Lessons Learned: Embedding AI in Cable Customer Experience to Better Serve Agents and Customers

An Operational Practice prepared for SCTE by

Rachel Knaster
Chief Product Officer
ASAPP
One World Trade Center, 80th Floor, New York, NY 10001
(212) 658-0990
Click here to rachel@asapp.com.

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1. Introduction

As we all know the last two years drove massive change and presented new challenges for people and business. From a technology standpoint there was a renewed focus on artificial intelligence (AI) and its application— particularly as call wait times skyrocketed and customer frustration grew. The cable and telecom industry adapted, as it has done during its long history, and there has been an incredible opportunity for business. So, I wanted to share some of the lessons learned and best practices around AI for the cable and telecom customer experience (CX) that can bring immense value, efficiency, productivity, scale and brand loyalty.

Digital transformation is underpinned by technologies such as artificial intelligence and 10G— fundamental technologies to scale productivity, operations and generate better financial returns. Large enterprise businesses have petabytes of data, but major systemic CX inefficiencies that technology has not been able to solve to date. How cable companies interact with their customers is changing. Customer expectations are changing, and contact center agents can't scale without a move to digital. This touches on a fundamental challenge of rules-based technology: it is systemically inefficient because it relies on people programming rules constantly. Managing these rules is not scalable. Machine intelligence can be far more efficient in significantly improving productivity gains, financial performance, along with the customer and employee experiences. If implemented well, artificial intelligence can take months, not years, to implement and deliver the outcomes desired by the business.

With that said, people play a key role in defining successful customer experience and driving organizational success. Despite what many technologists would have you believe; AI is simply not sophisticated enough to replace all people on the frontlines of customer service. There are myriad applications for AI to help drive successful customer experience. To merely equate AI to chatbots does the field of AI research and development a disservice.

Shifting how an organization views and adopts artificial intelligence technologies like machine learning, natural language processing and speech recognition should not be seen solely through a prism of automating people out of the equation. Don't get me wrong automation is a key component but putting people at the center of thoughtfully designed AI tools will radically increase directed and independent automation, efficiency, productivity and make agents better at their jobs. By automating a significant amount of repetitive day-to-day processes, AI-driven solutions help increase the cost savings a company is seeking while creating a stellar customer experience.

2. Determine the Business Goals

A focus on business outcomes is important from the outset. Artificial intelligence has the capability to transform an entire cable company and its operations. Thinking big and thinking different is key. Nonetheless, the size, scope and steps within a major AI project should not be so wide that it creates a generic and impersonal customer experience, or so narrow that it misses part of the audience. Once goals are established, it's critical that the data used to build bespoke AI models isn't skewed such that models end up with poor predictions.

Healthcare IT supplier, McKesson recognized that if you want to earn customers, you put their interests first. That meant reducing hospital expenses in non-labor areas, such as medical supplies, one of the highest costs outside of labor. Once the goal was determined, McKesson looked beyond the traditional challenges and visible symptoms inside their operations. They looked across the entire supply chain to uncover the true problems and bottlenecks —challenging existing people, processes, and technology

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solutions[1]. Using data insights learned from its product, location and transport data from scanners and sensors, the company was able to cut inventory by $1 billion when needed and identified opportunities for cost reductions and time-savings. [2] Artificial intelligence, when applied smartly, is capable of (as one executive at the time put it) "making the invisible, visible."

For the cable and telecom industry, if we consider customer satisfaction (CSAT) as a business goal, the competition isn't other large enterprises, rather it's the most popular consumer apps such as Facebook, TikTok, Instagram, even Uber or Lyft that both agents and customers are experiencing frequently. These apps provide best in class software that offers versatility and an intuitively designed user experience.

