



Not Your Father's Call Center: How Cognitive Computing Improves Customer Satisfaction and Agent Retention

By quickly recognizing not just what callers say but also their emotional state, cognitive computing systems can guide agents to provide a better customer experience.



IT'S NOT JUST WHAT YOU SAY **BUT ALSO HOW YOU SAY IT**

Picture a teenager on her birthday. Spotting a car in the driveway, a bow on the hood, she shouts, "Are you kidding me?" Now picture her dad spotting his car in the driveway, spray-painted in the colors of a local sports team. He yells, "Are you kidding me?" Traditional voice-to-text processing would consider the statements to be identical. And yet the same phrase expresses joy in one context and anguish in the other.

Understanding the difference in meaning requires context - either visual cues such as facial expressions or auditory cues such as voice stresses. Negative emotions such as anger, fear and disgust have distinct auditory signatures. So do positive emotions such as trust, joy, surprise and anticipation.

Cognitive computing system can recognize the sentiment behind a caller's words and phrases in real-time and guide agents to respond effectively. Converting irate callers to neutral or happy callers as quickly as possible increases the likelihood of customer retention. It also relieves agent stress that contributes to burnout and attrition.

AN EXPERT COACH FOR AGENTS AT EVERY STAGE OF THE **INTERACTION**

Consider the following interaction between an A agent and an irate C caller.

Good morning, this is Sara. How can I help you?

turning off my water.

I'm sorry you feel that way. Let me pull up your account.

> Why are you apologizing? It's your unfeeling employer who should be sorry. Is this any way to treat a long-time customer?

Apologizing for something that isn't the agent's fault tends to irritate callers. This interaction has gone from bad to worse.

I'm happy to say your water is scheduled to be turned back on within two hours. I'm so sorry your service was interrupted.



Thank you.

The caller is now in a neutral emotional state.

Before you go, have you heard about our new insurance option? For just \$5.95 a month we'll replace your water main if it breaks. May I ask you a few questions?



me something when you just

Customer is angry again. Upselling immediately after a complaint is not a good idea. But scripting solutions don't consider the emotional context.

All the problems with this interaction stem from the agent's failure to discern and respond appropriately to the caller's emotional state in real-time.

REVISITING THE INTERACTION. WITH COGNITIVE SCIENCE

Now imagine a cognitive computing service that understands both content and emotion by combining audio-to-text conversion, natural language processing and auditory signatures. Based on these inputs, the service identifies the caller's emotional state, flashing a red light for negative, yellow for neutral, green for positive. At the same time, it presents a script that's had a high success rate for similar callers.

Problem-solving generally does not occur when callers are experiencing negative emotions. Therefore, the goal is to elevate the caller from the red zone to the yellow or green zone as soon as possible. The conversation might go like this:



Good morning, this is Sara. How can I help you?



Natural language processing alone would incorrectly identify this statement as positive. But the auditory signature reveals it as sarcastic. A flashing red light alerts the agent that the caller is likely not receptive to problem solving. The system displays an appropriate script.



That's a problem. Let's see how we can solve it as soon as possible.



OK, what information do you

The system detects neutral sentiment and flashes a yellow light. Agent knows the customer is now receptive.

I see that your check arrived this

morning. I'm going to arrange to

turn the water back on as soon as possible. Please hold on a moment.



Thank you. I

Detecting positive sentiment, the system flashes a green light. After the problem is resolved, the system presents a script to close the call.

I'm happy we could work together to resolve the problem. If you have any other issues, please ask for me personally. Is there anything else I can do for you today?

No, that'll do

The system does not display a cross-selling script because the customer was recently angry. The next time this customer experiences a problem, he or she might remember the positive experience, and even request the same agent. The relationship has grown stronger.

TAKING UP WHERE AGENT TRAINING LEAVES OFF

Could you train all agents to be as sensitive as the agent in the second scenario? Not reliably - because of high agent turnover. Further, some people are not as naturally attuned to caller emotions as others. Cultural differences between caller and agent (economic, social and geographic) compound the challenge. The caller, agent or both might have limited language proficiency, or may be preoccupied about a personal matter.

The fact is, cognitive systems are better than humans at making complex, real-time decisions - call after call and day after day. By doing the urgent work, cognitive systems free up human agents to focus on the important work. In the case of contact centers, that's first-call resolution.

FUEL FOR CONTINUOUS IMPROVEMENT

Cognitive computing services for contact centers also collect valuable information about the customer interaction. When analyzed, the information yields insights that improve the customer experience by predicting churn, coaching agents to provide a hyper-personalized experience and identifying actions that will prevent customers from having to even call.

Predicting customer churn

The trajectory of a caller's emotions from the beginning to the end of the call, for example, can predict the likelihood of churn (see Figure 1). If the system detects a high likelihood that the customer will defect, it can prompt the agent to make a proactive incentive offer. Even better, it can identify the factors causing the customer's dissatisfaction and work to prevent those factors in future customer interactions.

The Trajectory of a Customer's Emotional State Predicts Attrition Likelihood

A customer who begins the call in a negative (red) emotional state and leaves in a positive (green) state is far less likely to defect than one who leaves in a negative state. These illustrative statistics are based on the aggregate experiences of multiple Cognizant customers.

		Emotional State at End of Call		
		Negative	Neutral	Positive
onal State at nning of Call	Negative	> 90 - 100%	50 - 65%	10 - 20%
	Neutral	80 - 85%	75%	25 - 35%
Emotional Beginning	Positive	40 - 50%	25%	< 5%

Figure 1: Likelihood of Attrition

Delivering hyper-personalized experiences

Cognitive computing services can also consider historical data when guiding agents. For example, the system might map the caller ID to the customer profile - say, male, age 40 to 60, on the Eastern seaboard. Historical data would reveal the phrases most and least successful in moving this type of customer from the red to yellow state.

