CallMiner

How AI Improves the Customer Experience

Real Use Cases of Engagement Analytics & Automation for Contact Center Success

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Introduction

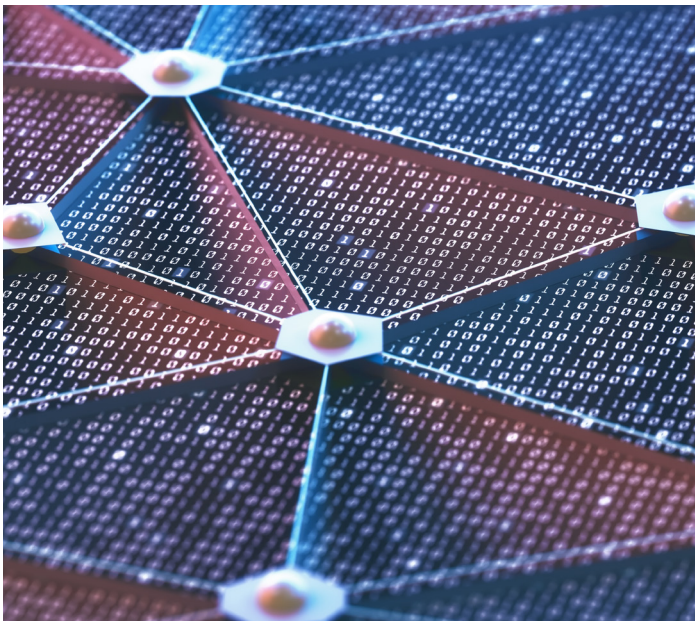
Customer Experience has explosively emerged as a critical driver for loyalty, competitive differentiation and revenue growth.

As a result, the tools needed to benchmark present performance as well as illuminate future expectations within customer interactions are changing. Market demands continue to drive innovation shifts especially with analytics. The next wave is how artificial intelligence (AI) is efficiently being applied to more quickly, accurately and predictively impact awareness and outcomes within the contact center and beyond.

Artificial intelligence is being used in many ways to improve customer experience, and innovative new use cases are emerging all the time. Organizations are using AI to handle more complex situations that used to require human intervention, to enable more customer self-service, and to extend this enhanced customer support across channels.

AI is being layered with current interaction analytics solutions and emerging techniques encompassing machine learning (ML) and robotic process automation (RPA) to serve customers in new ways, raise customer satisfaction and give organizations more insight into their customer interactions. Enterprises must reimagine their operations, with automation and AI at the center of their strategy. AI enables automation to get faster and smarter over time and helps uncover new revenue streams and fundamentally transform operations." [1]

This paper provides an overview of artificial intelligence, explains how AI fits into the spectrum of technologies used for managing contact centers operations and efficiencies both on the agent and customer side, and identifies the leading use cases that are delivering customer experience and stronger business value.



1. Forrester Research **"2018 Customer Service Trends: How Operations Become Faster, Cheaper – And Yet, More Human"** January 24, 2018. Kate Leggett with Daniel Hong, Ian Jacobs, Sarah Dawson, Peter Harrison.

"Enterprises must use AI strategically and separate fact from fiction. They must reimagine their operations with automation and AI at the center of their strategy and create a road map broken up into tangible milestones."

Forrester Research,

The Three Customer Service Megatrends In 2019: As AI Eats Jobs, Agents Are More Valued Vision: The Contact Centers for Customer Service Playbook

AI Overview

The term "artificial intelligence" is widely used, and often overused. It can be misapplied as a catch-all phrase that covers not only AI, but also separate (and often complementary) technologies.

The loose definition and use of the term artificial intelligence contributes to misunderstanding about the technology.The following definitions are intended to bring some clarity, especially about how AI and related technologies apply to customer engagement analytics and contact center operations.

Artificial Intelligence

Artificial intelligence is a set of technologies that are meant to allow machines to mimic "intelligence" and perform tasks that normally require human activity, such as visual perception, speech recognition, decision-making and translation between languages. One of the tasks artificial intelligence can perform is to predict actions.

