising that in addition to the group training, individual shortcomings need to be identified, and the training should be tailored to the needs of each candidate. The same technology that is used

during the call is getting stored somewhere, and whether some unscrupulous agent can misuse that? Well, it is getting stored, and call centres will soon install software that will automatically scan the calls and mask out mentions of sensitive information like credit card details, dates of birth, addresses, etc. Today, speech recognition and entity recognition systems are advanced enough to do this with reasonable accuracy. Audio signals from the recorded calls are first converted into text using speech recognition, and then entity recognition software finds the location of all the private information in the text. These portions of the audio are masked out, and the audio stored back. In fact, this facility may soon be required by government law—implementing it is on top of the to-do list for call centres.

out whether the call centre that they outsourced their tasks to is doing its job properly. Typical call centres send out feedback forms to a small fraction of their customers. A fraction of them reply. But since the overall numbers are huge, even this fraction of a fraction is a large number. Call centres create customer issue categories, and categorise the feedback forms into these categories. This way, the call centre may come to know that customers in March complained about slow response time, but in May they complained about bills not arriving in time. Again, many call centres are resorting to natural language processing systems that automatically categorise the feedback into one of the many pre-defined categories.

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in the hiring can be used to find shortcomings in the fluency, grammar and pronunciation of agents. They may need help with specific issues that this tool can identify. The natural language technology can also be used to find out if the agent is using phrases correctly. There is even emotion detection software available that can identify unacceptable voice tones like those that reveal anger. Call centres are continually looking at cutting training costs and making the training process effective.

Private information masking

Have you ever wondered whether the private information you provided

Sometimes, to keep their call handling time low, agents do not give out mandatory information. So even though agents selling mutual funds must alert you about the risk factors, for various reasons they may not. If an agent continuously ignores giving out mandatory information to customers, then the call centre becomes liable. It is not possible to listen in on every call to monitor this. The same masking technology can be used to detect such issues.

Customer feedback

Call centres take the feedback form you filled very seriously. In fact, many businesses use this to figure

Automated call routing

Research shows that customers don't like interactive voice response (IVR) systems. When a computer at the other end asks you to press '1' for A and '2' for B, most customers just press '9' to talk to a customer service representative. Systems are now being developed to just ask, "How may I help you?" and then automatically route your call to the correct department or agent, based on your natural language response. A speech recogniser combined with natural language processing technology understands what you are saying, and takes the step of connecting you with the appropriate department.

A lot of the technology being used in call centres will remain invisible to users. As a customer, you will only experience a better quality of service, faster response times and enhanced user experience. Many of these innovations are expected to come out of India—after all, India is the call centre and IT capital of the world! 