In the longer term, contact centers might even create baseline voice profiles for regular customers. After a few words or phrases, the system could detect whether the caller sounded more positive or negative than usual, and then adjust the agent script accordingly. If a customer sounds uncharacteristically angry, the system might steer the agent away from phrases like, "How's your day?"

Avoiding the need for the call

Cognitive science provides the most value in contact centers by reducing call volume. The tools to accomplish this are diagnostic, predictive and prescriptive analytics:

- Use diagnostic analytics to identify triggers for dissatisfaction, such as a service being turned off, or a late product shipment.
- Use predictive analytics to anticipate the customer response. Customers who believe the agent can't help them often ask for a supervisor, for example. Having to ask deepens the irritation, especially if the agent initially resists.

Use prescriptive analytics to automatically take action. This could mean prompting the supervisor to intervene if the caller has remained in a negative state for a certain amount of time. "I'm Sara's supervisor, and I see you have a problem. I'd like to help. Sara, may I join the call?" Even better, assign agents to make outbound calls to people the system predicts may become upset based on impending action: "I see your payment has been late for a couple of months. Would you like to change the monthly payment due date to just after payday?"

THE CALL CENTER OF THE **FUTURE**

Accustomed to personalized service, today's customers don't hesitate to defect to a competitor if they have an unsatisfactory contact center experience. Cognitive computing services guide contact center agents to deliver a better experience by processing what callers say – and how they say it – in real-time.

The outcomes: Higher customer retention, less agent stress, lower turnover and insights the business can use to continuously improve the customer experience.

In the near future, cognitive computing-based customer service will become a make-or-break factor for success in a fast-paced, competitive business environment.

FOOTNOTES

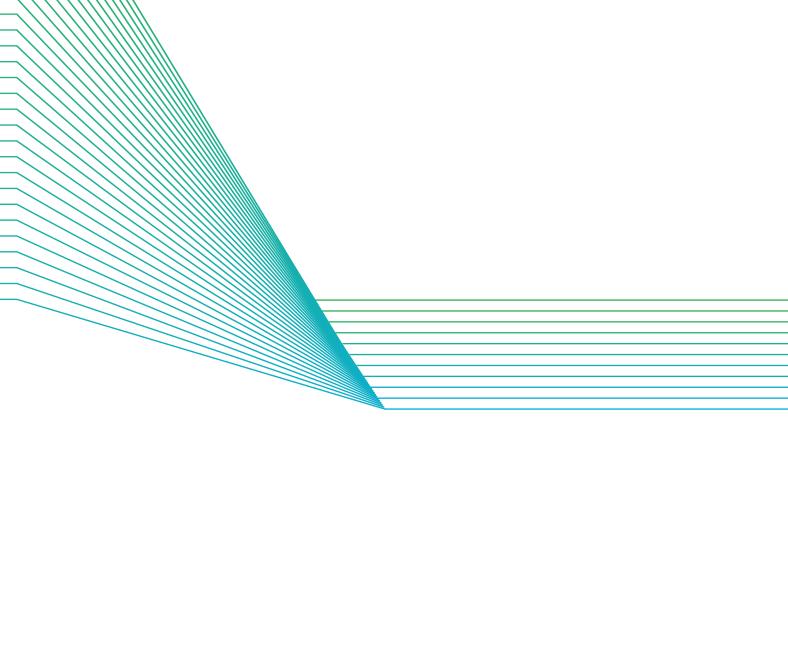
- "Trends 2016: The Future of Customer Service," Forrester, Jan. 5, 2016, https://d26a57ydsghvgx.cloudfront.net/content/blog/ Forrester%20Trends%202016%20The%20Future%20of%20Customer%20Service.pdf.
- ² "How to Protect Your Call Center Agents from Burnout," Focus, April 2017, http://www.focusga.com/2017/04/12/ protect-call-center-agents-burnout/

ABOUT THE AUTHOR



Jerry A. Smith Vice-President of Data Sciences, Cognizant

Jerry A. Smith is Vice-President of Data Sciences at Cognizant. He is a practicing data scientist with a passion for realizing business value through enterprise data sciences services. Prior to Cognizant, Jerry was the North American Chief Data Scientist for Capgemini. He has a Ph.D., masters and bachelor of science in computer science, with theoretical and practical experiences in artificial intelligence. Jerry can be reached at Jerry.Smith@cognizant.com LinkedIn: www.linkedin.com/in/drjerryasmith/.



ABOUT COGNIZANT

Cognizant (NASDAQ-100: CTSH) is one of the world's leading professionalservices companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 230 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us © Cognizant.



World Headquarters

500 Frank W. Burr Blvd. Teaneck, NJ 07666 USA Phone: +1 201 801 0233 Fax: +1 201 801 0243 Toll Free: +1 888 937 3277

European Headquarters

1 Kingdom Street Paddington Central London W2 6BD England Phone: +44 (0) 20 7297 7600 Fax: +44 (0) 20 7121 0102

India Operations Headquarters

#5/535 Old Mahabalipuram Road Okkiyam Pettai, Thoraipakkam Chennai, 600 096 India Phone: +91 (0) 44 4209 6000 Fax: +91 (0) 44 4209 6060

© Copyright 2017, Cognizant. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission from Cognizant. The information contained herein is subject to change without notice. All other trademarks mentioned herein are the property of their respective owners.