AI provides the ability to make predictions of future events based on large amounts of data that it would be too costly for humans to develop and analyze. This predictive ability is a big part of the value AI can bring for improving the customer journey across different engagement channels.

Machine Learning

Machine Learning is an application of artificial intelligence that provides systems the ability to automatically learn and improve from experience, without being explicitly programmed. An example of learning would be to categorize a type of call (e.g. service request, customer complaint) based on the language used. Machine learning is focused on developing computer programs that can access data themselves and learn from the data. Machine learning may be unsupervised or supervised.

Unsupervised means data is organized based on its own structure. The application attempts to discover the natural data structure and is not helped by tagged (previously learned) data.

Supervised machine learning teaches a machine to make choices that are based on tagged (learned) examples of the choices.

Narrow AI, Expert Systems and Specific AI

Narrow AI, Expert Systems and Specific AI are terms that all describe a specific application of AI that is meant to mirror a very specific activity that is normally only done by a human. Examples include Google Translate and self-driving cars.

Engagement or interaction analytics

Engagement or interaction analytics converts customer interactions from any channel, including calls, chats, emails, surveys and social media, into a format that can be analyzed. Customer engagement analytics also captures and processes the metadata (such as the time of contact, agent name) from an interaction, and supports both structured and unstructured data.

Dark Data

Dark data refers to information that organizations collect during their regular business activities, but do not currently use. AI makes it practical to process and analyze this data. Most organizations have vast amounts of dark data, which gives them a valuable resource to exploit.

The value and accuracy of these technologies relates directly to the size of the data set when applied within an AI framework. The more data AI has to work with, the more effective it will be. To better understand what artificial intelligence is, it is important to understand what it is not. AI is not synonymous with analytics.

As with "artificial intelligence," the term "analytics" is widely applied, and misapplied, which leads to confusion about its differentiation from AI. Artificial intelligence and analytics both analyze data. AI has more ability to self-initiate the analysis, and notably, to efficiently make predictions based on the results.

Deeper Dive: Using AI with Engagement Analytics & Contact Center Automation

One of the reasons AI is making significant improvements to customer experience for many organizations is because it complements the contact center technologies and processes they already have in place.

This enables organizations to get more value from the data and best practices they have developed over time.

Customer engagements go from being reactive to proactive when the predictive power of AI is introduced to contact center operations.

Artificial intelligence is an additional layer of insight that can be applied within speech or engagement analytics platform. It allows analysis to be performed on greater volumes of unscripted, free-form conversations and other unstructured data sources.

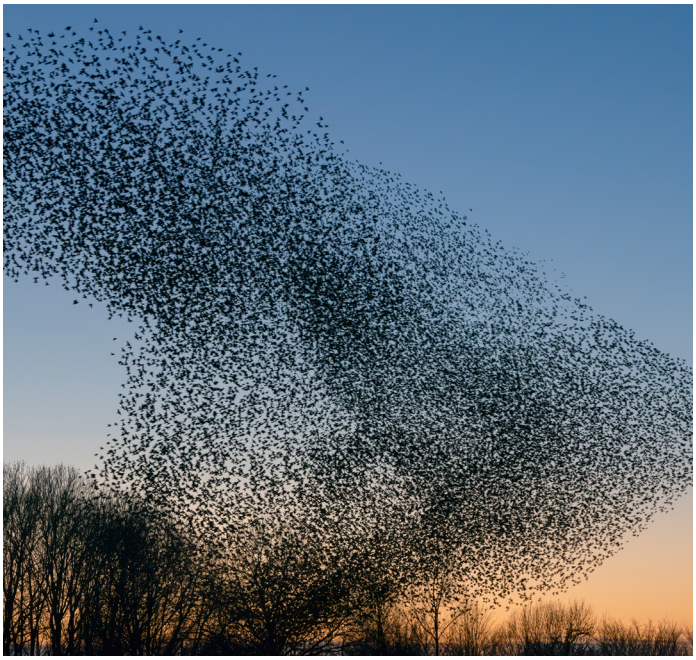
AI takes analytics from merely being a way for contact center managers to extract data and create a database to search and analyze, to something that will also automatically review the collected information and offer solutions.