3. Measure What Matters

Over 20 years ago, Bill and Melinda Gates put $20 billion into their foundation to tackle global health challenges, spending $1 billion each year. Former CEO Patti Stonesifer said: "*Sometimes… we were probably measuring the wrong thing. You have to pay close attention to whether your data is getting you to the ultimate goal. We were learning so fast that sometimes we had to change data sets midstream. Say you had a seed that would double production of yams, and you were focused on that number. But then it turned out that nobody would use the seed because the yams took four times longer to cook at night.*" [3]

And this is one of the big challenges with measuring what matters—not only can it be difficult to determine the most actionable metrics to focus on, but it can also feel more instantly gratifying to track vanity metrics. "A vanity metric is like a distorting mirror– you might like what you see in it but it's not a true picture, it's just your vanity." [4] These vanity metrics can be thought of as those that don't cleanly map to business objectives.

Take the example of an e-commerce business: it's certainly tempting and fun to track page views and to keep seeing that graph of page views going up and to the right. However, if the goal is sales, then "page views" is not the most clear or efficient metric to drive the desired behavior. In this example, a team might be encouraged to create superfluous or "click bait" links to the site to keep driving up page views, rather than focusing on meaningful engagement that drives sales The same is true of all of us trying to solve different problems in the CX space and in the cable industry.

When you're evaluating using artificial intelligence in CX operations, this industry needs to consider evolving the way it thinks about measurement. Take containment or conversion rate as examples. These are industry standard measurements established with rules-based technology.

In the case of conversion, an overly simplistic view is also problematic. Take your retail sales team, telephone-based sales team, and your digital-based sales team. All these groups will have varying conversion rates. Operating by established approaches, a retail-based team will always have higher conversion rates than telephone or digital agents. Does that mean companies should go out and build more brick-and-mortar stores? No.

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[1] https://www.dcvelocity.com/articles/25482-who-are-this-year-s-rainmakers

[2] 'Datisim' Steve Lohr 2015

[3] 'Measure What Matters,' John Doerr (2018)

[4] Lean Startup Series: Vanity Metrics vs. Actionable Metrics (2018)

Shifts in buying habits, technological advancements and socio-economic changes are upending the way consumers engage with brands that have profound ramifications on how sales organizations capture, retain, and grow their customer base. This requires sales leaders to transform their organizations' approach for engaging consumers, particularly digital-first millennials, and Gen Zers who want to engage via digital.

So, it's important to review what you're measuring.

For example, contact center management has spent decades measuring average-handle time, concurrency, containment, and abandon rates among other measurements. But what about considering labor-per-hour, or revenue-per-labor hour as a new metric? Measuring conversion rate might not be the best metric, especially when a company wants to scale customer services. Take sales conversion rate in digital. If it's lower than retail, does that mean you abandon digital? No, it means we need to look at things differently to better understand the throughput of an organization.

Consider agent efficiency as throughput of customer issues: the number of issues handled per agent per unit of time. The industry can improve throughput both by decreasing agent handle time (AHT) for single issues and by increasing concurrency as well as by automating more conversations. As agents' use of AI expands, handle time decreases – and agents can manage more concurrent conversations, leading to higher throughput.

To encourage a shift to digital, cable companies need to encourage customers with awesome and intuitive experiences, reimagined with the help of AI-driven tools. Further, a rethinking of service level agreements for all channels is likely needed. Long term, digital provides better analytics and automation rates with a more convenient customer experience that is staffed more cost effectively with people who are operating more asynchronously.

Another example I see a lot is focusing on containment, meaning keeping conversations "contained" by automated systems that don't require reaching an agent. In the case of containment, it can only be treated as a proxy for success in limited situations because complex issues can rarely be handled effectively without human involvement. So, tracking containment as a "success" metric doesn't account for the significant number of customers who still require an agent to solve their problem. But what if the conversation wasn't successful? What if the automation did half of the work for the interaction so the agent no longer needed to do that half of the work? Under a metric like containment, any agent involvement is considered failure, but if we take a more holistic view of total throughput, we'd discover that we're significantly increasing the number of conversations that an agent can handle in the day.

The cable industry's CX operations have an opportunity to look more holistically at measurements and understand their organizational throughput, which requires a degree of change management to follow.

It's critical for organizations to measure what matters and update thinking by looking at what new metrics will deliver. Looking at the right measures can deliver results that will truly represent the customer experience overall.