By teaching the software to make decisions that typically require human interaction, businesses set themselves apart from their competition.

For example, one company used AI to very accurately predict which of its agents would leave their jobs. Using that predictive insight, the company developed appropriate workforce development strategies for different types of agent. The value from that anecdote is supported by research – 78 percent of organizations believed AI and machine learning would improve employee retention and job satisfaction according to one study, which also found that 31 percent of organizations that are using AI and machine learning to improve their business processes achieved at least a 10x improvement in their KPIs.

Further, 34 percent of respondents said they were finding hidden value in dark data. Current contact center and cx platforms do not have the underlying technology to provide these benefits. Accenture noted "Artificial intelligence (AI) and deep learning are reinventing how work is done in ways beyond our imagination.

Organizations across industries are using these technologies to speed processes, reduce costs and free employees from repetitive tasks."[2] and "While many companies are employing some degree of automation, only 9 percent are using the full force of AI."[3]



2. Accenture blog **"AI: Not just a flash in the pan"** June 11, 2018

3. Accenture Report **"Process Reimagined"** 2018. Paul R. Daugherty and H.J Wilson.

Key Concept: Categorization

Much of the value AI creates comes from its ability to perform categorization. In categorization, the words, acoustics and sentiments from an interaction (which can be a voice conversation, online chat, social media post, etc.) are automatically tagged and analyzed to identify topics and patterns.

The process typically finds multiple patterns (based on individual words, strings of words and language patterns, tone of voice, metadata and other variables) that can be identified as categories. Common examples include "new reservation" or "churn language" or "technical issue".

Any given customer contact is likely to be tagged as belonging to several categories. Categories allow organizations to more quickly and accurately find, count and trend action, intent and emotion as expressed by unstructured and in many cases rather ambiguous statements fortified with sentiment measures.

Categories deliver immediate insight and projective awareness, which is much stronger than the predictive value of analyzing only individual words or phrases. Therefore, it is valuable for organizations to create a rich category set that accurately encompasses how their customer tend to express themselves.

Organizations can also benefit from targeted categorizations that were not developed exclusively from their own data. Highly effective categorizations have been created from data that has been aggregated from multiple sources.

Categorization is most effectively accomplished by reviewing interactions and mapping semantics and acoustics to the appropriate category. Artificial intelligence makes it practical and convenient to essentially do the same thing, but with greater speed and automation on large data sets.

Organizations have several options for obtaining relevant categorizations. They can develop their own by applying data science to call recordings, other interaction transcripts and metadata. Sometimes the process is outsourced to service providers.

Some customer engagement analytics solutions include pre-built categorizations and may include tools so organizations can easily customize them and create new ones. The value of the approach depends on the number of categorizations supported and the scale of the underlying data sets. Beyond just categorization is searching for topics.

Machine learning is being used to correlate speech patterns with trending topics.

An auto-categorization process organically surfaces emerging issues with scope of volume to reveal emerging issues that may not have been anticipated.

CallMiner alone has developed more than 12,000 categories related to customer interactions and contact center operations that are based on millions of phone calls and online chats in dozens of industries.

Unlock the Value of Your Data – Speech is an Untapped Gold Mine

The value of AI grows as the volume of available data to train upon increases. That is especially true for many artificial intelligence use cases that are related to customer experience and contact center operations.

Therefore, organizations can gain tremendous value by applying AI to more of their interactions and data sources, including metadata and dark data from customer engagements.

Larger data sets also contribute toward making categorization for speech analytics more accurate, adding predictive confidence to manage outcomes and improve customer experience.

In our experience, call center audio recordings are the most valuable untapped source of customer data. This data has been historically not paid attention to by only listening to a small percentage of calls manually, but AI now makes it efficiently reasonable for organizations to mine insights from it.

For example, AI has been applied to analyze past calls, compare them with customer history records and create models that can accurately predict a customer's risk of attrition That predictive analysis can be used to guide interactions with customers in real time – during the engagement – to reduce the risk of customer attrition and improve agent performance.

AI has also been used to create highly accurate categorizations of customers that are likely to call back or otherwise reengage the company based on the outcome of the initial contact.

These categorizations are based on the words used in the call, sentiment, metadata and more.

By anticipating reengagement, companies can proactively reach out to the customer with an appropriate message or content, such as sending more information, a special offer or troubleshooting tips.

These are just two out of numerous examples of how AI is being used to create categorizations and improve a growing range of customer interactions. Categorizations and AI do more than identify demographics for customers.

They help determine where customers come from, how they feel, and most importantly, what they want. For an enterprise to get the full value of AI and automation efforts, it must identify the best use cases for its specific operation.

Use Cases & Proof Points

The value that artificial intelligence can produce for a contact center depends heavily on the processes to which it is applied. AI by itself does not improve customer experience or agent productivity.

Rather, it streamlines processes and gives organizations the insight to create new ones that deliver these and other benefits. For example, AI can be used to find a causeeffect relationship between what actually transpires during a contact (the words used, emotions expressed, questions asked and more) and the action the customer ultimately took.

AI can help identify and isolate many variables to provide better insight into cause and effect. These insights can inform process improvements, such as developing new scripts or pathways to guide contacts to the desired action.

Here is a sampling of how combining artificial intelligence with interaction analytics can benefit contact center operations.

Improve first call resolution (FCR) –

As a live call or online chat progresses, AI can predict the direction the interaction will take, including accurately forecasting whether the customer will make a future contact. Based on the forecast recommendations could be made to guide the agent and prevent the need for follow-up contact.

Create better customer experiences across departments–

Engagement or speech analytics listens to every interaction and captures information based on the phrases. Spoken dialog along with acoustic measurements add a new dimension to your CX initiatives with qualitative data to quickly identify the most impactful drivers of customer experience.

This data can be used to assist throughout the customer journey, from sales, to onboarding, technical assistance, billing and payments. A common example is with technical outages with your product or your website. That is of value not just in the call center environment, but to marketing, as well as Chief Experience Officers (CXO) or Chief Customer Officer (CCO).

Increase customer satisfaction –

AI can predict whether a contact will be satisfied or dissatisfied with a specific action an agent could take, thereby helping agents take approaches that satisfy customers. AI has been used to accurately predict a customer's Net Promoter Score (NPS), Customer Satisfaction (C-SAT), or Customer Effort Score (CES).

Prevent customer churn –

Increasing customer satisfaction helps reduce churn. AI is also being used specifically to prevent churn by analyzing historical data to identify at-risk customers so companies can proactively take action to engage customers and get the chance to improve customer satisfaction.

Identify upsell opportunities –

Artificial intelligence can help organizations upsell in several ways. It can rate how likely a customer would be to respond to an upsell request and work in concert with the interaction analytics system to prompt agents to try to upsell the best prospects and avoid spending time on low-likelihood customers and potentially agitating them.

With AI and interaction analytics, language and sales sequences can be optimized to different customer personas to improve closing rates. AI can also be used to power recommendation engines, which is valuable in online transactions where no human agent is involved.

Improve agent training –

The predictive powers of AI can be used to accurately forecast how well individual agents will perform in different situations. That insight can be used to identify where additional training and coaching needed and to tailor the guidance to the agent.