4. Evolve Workforce Management Practices

Several years ago, the Associated Press announced that the majority of U.S. corporate earnings stories for its business news report would be produced using automation technology. In a relatively short amount of time, AP increased its earning coverage 14-fold delivering over 4,000 more public company earnings

quarterly, because of AI. [5] It altered the way their 248 bureaus globally reported news. The technology didn't replace journalists, rather it freed them up to tackle more work and interpretative reporting of earnings.

When cable companies want to use AI to maximize automation, productivity, and scale in its business, it's critical to understand where changes in the workforce management processes and operations will be required. With a change in how a company measures success of contact center operations, there needs to be an accompanying change in the way the contact center operates. To start it's important that you have the right people on the team. For example, it's important to have people who know and think about your customers and the accompanying journey mapping, operations, integrations, or the professional services that support a company.

There's a very interesting paradigm shift that needs to happen within the groups responsible for implementing or overseeing AI systems—the best results with AI are born out of allowing the systems to do their own work in processing vast amounts of data, not from configuring all the rules. Configuring rules gives a sense of control without allowing teams to achieve scale. I've observed across many use cases and many industries a learning curve in adapting to that flexibility of AI systems coming from the configuration mindset.

A specific example comes up with call routing. There's an urge to optimize by defining specific and narrow groups of queues, classifying calls into those queues, and setting up granular rules for when a queue is full or when it has availability. A downside of this is that defining rigid rules with such specificity can result in an imbalance of distribution—yes, if there's no constraints for equal availability and equal demand everywhere, then it can work, but the reality is often much messier. Depending on what is happening, which agents are staffed, how many customers have one question vs another, these types of policies can backfire. If instead we preserve larger groups of agents—but allow the models to learn about which agents do well with which types of customers, which types of intents, at which points in the day—AI can bring higher levels of global optimization vs sub-optimization of more distinct areas. [6]

Training for agents and how applications are permissioned for agents will need to evolve. Some agents will be able to handle two, three or more customers at a time asynchronously depending on their skill and experience level.

With the introduction of AI, an organization must be willing to invest in evolving the way it operates and willing to react flexibly as it encounters new challenges on the frontier of chartering a modernized customer experience and redefining its KPIs.

To drive digital adoption new SLAs will need to be designed, which could impact non-digital efforts like voice to succeed. When customers use a digital channel, they are retrained on how to approach the company in the future. This will in turn require an organization to look at intentional staffing, that might require labor sourcing or retraining existing agents that have good typing skills and response speed.

 Attrition rates of digital agents are lower than attrition rates of voice agents so hiring practices could also change because of AI.

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[5] 'A leap forward in quarterly earnings stories,' AP blog June 30, 2014

[6] 'Optimizing Each Part of a Firm Doesn't Optimize the Whole Firm' January 2016 Harvard Business Review

5. Cooperate, not Compete with Other Departments

Large companies often have competing departments, which can undermine each other's efforts and create contradictory visions. If these challenges aren't addressed, it can lead to a demotivated and siloed workforce that loses sight of the common goal and how they can contribute.

While it's difficult to accurately measure the impact of one department vs another, a company can measure output such as revenues, ROI and speed-to-market. Measuring behavior doesn't work but measuring results and considering the degree of cooperation will help departments to continually shape workflows to nurture better cooperation. Therefore, not only defining the best business goals and measuring the right things is important, but also ensuring those goals permeate through different teams, aligning incentives for different departments.

Take for example: A digital self-service sales team that competes with a chat-supported sales team. One group is trying to lock customers into the self-service model, while the other team is proactively getting consumers to talk with agents to sell cable packages. Both groups should be working together, rather than operating in silos or competing for customers – having people be integrators between both teams is essential, as well as ensuring both teams KPIs and incentives are directed at the same overarching goal.

Additionally, consider how often different groups have ownership over different channels, some own the website, another the mobile app, another social channels, another asynchronous channels, and a completely different department owns the voice stack. While there are different skills necessary for some channels, and the goals may be slightly different, customers don't ultimately care—they are contacting a company and expect consistency regardless of the channel. Ensuring that all the different teams are tying back the customer experience to a holistic goal vs. to individual channel goals is crucial.