Using data to train chatbots –

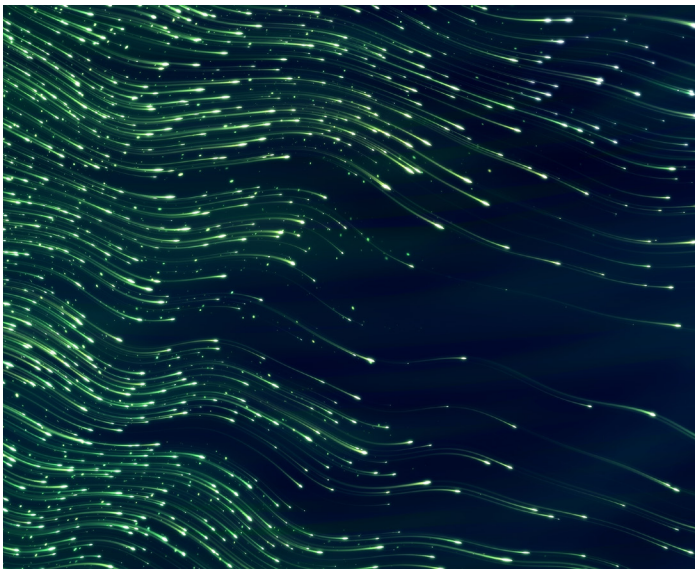
Chatbots are trending in channel popularity be it fully automated, agent manned or a hybrid. But what will need in order to set up and train an automated bot are real conversations. As we stated, the speech transcriptions from your call center are a data goldmine to train chatbot interactions. Customer service agents see the value of such capabilities – 64 percent believe AI-powered chatbots will enable them to provide a more personalized experience to customers.[4]

Reduce agent turnover and improve job satisfaction –

Prepared, properly trained agents are happier agents. Approximately three quarters of organizations that use AI and machine learning said their employees are doing more interesting work as a result of machine learning-enabled processes, and 78 percent said machine-learning-enabled processes will result in improvements in job satisfaction and retention.[5] For their part, 59 percent of customer service agents said chatbots made them feel more satisfied in their jobs and more committed to the company, and 79 percent believe that handling more complex customers improves their skills.[6]

Prevent fraud –

An early and well-established use case for artificial intelligence was to detect financial fraud. That use case is now being adopted in contact center operations to prevent false claims and other scams. AI can detect fraudulent activity based on when, how often and by which channels an individual contacts a company, the questions he or she asks, the requests he or she makes and the specific words, phrases and persuasive techniques used. Axcess Financial reduced its phishing-related fraud by 99 percent after applying AI to its contact center analytics to detect and prevent phishing attempts. Access the case study here.



"The best solutions not only make it easier to extract more accurate insights and drive instant action but also integrate with a broad suite of business systems, proactively surface insights, and drive value for stakeholders across the business."

The Forrester New Wave™:
AI-Fueled Speech Analytics Solutions, Q2 2018

4. Forrester Research **"Predictions 2019: Customer Service And Sales Invest In Humans In 2019, As Chatbot Backlash Will Emerge"** November 8, 2018. Daniel Hong, Tom Kaneshige, Ian Jacobs, Kate Leggett, and Art Schoeller

5. **"Human + Machine: Reimagining Work in the Age of AI."** Harvard Business Review Press, 2018. Paul R. Daugherty and H.J Wilson

6. **"Aspect 2017 Agent Experience Survey: Agent and Chatbots: Better Together"**

Conclusion

Artificial intelligence represents the next step in customer contact evolution. It gives new value to old, previously untapped data and helps organizations continuously make customer experience better by learning what works and applying the results.

Today AI is creating differentiation for the early adopters and giving them a competitive advantage by helping them know their customers and deliver positive experiences. Soon, having artificial intelligence embedded into customer contact processes will be table stakes, and enterprises that can't mine their data and quickly predict customer and agent behavior will be at a competitive disadvantage.

It is no over exaggeration that is a game changer for better customer experience, contact center operations, agent performance and bottom line for your organization.

About CallMiner

CallMiner is a speech analytics platform that drives business improvement by connecting insight to tangible action. We use the power of A.I. to scale human understanding, analyze interactions at the deepest levels, identify patterns and root causes, and reveal opportunities.

We believe that business improvement starts with a deep interest and curiosity in people. How do we detect a customer's true emotion, and how do we act on it to shift a business's culture and steer it on the most successful path? We aim to close these gaps through innovation, but the heart of our work lies in humanity: understanding, followed by action. We apply this same principle within our culture, promoting an attitude of kindness, compassion, genuine interest and respect for one another.

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