6. Know Your Tech Stack

Many large customer service organizations are dependent on a frankenstack of technologies and tools that have been layered on top of each other—sometimes as a result of mergers, acquisitions, or years of accumulation. These digital towers of Babel were built as sources of data for rules-based programming and are often a patchwork of incompatible systems and data formats. Achieving personalization and productivity gains within the constraints of rules-based technology is a challenge, so it's critical to ensure that the technology stack is the right one for a digital transformation.

For AI to work well with a technology stack, the APIs need to be ready. Far too often bad APIs or poor API documentation is a major tripping hazard for the success of AI. The more systems you glue in the more difficult it becomes to untangle and experiment. However, when more integrations are built and established, AI-Native technology can simplify workflows and the tech stack, while caching customer details to feed routing, autosuggest and multiple parts of the conversational experience for a more impactful, personalized experience.

Not allowing silos due to organizational structure or vendor strategy to seep into the user experience is critical. As companies look towards using AI-powered solutions to users, the need to simplify the stack in order to simplify the experience is increasingly important.

7. Design AI For People

As Martin LeBlanc famously said, "A user interface is like a joke, if you have to explain it, it's not that good." And this becomes ever more critical with AI. Artificial intelligence alone won't solve the challenges of cable without human agents who are key to delivering a successful customer experience. For the industry to reap the benefits of AI, companies need to think about the various users from agents through to customers—each has different goals, expectations, and metrics for success.

When AI is designed to be a part of the business process, and a thoughtfully designed product that specifically caters to its users, it makes for more productive and efficient agents in their day-to-day operations. It can make agents better at what they do more rapidly than any other technology.

AI designed for the end customer experience can provide a smooth, simple engagement that meets customers where they are—whether it's a digital or voice interaction. The design of AI can empower cable companies to have real-time insights and reporting on every single customer interaction.

When AI is designed for agents, you have significantly more visibility into how agents are solving issues in their journey. For example, with auto pilot greetings and data inserts in autosuggest, AI can speed up and improve quality of the greetings while allowing the agent to focus on getting up to speed with the customer's account and queries.

Customer conversations can be a mix of automation and conversation. For example, when a customer is having a service issue that can only be resolved with an onsite cable technician, AI can take over for the agent and automate the appointment scheduling, freeing up the agent to troubleshoot other more complex issues. Automation can summarize the conversation and confirm everything with the customer. If the customer ends up needing more help, the agent can seamlessly jump back into the conversation where a human touch will make the difference. AI can provide the flexibility to leverage automation without leaving the customer stuck if the conversation veers off track.

Customers and agents, like all of us, are used to using the absolute best consumer software every day such as Uber, or Facebook. That's the competition, not other enterprise software providers. If you, as a consumer, downloaded an app that required you to switch through multiple applications and web pages to complete a payment, would you do that? Or look for the product you were attempting to purchase from another source with a more streamlined checkout flow. The interface of AI is crucial to make users feel supported in their jobs, to making your customers enjoy interacting with the company. Treat all your users like consumers, the agents, the supervisors, the data analysts-- build tools that make them want to do more work and better work, this can only be done if they are at the center of the research and development process.

8. Conclusion

With customer agents working from home, a lot of the infrastructure around management, service and quality that previously relied on in-person interaction need to adapt quite significantly. With access to peers and management limited in some instances, artificial intelligence can be a major enabling tool for employees to improve their efficiency and productivity wherever they are. When AI is designed for people, the AI models learn what works well for agents, to improve future actions and automations—and most importantly business outcomes, even in this new environment. The right AI models can help supervisors and managers adapt, allowing them to see what's happening on an agent's journey in real time, provide real-time coaching and support where it's needed to deliver the best customer experience.

Designed well, AI should make an agent's job better. It can identify where agents are getting stuck, or when a customer's mood is shifting in a conversation in a good, or bad way, so that in the future AI can help move those conversations along in a positive way where the agents feel supported.

Think big. Think different and the cable industry's CX operations can lead the way artificial intelligence transforms business operations in customer experience.